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IPERS
Working Today for Your Tomorrow

IOWA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation Report as of June 30, 2014

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October 29, 2014

Investment Board
Iowa Public Employees' Retirement System
7401 Register Drive
Des Moines, IA 50321

Re: June 30, 2014 Actuarial Valuation Report

Dear Board Members:

At your request, we have performed an actuarial valuation of the Iowa Public Employees' Retirement System (IPERS or System) as of June 30, 2014 to measure the assets and liabilities of the System, determine the funded status, and set the Required Contribution Rate based on the results of the valuation and IPERS' Contribution Rate Funding Policy. While not verifying the data at its source, the actuary performed tests for consistency and reasonableness. The major findings of valuation are contained in this report which reflects the benefit provisions in place on June 30, 2014.

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.

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 Investment Board 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.

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The actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Actuarial computations for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standard Number 67 will be presented in a separate 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 and the plan provisions described in Appendix B of this report. 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 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 reasonable based on the actual experience of the System. 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

Brent A. Banister

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

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

INTRODUCTION

This report presents the results of the June 30, 2014 actuarial valuation of the Iowa Public Employees' Retirement System (IPERS). The primary purposes of performing the valuation are as follows:

- to determine the Actuarial Contribution Rates (ACR) and the Required Contribution Rate for the Regular Membership, Sheriffs and Deputies, and the Protection Occupation group (all public safety members other than Sheriffs and Deputies) in accordance with IPERS' Contribution Rate Funding Policy (described in Appendix D),
- to evaluate the funded status of the System and disclose various asset and liability measures as of June 30, 2014,
- to determine the experience of the System since the last valuation, and
- to analyze and report on trends in System contributions, assets, and liabilities over the past several years.

The actuarial valuation results provide a "snapshot" view of the System's financial condition on June 30, 2014. The results reflect net favorable experience for the past plan year as demonstrated by an unfunded actuarial liability (UAL) that was lower than expected. The UAL on June 30, 2014 for all three membership groups covered by IPERS is $5.544 billion as compared to an expected UAL of $6.063 billion. The favorable experience was the combination of an experience gain of $527 million on the actuarial value of assets and an experience loss of about $8 million on System liabilities.

There were no changes in the plan provisions since the prior valuation. However, there were assumption and method changes as a result of the experience study completed earlier this year, based the period from June 30, 2009 to June 30, 2013. These changes are described below:

- The inflation assumption decreased from 3.25% to 3.00% per year. Even though the inflation assumption was lowered, the investment return assumption and the general wage growth assumption, which both include inflation as a component of the assumption, did not change.
- The assumed rate of interest on member accounts was decreased to 3.75% per year from 4.00%.
- Male mortality rates for Regular members were adjusted by setting rates back one year:
  - State males were changed to the RP-2000 Healthy Annuitant Table using generational mortality projections with no age adjustment.
  - School males were changed to the RP-2000 Healthy Annuitant Table using generational mortality projections with a 1-year age set back and rates decreased by 5% below age 75.
  - Other males were changed to the RP-2000 Healthy Annuitant Table using generational mortality projections with no age adjustment.
- Retirement rates were reduced for Sheriffs and Deputies between the ages of 55 and 64.
- Beginning June 30, 2014, the Amortization Method amortizes the June 30, 2014 UAL as a level percentage of payroll over a closed 30-year period. Each year thereafter, changes in the UAL will result in the establishment of new bases. The future bases arising from plan experience will be amortized over a closed 20-year period beginning on the date the base is established. The amortization period for changes in the UAL due to plan amendments and assumption changes will be determined by the Investment Board at the time they occur.

The impact of the assumption change is summarized in the following table:

	Normal Cost Rate			Actuarial Liability ($M)		
	REG	SD	PO	REG	SD	PO
6/30/13 Valuation	10.16%	16.59%	16.02%	$28,799	$533	$1,166
Demographic Experience*	0.00%	0.08%	0.02%	1,185	29	77
Change in Assumptions	0.07%	(0.17%)	0.00%	221	(6)	0
6/30/14 Valuation	10.23%	16.50%	16.04%	$30,205	$556	$1,243

* For the change in actuarial liability, this is primarily due to the impact of benefits being earned during the year.

Historically, the statutory contribution rate for Regular Members was set by state statute. Effective with the 2011 valuation, IPERS has the authority to set the Required Contribution Rate (RCR) for the Regular Membership Group based on the Actuarial Contribution Rate (ACR) developed in the annual actuarial valuation, subject to a maximum change of 1% per year. From 2001 until 2011, the valuations indicated that the Required Contribution Rate was less than the Actuarial Contribution Rate. In the 2012 valuation, which set the rate for FY 2014, the Required Contribution Rate for 2014 was equal to the ACR for Regular Members. Based on the current Contribution Rate Funding Policy, which is described in Appendix D, the Required Contribution Rate for Protection Occupation members will decrease 0.50% for FY 2016. The Required Contribution Rate for all three groups is greater than the ACR, as shown in the table below:

Contribution Rate for FY 2016			
	Regular Membership	Sheriffs and Deputies	Protection Occupation
1. Normal Cost Rate	10.23%	16.50%	16.04%
2. Amortization of UAL	4.12%	1.40%	0.00%
3. Actuarial Contribution Rate	14.35%	17.90%	16.04%
4. Required Contribution Rate	14.88%	19.76%	16.40%
5. Shortfall/(Margin) (3) – (4)	(0.53)%	(1.86)%	(0.36)%
6. Employee Contribution Rate	5.95%	9.88%	6.56%
7. Employer Contribution Rate (4) - (6)	8.93%	9.88%	9.84%
8 Unfunded Actuarial Liability ($M)	$5,516	$29	($1)
9. Funded Ratio	81.7%	94.8%	100.1%

Further details on the valuation results can be found in the following sections of this Executive Summary.

EXPERIENCE FOR THE LAST PLAN YEAR

Numerous factors contributed to the change in the Systems' assets, liabilities and the Actuarial Contribution Rate between June 30, 2013 and June 30, 2014. The components are examined in the following discussion.

ASSETS

As of June 30, 2014, the System (all membership groups) had total assets of $28.039 billion, when measured on a market value basis. This was an increase of $3.282 billion from the prior year.

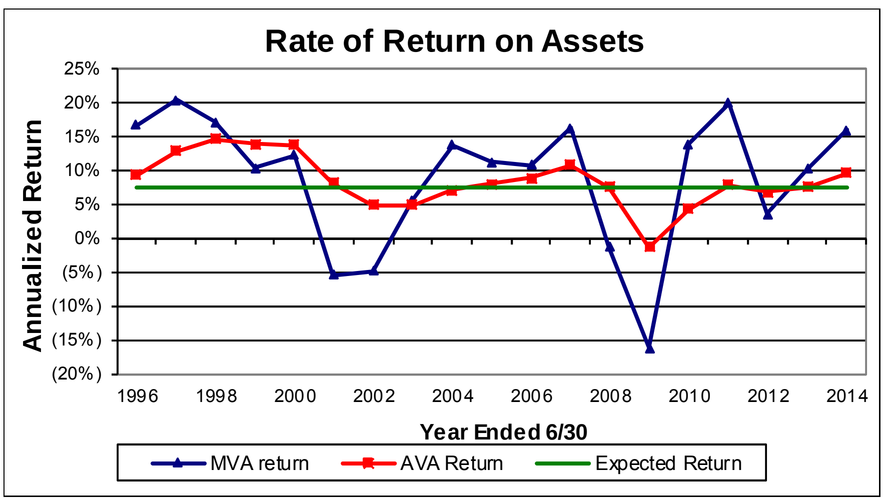
The market value of assets is not used directly in the calculation of the unfunded actuarial liability (UAL) and the Actuarial Contribution Rates. An asset valuation method, which smoothes the effect of market fluctuations, is used to determine the value of assets used in the valuation. This amount, called the "actuarial value of assets", is equal to the expected asset value, based on the actuarial value in the prior year and the assumed rate of return of 7.5%, plus 25% of the difference between the actual market value and the expected asset value. The resulting value must be no less than 80% of market value and no more than 120% of market value (referred to as a "corridor"). The corridor did not apply this year. The actuarial value of assets as of June 30, 2014 was $26.460 billion, an increase of $1.749 billion from the value in the prior year. The components of the change in the asset values are shown in the following table:

	Market Value ($M)		Actuarial Value ($M)	
Net Assets, June 30, 2013	$	**24,757**	$	**24,711**
• Employer and Member Contributions	+	1,083	+	1,083
• Benefit Payments and Refunds	-	1,691	-	1,691
• Expected Investment Income, net of expenses (Based on 7.5% assumption)	+	1,834	+	1,830
• Actuarial Gain/(Loss) on Investment Return	+	2,055	+	526
Net Assets, June 30, 2014 Before FED Transfer	$	**28,038**	$	**26,459**
• FED Transfer*	+	1	+	1
Net Assets, June 30, 2014 After FED Transfer	$	**28,039**	**$**	**26,460**
• Application of Corridor	-	0	-	0
Final Net Assets, June 30, 2014	**$**	**28,039**	**$**	**26,460**

* The FED Reserve account balance as of June 30, 2014 was credited among the membership groups in the net assets held in trust pursuant to 495 IAC §15.2(7).

On a market value basis the time-weighted rate of return, as reported by IPERS, was 15.88%. The dollar-weighted rate of return, net of investment and administrative expenses, measured on the actuarial value of assets was 9.66%.

Please see Exhibits 2 and 3 in Section II of this report for a summary of the market and actuarial value of assets by group (Regular, Sheriffs and Deputies, and Protection Occupation group) as of June 30, 2014.



Rates of return on the actuarial value of assets are much smoother than market value returns, illustrating the advantage of using an asset smoothing method.

In last year's valuation, there was $46 million in deferred (unrecognized) investment gain. With the favorable investment experience during FY 2014 the deferred gain has increased to $1.579 billion. The deferred investment gain will be recognized in the smoothing method in future years, but may be offset by actual investment experience if it is less favorable than assumed.

LIABILITIES

The actuarial liability is that portion of the present value of future benefits that will not be paid by future normal costs. The difference between this liability and the actuarial value of assets at the same date is called the unfunded actuarial liability (UAL). The dollar amount of unfunded actuarial liability is reduced if the contributions to the System exceed the normal cost for the year plus interest on the prior year's UAL.

The unfunded actuarial liability by group is shown as of June 30, 2014 in the following table:

($Millions)	Regular Membership	Sheriffs & Deputies	Protection Occupation	Total*
Actuarial Liability	$30,205	$556	$1,243	$32,004
Actuarial Value of Assets	24,689	527	1,244	26,460
Unfunded Actuarial Liability*	5,516	29	(1)	5,544
Funded Ratio	81.7%	94.8%	100.1%	82.7%

*May not add due to rounding.

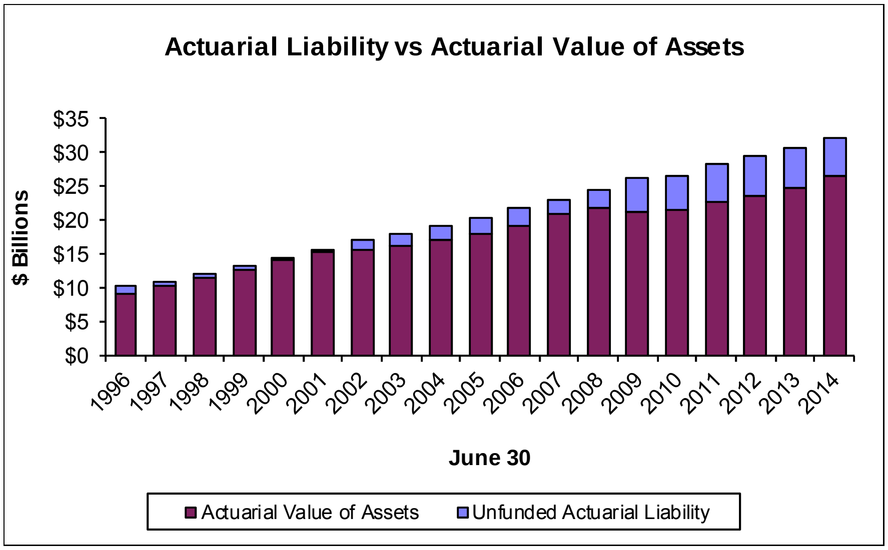
See Exhibit 7 in Section III of the report for the detailed development of the unfunded actuarial liability for each group.

Changes in the UAL occur for various reasons. The net decrease in the UAL from June 30, 2013 to June 30, 2014 was $243 million. The components of this net change are shown in the following table (in millions):

Unfunded Actuarial Liability, June 30, 2013 ($M)	$ 5,787
• Expected increase from amortization method	99
• Expected increase from contributions below actuarial rate	0
• Investment experience	(527)
• Liability experience*	8
• Change to amortization method	0
• Changes to actuarial assumptions	215
• Other	(38)
Unfunded Actuarial Liability <u>before</u> FED transfer, June 30, 2014	$ 5,544
• FED Transfer for favorable experience	0
Unfunded Actuarial Liability <u>after</u> FED transfer, June 30, 2014	$ 5,544

* Liability experience is 0.02% of the actuarial liability.

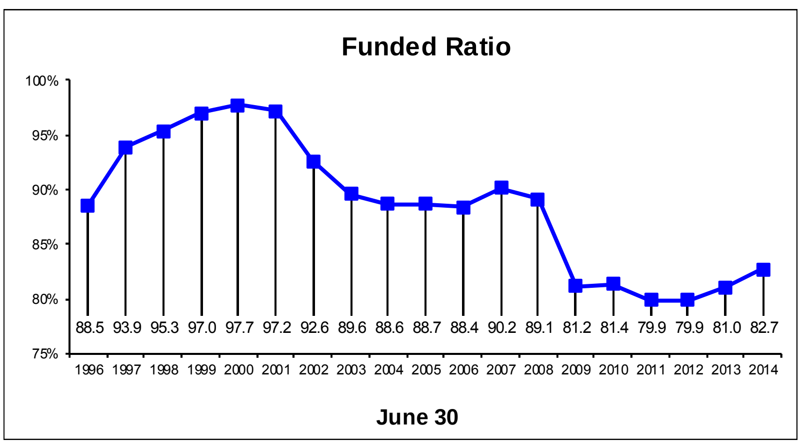
As seen above, various factors impacted the UAL. Actuarial gains (losses), which result from actual experience that is more (less) favorable than anticipated based on the actuarial assumptions, are reflected in the UAL and are measured as the difference between the expected unfunded actuarial liability and the actual unfunded actuarial liability, taking into account any changes due to actuarial assumptions and methods or benefit provision changes. Overall, the System experienced a net actuarial gain of $519 million. The total actuarial gain may be explained by considering the separate experience of assets and liabilities. As noted earlier, there was a $527 million actuarial gain as measured on the actuarial value of assets. There was a net actuarial gain of $30 million from demographic and other experience more favorable than anticipated by the actuarial assumptions. In addition, there was also a $215 million increase in the UAL due to the assumption changes adopted by the Investment Board as a result of the experience study completed earlier this year.



The dollar amount of the UAL has grown over the past decade due to numerous factors, the most significant of which have been the investment loss of FY 2009 and contributions below the Actuarial Contribution Rate.

An evaluation of the unfunded actuarial 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 liability, and the progress made in its funding, is to track the funded ratio, the ratio of the actuarial value of assets to the actuarial liability. The funded status information is shown in the following table (in millions).

	6/30/10	6/30/11	6/30/12	6/30/13	6/30/14
Funded Ratio	81.4%	79.9%	79.9%	81.0%	82.7%
Unfunded Actuarial Liability ($M)	$4,931	$5,682	$5,916	$5,787	$5,544



Negative investment experience in FY 2009 caused a significant drop in the funded ratio, which had been stable at around 90% since 2003. The funded ratio stabilized in FY 2010 due to a strong investment return, coupled with changes in the actuarial assumptions and benefit reductions. The funded ratio remained around 80% for several years and is now beginning to rise.

CONTRIBUTION RATE

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

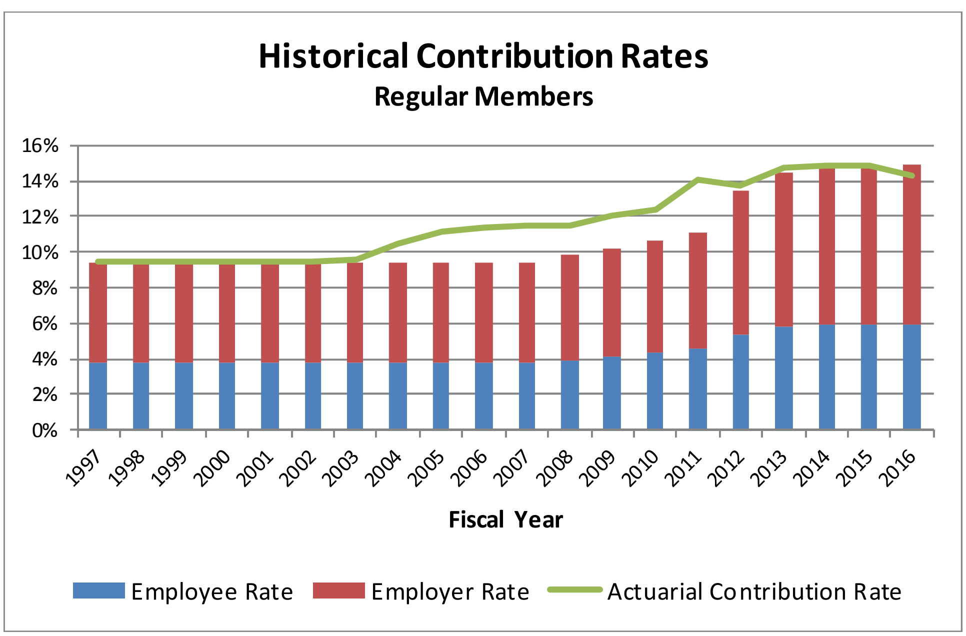
- a "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date, and
- an "unfunded actuarial liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets on hand.

This valuation is used to determine the contribution rates that will be effective July 1, 2015 for the fiscal year ending June 30, 2016. Regular Members contributed according to scheduled rates in statute prior to the 2011 valuation at which time IPERS was given the authority to set the Required Contribution Rate for Regular Members, subject to a maximum increase of 1% per year. Based on IPERS' Contribution Rate Funding Policy, the Required Contribution Rate in this valuation will remain at the same level as set by last year's report so it exceeds the Actuarial Contribution Rate. The remaining 5% of the active members, the Sheriffs and Deputies group and the Protection Occupation group, have historically contributed at the Actuarial Contribution Rate which was subject to change each year. However, based on the current Contribution Rate Funding Policy, the Required Contribution Rate for the Sheriffs and Deputies remains unchanged from last year's report, while the Protection Occupation group's rate decreased by 0.50% due to their funded status. The Required Contribution Rate for Protection Occupation members is still higher than the ACR due to the Funding Policy. As a result, the Required Contribution Rate for all three groups exceeds their respective ACR.

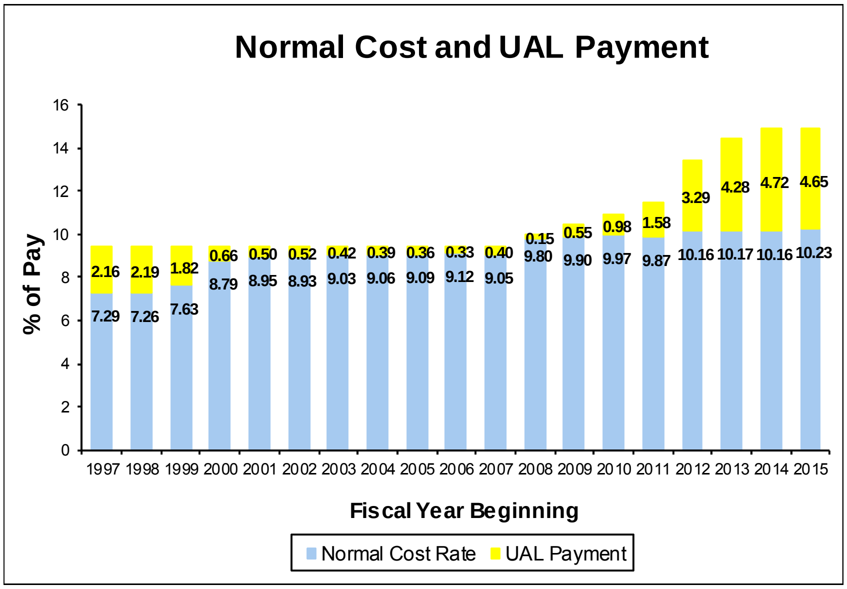
See Exhibit 14 in Section IV for development of these contribution rates which are summarized in the following table:

Contribution Rate for FY 2016	Regular Membership	Sheriffs & Deputies	Protection Occupation
1. Actuarial Contribution Rate	14.35%	17.90%	16.04%
2. Required Contribution Rate	14.88%	19.76%	16.40%
3. Employee Contribution Rate	5.95%	9.88%	6.56%
4. Employer Contribution Rate (2) – (3)	8.93%	9.88%	9.84%
5. Shortfall/(Margin) (1) – (2)	(0.53)%	(1.86)%	(0.36)%

In 2006 and 2010, legislation was passed that increased the statutory contribution rate for Regular Members. A historical summary of the actual (statutory) contribution rate and the actuarial contribution rate is shown in the graph below:



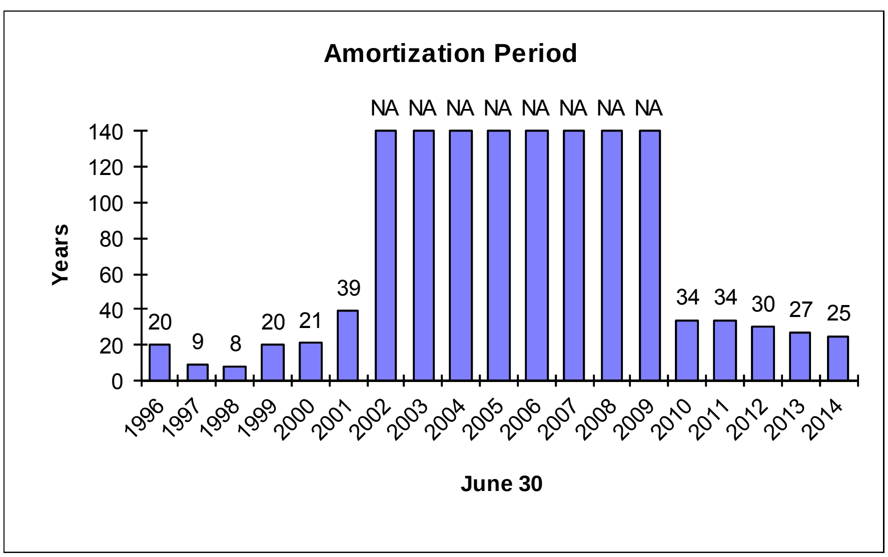
Based on the results of this valuation and the Contribution Rate Funding Policy adopted by the Board, the Required Contribution Rate for fiscal year ending June 30, 2016 for the Regular members is 14.88%, which is above the Actuarial Contribution Rate. This is a deliberate design feature of the Funding Policy and is intended to stabilize contribution rates and more quickly improve the funded status of the System.



This graph shows the normal cost rate and the contribution rate available to fund the UAL based on the Required Contribution Rate payable in that fiscal year.

For a number of years, only a small portion of the total contribution rate was available to fund the UAL. Recent changes have increased this portion, providing more progress toward eliminating the UAL.

The Actuarial Contribution Rate is determined based on the snapshot of the System taken on the valuation date, June 30, 2014, and applies only for the fiscal year beginning July 1, 2015. The Actuarial Contribution Rate in future years will change each year as the deferred actuarial investment experience is recognized and other experience (both investment and demographic) impacts the System. The Required Contribution Rate will be set in each future year based on the Actuarial Contribution Rate for that year and the Contribution Rate Funding Policy.



Based on the statutory contribution rate, the period to amortize the UAL was infinite in the 2002 to 2009 valuations. Due to the benefit reductions in 2010 and the increase in the contribution rate beginning in FY 2012, more funds are available to finance the UAL and the years to amortize is finite. Future investment experience will have a significant impact on the System's funding and the years to amortize the UAL.

Note: Years to amortize after 2012 assume the current UAL amortization rate remains level in future years.

SUMMARY

The investment return on the market value of assets for FY2014 was 15.88%, as reported by IPERS. As a result of the experience gain on actuarial assets, the System's funded ratio increased from 81.0% in the June 30, 2013 valuation to 82.7% in this valuation.

As mentioned earlier in this section, the System utilizes an asset smoothing method in the valuation process. While this is a common procedure for public retirement systems, it is important to identify the potential impact of the deferred investment experience. The asset smoothing method impacts only the timing of when the actual market experience is recognized in the valuation process. Due to favorable investment experience in recent years, the return on the actuarial value of assets was 9.66%, higher than the assumed 7.50%. The return on the market value of assets for FY2014 was 15.88%. Due to the high return on the market value of assets, the deferred investment gain has increased from $46 million in last year's valuation to $1,580 million in the current valuation.

The key valuation results from the June 30, 2014 actuarial valuation are shown below, using both actuarial and market value of assets.

Total System	Actuarial Value	Market Value
Actuarial Contribution Rate*		
Regular Members		
Normal Cost	10.23%	10.23%
UAL Contribution	4.12%	2.96%
Total Contribution	14.35%	13.19%
UAL ($M)	$ 5,516	$ 4,041
Funded Ratio	81.7%	86.6%
Sheriffs and Deputies		
Normal Cost	16.50%	16.50%
UAL Contribution	1.40%	0.00%
Total Contribution	17.90%	16.50%
UAL ($M)	$ 29	$ (3)
Funded Ratio	94.8%	100.6%
Protection Occupation		
Normal Cost	16.04%	16.04%
UAL Contribution	0.00%	0.00%
Total Contribution	16.04%	16.04%
UAL ($M)	$ (1)	$ (78)
Funded Ratio	100.1%	106.3%

*Actuarial Contribution Rate is calculated prior to the application of the Contribution Rate Funding Policy which determines the Required Contribution Rate. These numbers do reflect the Amortization Policy which does not amortize a negative UAL until the group has been 110% funded for three consecutive years.

Based on the Contribution Rate Funding Policy adopted by the Investment Board, the Required Contribution Rate determined in this year's valuation for Regular Members will remain unchanged from last year, i.e., 14.88%, and will apply for the fiscal year ending June 30, 2016. The Required Contribution Rate for the Sheriffs and Deputies will also remain unchanged from last year. The Required Contribution Rate for the Protection Occupation group in this valuation declined by 0.50% from last year's rate due to their funded ratio and the Funding Policy, but the Required Contribution Rate remains higher than the Actuarial Contribution Rate. As a result, the Required Contribution Rate for all groups exceeds the Actuarial Contribution Rate.

The Actuarial Contribution Rate is determined based on the snapshot of the System taken on the valuation date, June 30, 2014, and applies only for the fiscal year beginning July 1, 2015. The Actuarial Contribution Rate in the future will change each year as the deferred actuarial investment experience is recognized and as other experience (both investment and demographic) impacts the System. While the Required Contribution Rate can vary each year, the annual change to the rate for Regular Members is limited by statute to 1.0% and the Contribution Rate Funding Policy also limits how the rate decreases. Therefore, depending on actual experience in future years, the Required Contribution Rate may vary from the Actuarial Contribution Rate.

The long-term financial health of IPERS is heavily dependent on two key items: (1) future investment returns and (2) systematic contributions to the System at the full actuarially determined rate. Given the System's current funded status, the Actuarial Contribution Rate, and the Required Contribution Rate, the System's funded ratio is expected to improve over the long term, assuming all actuarial assumptions are met in the future.

We conclude this executive summary by presenting comparative statistics and actuarial information on both the June 30, 2014 and June 30, 2013 valuations. All figures shown include the Regular Membership, Sheriffs and Deputies, and the Protection Occupation Group.

SUMMARY OF HISTORICAL CHANGE IN IPERS UNFUNDED ACTUARIAL LIABILITY

($Millions)	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14
Unfunded Actuarial Liability (BOY[1])	1,255	1,867	2,176	2,289	2,507	2,266	2,665	4,895	4,931	5,682	5,916	5,787
• **Expected Change**												
− **From Amortization Method**	24	36	42	22	49	44	52	95	96	110	115	99
− **Contributions less than Actuarial Rate**	61	87	103	125	118	127	140	248	218	65	21	0
• **Investment Experience**	402	75	(89)	(235)	(622)	5	1,903	666	(66)	168	(15)	(527)
• **Liability and Other Experience**	125	82	57	242	187	214	135	(185)	(17)	(109)	(250)	(29)
• **Benefit Enhancements**	0	29	0	0	0	6	0	(674)	0	0	0	0
• **Change in Assumptions/Methods**	0	0	0	64	27	3	0	(114)	417	0	0	215
• **Change in Actuarial Software**	0	0	0	0	0	0	0	0	103	0	0	0
• **FED Transfer**	0	0	0	0	0	0	0	0	0	0	0	(1)
Unfunded Actuarial Liability (EOY[2])	1,867	2,176	2,289	2,507	2,266	2,665	4,895	4,931	5,682	5,916	5,787	5,544

1 = Beginning of Year
2 = End of Year

IOWA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
PRINCIPAL RESULTS

	June 30, 2014	June 30, 2013	% Chg
SYSTEM MEMBERSHIP			
1. Active Membership			
- Number of Members			
(excluding Retired/Reemployed)	165,911	165,095	0.5
- Projected Payroll for Upcoming Fiscal Year	$7,337M	$7,001M	4.8
- Average Salary	$44,225	$42,404	4.3
2. Inactive Membership			
- Number Not in Pay Status	72,214	72,917	(1.0)
- Number of Retirees/Beneficiaries	107,934	104,640	3.1
- Average Annual Benefit	$15,293	$14,883	2.8
ASSETS AND LIABILITIES			
1. Net Assets (excluding FED reserve)			
- Market Value	$28,039M	$24,757M	13.3
- Actuarial Value	26,460M	24,711M	7.1
2. Projected Liabilities			
- Retired Members	$15,975M	$15,001M	6.5
- Inactive Members	651M	614M	6.0
- Active Members	21,927M	21,093M	4.0
- Total Liability	$38,553M	$36,708M	5.0
3. Actuarial Liability	$32,004M	$30,498M	4.9
4. Unfunded Actuarial Liability	$5,544M	$5,787M	(4.2)
5. Funded Ratio			
a. Actuarial Value Assets/Actuarial Liability	82.68%	81.02%	2.0
b. Market Value Assets/Actuarial Liability	87.61%	81.17%	7.9
SYSTEM CONTRIBUTIONS			
Required Contribution Rate, Regular Members*	14.88%	14.88%	0.0
Employer Contribution Rate	8.93%	8.93%	0.0
Employee Contribution Rate	5.95%	5.95%	0.0
Total Actuarial Contribution Rate	14.35%	14.60%	(1.7)
Shortfall/(Margin)	(0.53%)	(0.28%)	89.3

M = ($)Millions

* Contribution rates for Sheriffs and Deputies are 9.88% for employers, 9.88% for employees

Contribution rates for Protection Occupation are 9.84% for employers, 6.56% for employees

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SECTION II

SYSTEM ASSETS

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In this section, the values assigned to the assets held by the System are presented. These assets are valued on two different bases: the market value and the actuarial value.

Market Value of Net Assets

For certain accounting statement purposes, System assets are valued at current market prices. These values represent the "snapshot" of the fair value of System assets as of the valuation date.

Actuarial Value of Net Assets

The market value of assets may not necessarily 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 volatility in the market value while still indirectly recognizing market value. The specific technique follows:

Step 1: Determine the expected value of plan assets at the current valuation date using the actuarial assumption for investment return on the prior actuarial value of assets and the actual receipts and disbursements of the fund for the previous 12 months.

Step 2: Subtract the expected value determined in Step 1 from the total market value of the Fund at the current valuation date.

Step 3: Multiply the difference between market and expected values determined in Step 2 by 25%.

Step 4: Add the expected value of Step 1 and the product of Step 3 to determine the actuarial value of assets.

Step 5: Verify the preliminary actuarial value of assets in Step 4 is not more than 120% of the market value of assets, nor less than 80% of the market value. If it is, adjust the actuarial value of assets so it falls within the 80% - 120% corridor.

EXHIBIT 1

ANALYSIS OF NET ASSETS AT MARKET VALUES

($ Millions)

	June 30, 2014		June 30, 2013	
	Amount	% of Total	Amount	% of Total
Cash & Equivalents	$ 285	1.0%	$ 385	1.4%
Capital Assets, Receivables and Payables	(433)	(1.5)	(643)	(2.6)
Domestic Equity	7,319	26.1	6,812	27.4
International Equity	4,408	15.7	3,688	14.8
Fixed Income	9,128	32.6	7,937	31.9
Real Estate	2,178	7.8	1,969	7.9
Real Assets	1,666	5.9	1,413	5.7
Private Equity/Debt	3,075	11.0	2,860	11.5
Securities Lending Collateral Pool	413	1.4	458	1.7
TOTAL NET ASSETS	$ 28,039	100.0%	$ 24,879	100.0%
FED Reserve (Before current year transfer)	0		(122)	
Current Year FED Transfer Payable	0		0	
Net Retirement System Assets	$ 28,039		$ 24,757	

EXHIBIT 2

SUMMARY OF FUND ACTIVITY
(Market Value)

	Regular Membership	Sheriffs & Deputies	Protection Occupation	FED Reserve	Total
NET RETIREMENT SYSTEM ASSETS ON JUNE 30, 2013	$23,137,319,653	$484,510,930	$1,134,833,132	$122,042,314	$24,878,706,029
REVENUE					
Employer contributions	596,983,323	9,583,512	32,434,713	0	639,001,548
Member contributions	397,988,882	9,583,512	21,623,142	0	429,195,536
Service purchase	13,752,294	77,583	494,267	0	14,324,144
Investment income	3,704,542,975	78,231,475	184,218,086	0	3,966,992,536
Total Revenue	$4,713,267,474	$97,476,082	$238,770,208	$0	$5,049,513,764
DISBURSEMENTS					
Benefit payments	1,573,108,447	22,332,151	47,823,199	120,800,467	1,764,064,264
Member and employer refunds	40,811,628	1,696,723	5,612,245	0	48,120,596
Administrative expenses	14,299,271	105,355	461,502	0	14,866,128
Investment expenses	58,476,150	1,234,883	2,907,879	0	62,618,912
Total Expenses	$1,686,695,496	$25,369,112	$56,804,825	$120,800,467	$1,889,669,900
PRELIMINARY NET ASSETS ON JUNE 30, 2014	$26,163,891,631	$556,617,900	$1,316,798,515	$1,241,847	$28,038,549,893
TRANSFERS					
Membership changes	(7,290,284)	2,617,863	4,672,421	0	0
FED Reserve	1,159,689	24,490	57,668	(1,241,847)	0
ADJUSTED NET ASSETS ON JUNE 30, 2014	$26,157,761,036	$559,260,253	$1,321,528,604	$0	$28,038,549,893

EXHIBIT 3

ACTUARIAL VALUE OF NET ASSETS

	Regular Membership	Sheriffs & Deputies	Protection Occupation	Total
1. Actuarial Value of Assets as of June 30, 2013	$23,099,969,131	$482,581,024	$1,128,546,032	$24,711,096,187
2. Actual Receipts/Disbursements				
a. Contributions	1,008,724,499	19,244,607	54,552,122	1,082,521,228
b. Benefit Payments and Refunds	1,613,920,075	24,028,874	53,435,444	1,691,384,393
c. Net Change	(605,195,576)	(4,784,267)	1,116,678	(608,863,165)
3. Expected Value of Assets as of June 30, 2014 [(1) x 1.075] + [(2c) x $(1.075)^{.5}$]	24,204,986,687	513,814,167	1,214,344,781	25,933,145,635
4. Preliminary Market Value of Assets as of June 30, 2014	26,163,891,631	556,617,900	1,316,798,515	28,037,308,046
5. Difference Between Market and Expected Values (4) - (3)	1,958,904,944	42,803,733	102,453,734	2,104,162,411
6. Preliminary Actuarial Value of Assets as of June 30, 2014 (3) + [(5) x 25%]	24,694,712,923	524,515,100	1,239,958,215	26,459,186,238
7. Transfers				
a. Membership changes	(6,879,939)	2,470,513	4,409,426	0
b. FED Reserve	1,159,689	24,490	57,668	1,241,847
8. Initial Actuarial Value of Assets as of June 30, 2014	$24,688,992,673	$527,010,103	$1,244,425,309	$26,460,428,085
9. Determination of Corridor				
a. 80% of Market Value of Assets	20,926,208,829	447,408,202	1,057,222,883	22,430,839,914
b. 120% of Market Value of Assets	31,389,313,243	671,112,304	1,585,834,325	33,646,259,872
10. Final Actuarial Value of Assets as of June 30, 2014 (8), but not less than (9a), nor greater than (9b)	24,688,992,673	527,010,103	1,244,425,309	26,460,428,085

EXHIBIT 4

HISTORICAL COMPARISON (ACTUARIAL AND MARKET)

Value as of June 30		Actuarial Value of Net Assets (AVA)	Market Value of Net Assets (MVA)	AVA/MVA
1996		$8,975,396,251	$9,587,104,982	94%
1997		10,112,976,077	11,533,968,923	88%
1998	*	11,352,674,142	13,463,899,832	84%
1999	*	12,664,031,437	14,814,311,451	85%
2000	*	14,145,141,535	16,473,516,141	86%
2001		15,112,424,729	15,357,519,356	98%
2002		15,613,114,099	14,387,799,637	109%
2003		16,120,476,011	14,915,941,546	108%
2004		16,951,942,539	16,726,227,853	101%
2005		17,951,490,071	18,224,067,613	99%
2006		19,144,036,519	19,847,676,903	96%
2007		20,759,628,415	22,624,387,015	92%
2008		21,857,423,183	21,844,112,206	100%
2009		21,123,979,941	17,603,316,618	120%
2010		21,537,458,560	19,538,971,423	110%
2011		22,575,309,199	22,772,344,651	99%
2012		23,530,094,461	23,024,773,746	102%
2013		24,711,096,187	24,756,663,715	100%
2014		26,460,428,085	28,038,549,893	94%

*Reflects reduction for transfers to the Favorable Experience Dividend Reserve Account.

Values are for all three membership groups, but exclude the Favorable Experience Dividend Reserve Account.

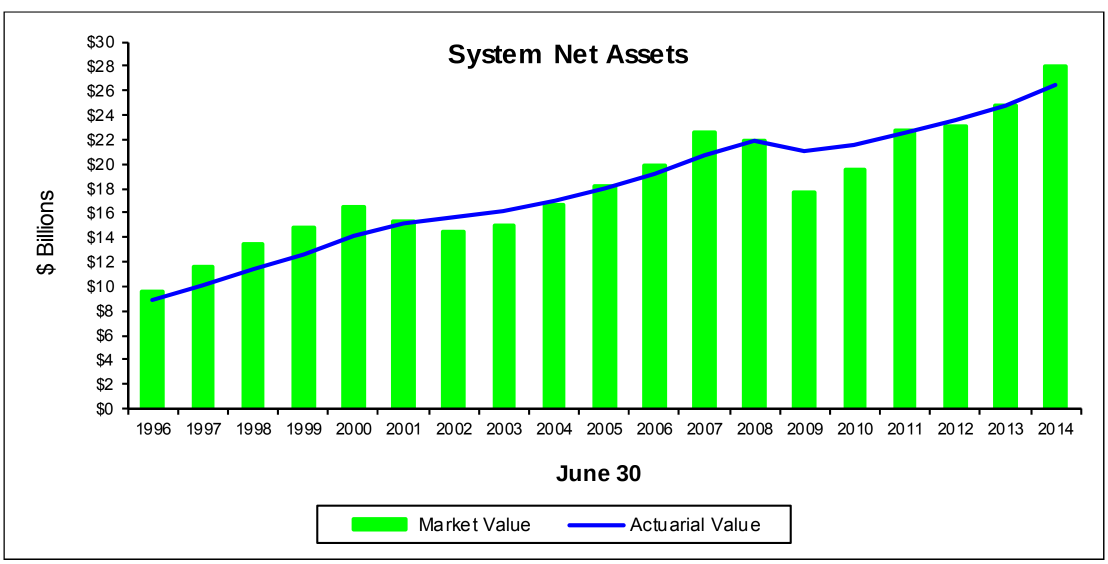

EXHIBIT 5

SUMMARY OF FAVORABLE EXPERIENCE DIVIDEND RESERVE

1. Initial Market Value of FED Reserve as of June 30, 2014	$	1,241,847
2. Transfer to Membership Groups*		1,241,847
3. Final Value of FED Reserve as of June 30, 2014 (1) - (2)	$	0

* The FED Reserve account balance as of June 30, 2014 was credited among the membership groups in the net assets held in trust pursuant to 495 IAC §15.2(7).

SECTION III

SYSTEM LIABILITIES

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SECTION III

SYSTEM 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. There are several methods used to allocate the cost of benefits to members' working lifetimes. These mathematical techniques are called actuarial cost methods.

The method used for this valuation is referred to as the "entry age normal" actuarial cost method. In general, under this method, a contribution that is a level percent of rates of pay is determined for each member, which if paid from date of hire to retirement date, will finance all future benefit payments. The level percent of pay that is developed is called the **"normal cost"**. The sum of the individual normal cost dollar amounts is divided by covered payroll to determine the normal cost rate for the System.

The actuarial liability is that portion of the present value of future benefits (PVFB) that will not be paid by the normal costs in future years. The difference between this liability and the actuarial value of assets as of the same date is referred to as the **unfunded actuarial liability (UAL).** If contributions exceed the normal cost for the year, after allowing for interest on the previous balance of the UAL, this liability will be reduced. Benefit changes, experience gains and losses, and changes in actuarial assumptions or procedures will also have an effect on the total actuarial liability and on the portion of it that is unfunded.

The UAL is projected to the following year to reflect the time lag from the valuation date to the date the contribution rates are effective and is then amortized according to the Actuarial Amortization Method adopted by the Investment Board.

Effective with the June 30, 2008 valuation, a transfer of assets is performed as of June 30th for all employees whose membership group changed since the prior valuation. The purpose behind the transfer is to better match the assets and liabilities for each membership group by having both the assets and liabilities for each member reside in their current membership group. When employees move between membership groups, an asset transfer for valuation purposes is made based on the funded ratio of their former group prior to the transfer. The asset transfer calculation is determined by multiplying the actuarial liability of the employee transferring by the funded ratio of their former group just prior to the transfer. The asset values after the transfers and the liabilities for the employees reside in their current membership group and are used to prepare the final valuation results.

A summary of the number of employees who transferred is shown below:

From	To		
	Regular	Sheriffs and Deputies	Protection Occupation
Regular		61	337
Sheriffs and Deputies	9		17
Protection Occupation	126	68	

The impact on the UAL from the transfer is shown below:

Regular	Sheriffs and Deputies	Protection Occupation
$(3,434,993)	$474,919	$1,781,724

EXHIBIT 6

PRESENT VALUE OF FUTURE BENEFITS
as of June 30, 2014

The actuarial present value of future benefits represents the current value of benefits expected to ultimately be earned by the current members of the System as of the valuation date.

	Regular Membership	Sheriffs & Deputies	Protection Occupation	Total
Present Value of Future Benefits:				
Active Members				
Retirement benefits	$18,658,066,848	$400,423,680	$1,008,182,147	$20,066,672,675
Death benefits	204,171,423	5,402,514	24,029,831	233,603,768
Termination benefits	926,360,581	34,253,636	149,021,986	1,109,636,203
Disability benefits	452,971,654	12,468,167	51,481,971	516,921,792
Inactive Members				
Vested members	572,480,400	6,757,195	23,581,783	602,819,378
Nonvested members	47,054,309	161,086	1,385,463	48,600,858
Retired Members and Beneficiaries	15,230,657,798	240,964,615	503,104,371	15,974,726,784
Total Present Value of Future Benefits	$36,091,763,013	$700,430,893	$1,760,787,552	$38,552,981,458

EXHIBIT 7

UNFUNDED ACTUARIAL LIABILITY
as of June 30, 2014

	Regular Membership	Sheriffs & Deputies	Protection Occupation	Total
1. Present Value of Future Benefits	$36,091,763,013	$700,430,893	$1,760,787,552	$38,552,981,458
2. Present Value of Future Normal Costs	5,886,916,726	144,295,801	517,312,843	6,548,525,370
3. Actuarial Liability (1) - (2)	$30,204,846,287	$556,135,092	$1,243,474,709	$32,004,456,088
4. Actuarial Value of Net Assets	24,688,992,673	527,010,103	1,244,425,309	26,460,428,085
5. Unfunded Actuarial Liability (3) - (4)	$5,515,853,614	$29,124,989	($950,600)	$5,544,028,003
6. Funded Ratio (4) / (3)	81.7%	94.8%	100.1%	82.7%

EXHIBIT 8

CALCULATION OF ACTUARIAL (GAIN)/LOSS AND ANY TRANSFER TO THE FAVORABLE EXPERIENCE DIVIDEND RESERVE
Based on the June 30, 2014 Actuarial Valuation

The Favorable Experience Dividend (FED) reserve account was created by legislation in 1998. The main purpose of the account is to help offset the negative impact of postretirement inflation for members who retired after June 30, 1990. The law provided that a portion of the favorable actuarial experience, if any, in subsequent years would be transferred to the FED reserve. Legislation passed in 2000 capped the FED reserve at ten years of expected payouts at the maximum level. Further legislation in 2006 prohibited further transfers to the FED until the System has no remaining UAL. The System has a UAL so no transfer is to be made this year.

1. June 30, 2013 Unfunded Actuarial Liability	$	5,787,246,133
2. Normal Cost for year ending June 30, 2014		685,636,381
3. Employer and Employee Contributions*		1,068,197,084
4. Change due to membership transfers		(1,178,350)
5. Change due to FED transfer		(1,241,847)
6. Change due to assumptions and method revisions		214,545,272
7. Expected Unfunded Actuarial Liability as of June 30, 2014 $[(1) + (2)] * 1.075 - (3) * (1.075)^{.5} + (4) + (5) + (6)$		6,062,943,468
8. Actual Unfunded Actuarial Liability as of June 30, 2014		5,544,028,003
9. (Gain)/loss (8) - (7)		(518,915,465)
10. Portion of gain to transfer to FED		N/A
11. Amount of Actuarial Value of Assets to transfer to FED	$	0
12. Market value of FED transfer	$	0

* Does not include service purchases

SECTION IV

SYSTEM CONTRIBUTIONS

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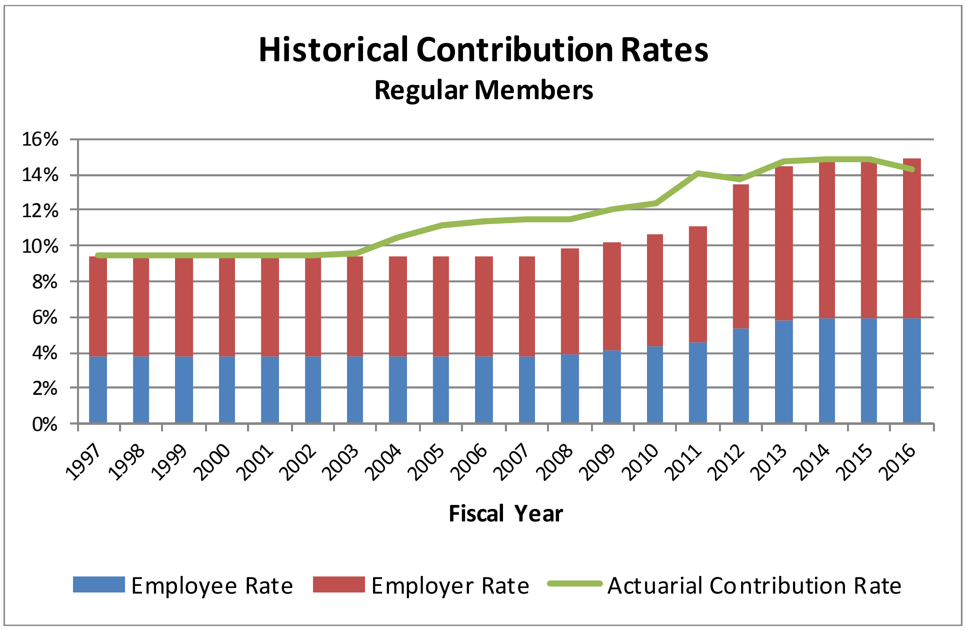
Under the actuarial funding method described in Appendix C, the actuarial contribution rate consists of two elements:

(1) the normal cost rate and
(2) the contribution rate to amortize the unfunded actuarial liability as a level percent of payroll.

The unfunded actuarial liability represents the difference between the portion of the present value of future benefits allocated to service credited prior to the valuation date by the actuarial cost method and the actuarial value of assets as of that date.

In 2006 and 2010, legislation was passed that increased the statutory contribution rate for Regular Members. In 2012, the law was changed to allow the Board discretion to determine the contribution rate based on actuarial considerations. A historical summary of the actual and required rates is shown in the table below:



Effective with the June 30, 2008 valuation, a transfer of assets is performed on June 30th for all split service members (those members with service in more than one membership group) whose membership group changed since the prior valuation. In addition, IPERS also transfers assets for certain split service members who have not changed groups since the last valuation. As a result, all assets and liabilities for each member reside in their current membership group. When members move between membership groups, an asset transfer for valuation purposes is made based on the funded ratio of their former group prior to the transfer. The asset transfer calculation is determined by multiplying the actuarial liability of the members transferring by the funded ratio of their former group just prior to the transfer. The asset values after the transfers and the liabilities for the members reside in their current membership group and are used to prepare the final valuation results.

EXHIBIT 9

ACTUARIAL BALANCE SHEET
as of June 30, 2014

	Regular Membership	Sheriffs & Deputies	Protection Occupation	Total
ASSETS				
Actuarial value of assets	$24,688,992,673	$527,010,103	$1,244,425,309	$26,460,428,085
Present value of future normal costs	5,886,916,726	144,295,801	517,312,843	6,548,525,370
Present value of future contributions to amortize unfunded actuarial liability	5,515,853,614	29,124,989	(950,600)	5,544,028,003
Total Net Assets	$36,091,763,013	$700,430,893	$1,760,787,552	$38,552,981,458
LIABILITIES				
Present Value of Future Benefits:				
Retired Members and Beneficiaries	$15,230,657,798	$240,964,615	$503,104,371	$15,974,726,784
Active Members	20,241,570,506	452,547,997	1,232,715,935	21,926,834,438
Inactive Members	619,534,709	6,918,281	24,967,246	651,420,236
Total Liabilities	$36,091,763,013	$700,430,893	$1,760,787,552	$38,552,981,458

EXHIBIT 10

PROJECTED UNFUNDED ACTUARIAL LIABILITY ON JUNE 30, 2015

	Regular Membership	Sheriffs & Deputies	Protection Occupation
1. FYE 2015 Contribution Rate	14.88%	19.76%	16.90%
2. Normal Cost Rate	10.23%	16.50%	16.04%
3. Contribution Rate Applied to Fund the UAL for FYE 2015 (1) - (2)	4.65%	3.26%	0.86%
4. Unfunded Actuarial Liability/(Surplus) on June 30, 2014	$ 5,515,853,614	$ 29,124,989	$ (950,600)
5. Expected Payroll for FYE 2015	$ 7,000,020,029	$ 102,378,722	$ 337,337,806
6. Projected UAL on June 30, 2015 [(4) x 1.075] - [(3) x (5) x $1.075^{.5}$]	$ 5,592,056,086	$ 27,848,921	$ (4,029,825)

EXHIBIT 11

UAL AMORTIZATION BASES
REGULAR MEMBERS

Date Established	Original Amount	Remaining Payments	Current Balance	Annual Payment*
June 30, 2014	$ 5,592,056,086	30	$ 5,592,056,086	$ 299,857,490
Total				**$ 299,857,490**

* Payment amount reflects mid-year timing.

1. Total UAL Amortization Payments	$	299,857,490
2. Projected Payroll for FYE 2015	$	7,000,020,029
3. Projected Payroll for FYE 2016 (2) x 1.04	$	7,280,020,830
4. UAL Amortization Payment Rate (1) / (3)		4.12%

EXHIBIT 12

UAL AMORTIZATION BASES
SHERIFFS & DEPUTIES

Date Established	Original Amount	Remaining Payments	Current Balance	Annual Payment*
June 30, 2014	$ 27,848,921	30	$ 27,848,921	$ 1,493,316
Total				**$ 1,493,316**

* Payment amount reflects mid-year timing.

1. Total UAL Amortization Payments	$	1,493,316
2. Projected Payroll for FYE 2015	$	102,378,722
3. Projected Payroll for FYE 2016 (2) x 1.04	$	106,473,871
4. UAL Amortization Payment Rate (1) / (3)		1.40%

EXHIBIT 13

UAL AMORTIZATION BASES
PROTECTION OCCUPATION

Date Established	Original Amount	Remaining Payments	Current Balance	Annual Payment*
June 30, 2014	$ (4,029,825)	30	$ (4,029,825)	$ (216,087)
Total				**$ (216,087)**

* Payment amount reflects mid-year timing.

1. Total UAL Amortization Payments	$	(216,087)
2. Projected Payroll for FYE 2015	$	337,337,806
3. Projected Payroll for FYE 2016 (2) x 1.04	$	350,831,318
4. UAL Amortization Payment Rate (1) / (3)		(0.06%)

Note: Based on the Actuarial Amortization Method, the total surplus is amortized over an open 30-year period since the UAL is negative.

EXHIBIT 14

ANALYSIS OF CONTRIBUTION RATE

The actuarial cost method used to determine the required level of annual contributions by the employees and the employers to support the expected benefits is the Entry Age Normal Cost Method. Under this method, the total cost is comprised of the normal cost rate and the unfunded actuarial liability payment. The payment to amortize the unfunded actuarial liability is determined as a level percentage of payroll, based on the Actuarial Amortization Method, adopted by the Investment Board. This method was revised by the Investment Board in September 2013 (see Appendix C). The contribution rate developed in this exhibit is based on the Funding Policy and the June 30, 2014 actuarial valuation and applies to the fiscal year beginning July 1, 2015 and ending June 30, 2016.

	Regular Membership	**Sheriffs & Deputies**	**Protection Occupation**
1. Normal Cost Rate	10.23%	16.50%	16.04%
2. UAL Contribution Rate for FYE 2016	4.12%	1.40%	(0.06%)
3. Funded Ratio as of June 30, 2014	81.7%	94.8%	100.1%
Funded Ratio as of June 30, 2013	80.2%	90.5%	96.8%
Funded Ratio as of June 30, 2012	79.2%	88.7%	95.1%
4. UAL Contribution Rate Applicable for FYE 2016 (2) if positive or if all years in (3) >=110%	4.12%	1.40%	0.00%
5. Actuarial Contribution Rate for FYE 2016 (1) + (4)	14.35%	17.90%	16.04%
6. Required Contribution Rate for FYE 2015	14.88%	19.76%	16.90%
7. Required Contribution Rate for FYE 2016*	14.88%	19.76%	16.40%
Employer Contribution Rate	8.93%	9.88%	9.84%
Employee Contribution Rate	5.95%	9.88%	6.56%

* The Required Contribution Rate is the Actuarial Contribution Rate, but not more than 1% greater than the prior year's Required Contribution Rate for Regular Members, nor lower than the prior year's Required Contribution Rate unless the difference is at least 0.50% and the funded ratio is at least 95%, in which case the Required Contribution Rate is the prior year's Required Contribution Rate less 0.50% for all groups.

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SECTION V

HISTORICAL FUNDING AND OTHER INFORMATION

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This section of the report provides a historical perspective on the System's funding and contribution practices, along with other information that may be of interest.

In the past, Governmental Accounting Standards Board (GASB) Statements No. 25, *Financial Reporting for Defined Benefit Pension Plans*, 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 issued.

EXHIBIT 15

SUMMARY OF VALUATION MEMBERSHIP

	June 30, 2014	June 30, 2013
Active Employees:		
Vested	112,931	130,699
Not yet vested	52,980	34,396
Total active employees	165,911	165,095
Retirees and beneficiaries currently receiving benefits*	107,934	104,640
Inactive vested members entitled to benefits but not yet receiving them	28,713	28,443
Inactive, nonvested members entitled to a refund of contributions**	43,501	44,474

* Retired/reemployed members are included in retiree counts, but not the active or inactive counts. Counts are 9,931 for 2014 and 9,925 for 2013.

** Includes deceased vested inactive members with employee contributions still held by the System.

EXHIBIT 16

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Net Actuarial Value of Assets (a)	Actuarial Liability (AL) (b)	Unfunded AL (UAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (P/R) (c)	UAL as a Percentage of Covered P/R [(b-a)/c]
6/30/03	$16,120,476,011	$17,987,374,960	1,866,898,949	89.62%	$4,881,100,238	38.25%
6/30/04	16,951,942,539	19,128,410,606	2,176,468,067	88.62%	5,072,027,906	42.91%
6/30/05	17,951,490,071	20,240,098,667	2,288,608,596	88.69%	5,236,860,886	43.70%
6/30/06	19,144,036,519	21,651,122,419	2,507,085,900	88.42%	5,523,863,321	45.39%
6/30/07	20,759,628,415	23,026,113,782	2,266,485,367	90.16%	5,781,706,199	39.20%
6/30/08	21,857,423,183	24,522,216,589	2,664,793,406	89.13%	6,131,445,367	43.46%
6/30/09	21,123,979,941	26,018,593,823	4,894,613,882	81.19%	6,438,643,124	76.02%
6/30/10	21,537,458,560	26,468,419,650	4,930,961,090	81.37%	6,571,182,005	75.04%
6/30/11	22,575,309,199	28,257,080,114	5,681,770,915	79.89%	6,574,872,719	86.42%
6/30/12	23,530,094,461	29,446,197,486	5,916,103,025	79.91%	6,786,158,720	87.18%
6/30/13	24,711,096,187	30,498,342,320	5,787,246,133	81.02%	6,880,131,134	84.12%
6/30/14	26,460,428,085	32,004,456,088	5,544,028,003	82.68%	7,099,277,280	78.09%

EXHIBIT 17

SCHEDULE OF EMPLOYER CONTRIBUTIONS

The Employer Actuarial Contribution Rate (ACR) is determined as a rate of pay as part of the annual valuation. The dollar amounts displayed in this table are based on analysis by IPERS each year to consider the actual contributions received (using the actual contribution rate in effect) and then determining what the ACR amount would have been on the same payroll.

	Actuarially Required Contributions (ARC)				Percentage of ARC Contributed			
Fiscal Year Ending	Regular Membership	Sheriffs & Deputies	Protection Occupation	Total	Regular Membership	Sheriffs & Deputies	Protection Occupation	Total
6/30/03	$270,363,338	$5,670,239	$13,738,478	$289,772,054	99.2%	100.0%	100.0%	99.2%
6/30/04	309,006,609	5,489,797	14,263,836	328,760,242	90.3%	100.0%	100.0%	90.9%
6/30/05	341,552,685	6,236,611	15,391,729	363,181,025	84.7%	100.0%	100.0%	85.6%
6/30/06	364,424,911	6,228,675	16,888,833	387,542,419	82.7%	100.0%	100.0%	83.8%
6/30/07	387,578,925	6,577,652	17,723,013	411,879,590	82.2%	100.0%	100.0%	83.3%
6/30/08	408,882,080	6,301,171	17,644,966	432,828,217	96.4%	100.0%	100.0%	87.2%
6/30/09	441,951,764	6,365,911	24,736,688	473,054,363	86.9%	100.0%	100.0%	87.8%
6/30/10	467,839,274	6,725,778	27,328,184	501,893,236	88.7%	100.0%	100.0%	89.5%
6/30/11	530,692,453	7,994,058	29,711,050	568,397,561	81.1%	100.0%	100.0%	82.3%
6/30/12	528,525,785	8,999,273	30,864,449	568,389,507	98.1%	100.0%	100.0%	98.2%
6/30/13	573,480,969	9,246,766	32,118,873	614,846,608	97.8%	100.0%	100.0%	98.0%
6/30/14	596,983,323	9,583,512	32,434,713	639,001,548	100.0%	100.0%	100.0%	100.0%

EXHIBIT 18

EXPECTED BENEFIT PAYMENTS

The following chart shows the expected benefit payments to be made over the next 20 years. These payments include those expected to be made to current retirees and beneficiaries, current active members, and current deferred vested members (included in the active values) if all actuarial assumptions are met in future years. The benefits reflected include expected refunds and death benefits as well as annuity payments.

These payouts do not include any current nonvested inactive members, any future members, or any FED payments.

Fiscal Year End	Actives at 6/30/14	Retirees at 6/30/14	Total
2015	$ 146,947,000	$ 1,646,155,000	$ 1,793,102,000
2016	287,850,000	1,620,888,000	1,908,738,000
2017	429,606,000	1,593,493,000	2,023,099,000
2018	568,882,000	1,564,593,000	2,133,475,000
2019	707,448,000	1,533,694,000	2,241,142,000
2020	845,084,000	1,501,110,000	2,346,194,000
2021	981,241,000	1,466,460,000	2,447,701,000
2022	1,120,577,000	1,430,416,000	2,550,993,000
2023	1,260,822,000	1,392,801,000	2,653,623,000
2024	1,399,427,000	1,353,271,000	2,752,698,000
2025	1,537,048,000	1,312,506,000	2,849,554,000
2026	1,675,077,000	1,270,565,000	2,945,642,000
2027	1,813,542,000	1,227,075,000	3,040,617,000
2028	1,951,491,000	1,182,090,000	3,133,581,000
2029	2,088,784,000	1,135,623,000	3,224,407,000
2030	2,225,230,000	1,087,723,000	3,312,953,000
2031	2,361,115,000	1,038,458,000	3,399,573,000
2032	2,495,535,000	987,965,000	3,483,500,000
2033	2,631,857,000	936,399,000	3,568,256,000
2034	2,766,712,000	883,872,000	3,650,584,000

Note: Cash flows are the expected future non-discounted payments to current members. These numbers exclude refund payouts to current nonvested inactives and assume future retirees elect the normal form of payment and future withdrawals elect refunds according to valuation assumptions.

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APPENDIX A

SUMMARY STATISTICS ON SYSTEM MEMBERSHIP

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APPENDIX A

SUMMARY STATISTICS ON SYSTEM MEMBERSHIP

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RECONCILIATION OF ACTIVE MEMBERS

Below is a summary of the changes in active members (excluding retired re-employed members) between June 30, 2013 and June 30, 2014.

	Regular Membership	Sheriffs & Deputies	Protection Occupation	Total
6/30/2013 Starting count	156,679	1,527	6,889	165,095
New actives	15,203	41	625	15,869
Returning actives	2,630	12	103	2,745
Nonvested Terminations	(5,887)	(7)	(152)	(6,046)
Elected Refund	(2,813)	(21)	(156)	(2,990)
Vested Terminations	(3,307)	(16)	(164)	(3,487)
Total Withdrawals	(12,007)	(44)	(472)	(12,523)
Deaths	(136)	0	(2)	(138)
Disability Retirements	(103)	(6)	(6)	(115)
AE Benefits	(289)	0	(4)	(293)
Service Retirements	(4,440)	(36)	(160)	(4,636)
Total Retirements	(4,832)	(42)	(170)	(5,044)
Other/transfer	(190)	44	53	(93)
6/30/2014 Ending count	157,347	1,538	7,026	165,911

HISTORICAL SUMMARY OF MEMBERS

The following table displays selected historical data (including Regular, Sheriffs and Deputies, and Protection Occupation groups) as available.

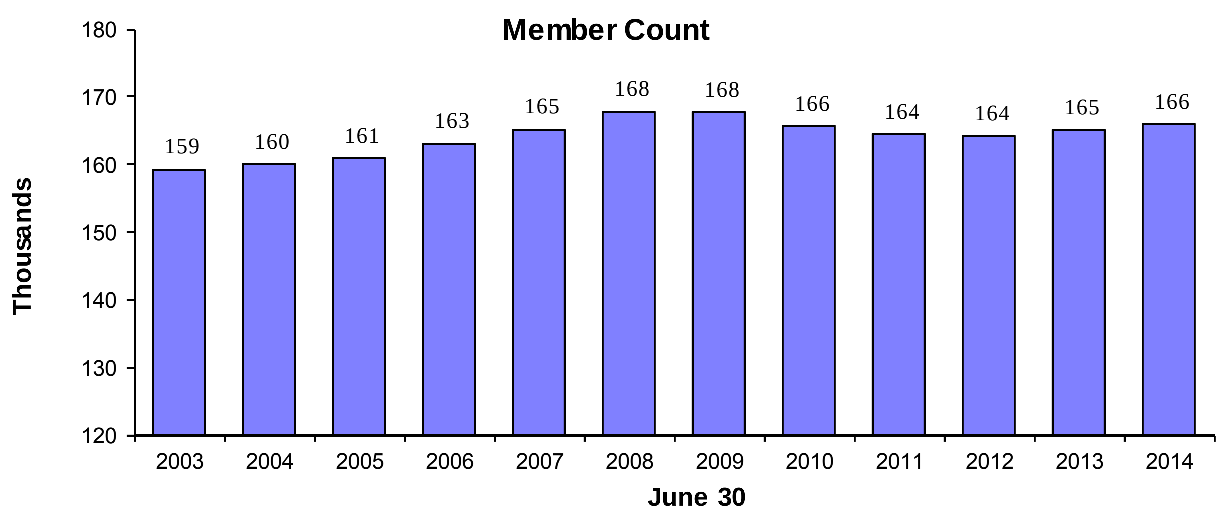
Valuation Date June 30	Total Count	Number	Average Age	Average Entry Age	Average Service	Average Annual Pay ($)	Average % Change	Number Retired Reemployed	Number Inactive Vested	Number Retired	Active/Retired Ratio
1991	206,105	135,104	43.7			21,885				49,881	2.71
1992	207,860	134,485	44.3			22,510	2.9%			51,247	2.62
1993	211,862	136,409	43.9			22,604	0.4%			54,212	2.52
1994	216,989	141,423	44.2			22,968	1.6%			54,295	2.60
1995	216,973	144,912	44.1			23,322	1.5%			56,353	2.57
1996	221,891	147,431	44.2			25,218	8.1%			57,914	2.55
1997	224,357	147,736	44.6	33.1	11.5	26,031	3.2%		28,377	59,320	2.49
1998	241,767	148,917	44.7	33.2	11.5	26,767	2.8%		31,202	61,648	2.42
1999	250,168	152,440	44.8	33.4	11.4	27,322	2.1%	4,853	34,332	63,396	2.40
2000	249,970	153,039	44.8	33.2	11.6	29,032	6.3%	5,050	31,219	65,712	2.33
2001	255,963	154,610	45.0	33.5	11.5	30,341	4.5%	4,886	32,650	68,703	2.25
2002	264,974	158,467	45.1	33.8	11.3	32,119	5.9%	5,387	34,792	71,715	2.21
2003	268,813	159,310	45.2	33.8	11.4	31,950	-0.5%	6,126	35,375	74,128	2.15
2004	272,573	160,003	45.4	33.8	11.6	33,082	3.5%	6,438	35,788	76,782	2.08
2005	267,214	160,876	45.6	33.8	11.8	34,066	3.0%	6,592	26,919	79,419	2.03
2006	271,007	163,052	45.7	34.0	11.7	35,475	4.1%	8,044	25,918	82,037	1.99
2007	276,421	165,216	45.7	34.0	11.7	36,615	3.2%	7,848	26,435	84,770	1.95
2008	282,778	167,823	45.7	34.1	11.6	38,515	5.2%	8,523	27,626	87,309	1.92
2009	294,076	167,691	46.0	34.2	11.8	40,326	4.7%	8,427	28,240	89,718	1.87
2010	287,611	165,626	46.0	34.1	11.9	40,635	0.8%	8,347	28,472	93,513	1.77
2011	291,825	164,436	45.8	34.1	11.7	40,782	0.4%	8,321	29,077	98,312	1.67
2012	294,996	164,200	45.8	34.2	11.6	42,223	3.5%	8,265	29,119	101,677	1.61
2013	299,793	165,095	45.7	34.1	11.6	42,404	0.4%	9,925	28,443	104,640	1.58
2014	302,558	165,911	45.7	34.1	11.6	44,225	4.3%	9,931	28,713	107,934	1.54

Note: Retired count includes retired reemployed members.

SUMMARY OF ACTIVE MEMBERS

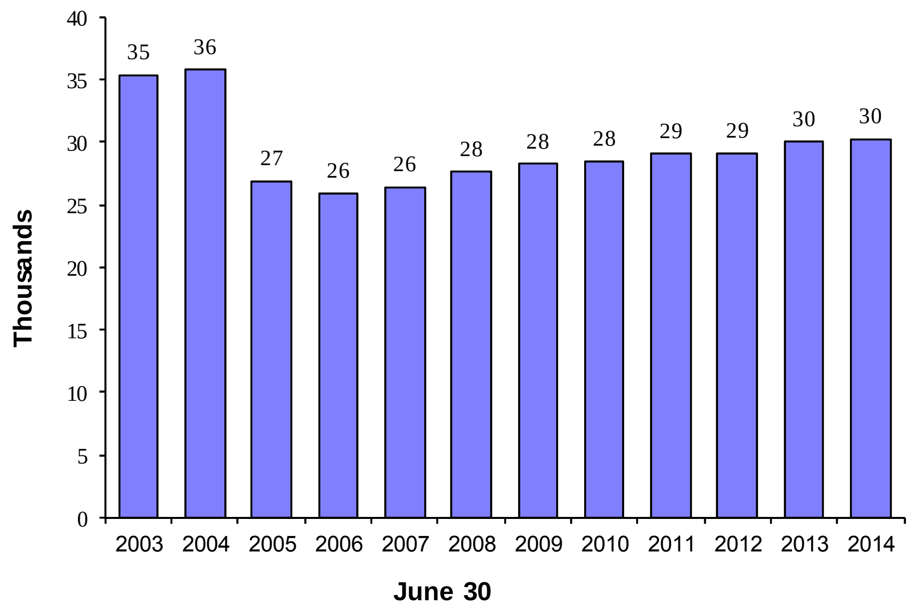
	Regular Membership	Sheriffs & Deputies	Protection Occupations	Total 6/30/2014	Total 6/30/2013	Percent Change
Total Active Members	157,347	1,538	7,026	165,911	165,095	0.5
Projected Covered Payroll* (millions)	$6,902	$101	$335	$7,337	$7,001	4.8
Average Age	45.9	41.7	41.9	45.7	45.7	0.0
Average Entry Age	34.3	26.8	30.9	34.1	34.1	0.0
Average Earnings	$43,862	$65,402	$47,727	$44,225	$42,404	4.3
Retired Reemployed	8,165	90	134	8,389	8,310	1.0

*Payroll figures as of June 30 are actual amounts paid during the prior fiscal year, increased by the assumed salary increase factor for the upcoming fiscal year.



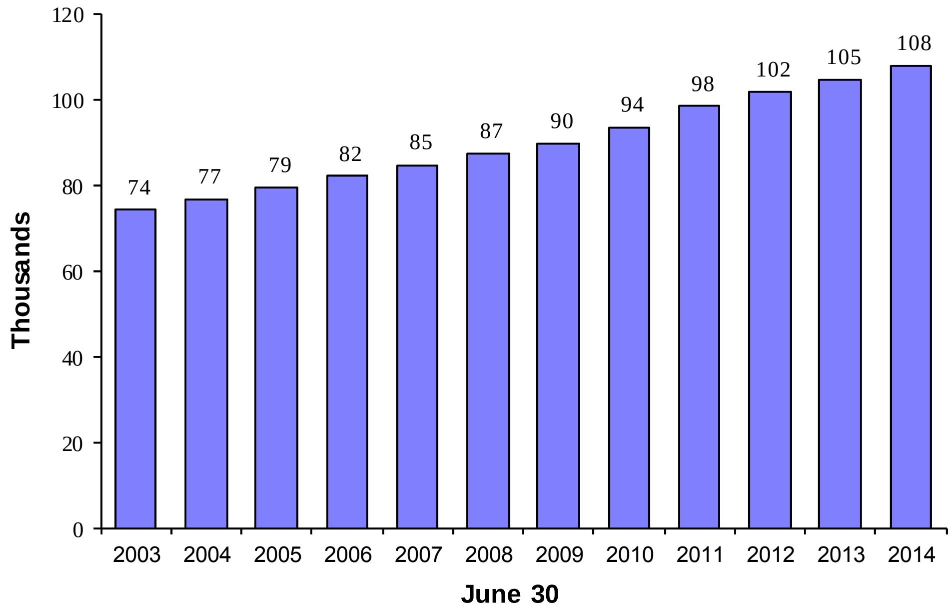
SUMMARY OF INACTIVE VESTED MEMBERS

	Regular Membership	Sheriffs & Deputies	Protection Occupations	Total 6/30/2014	Total 6/30/2013	Percent Change
Inactive Vested	27,904	91	718	28,713	28,443	0.9%
Inactive Retired Reemployed	1,505	7	30	1,542	1,615	(4.5%)
Total Inactive Vested	29,409	98	748	30,255	30,058	0.7%



SUMMARY OF RETIRED MEMBERS AND BENEFICIARIES

Regular Membership	Sheriffs & Deputies	Protection Occupations	Total 6/30/2014	Total 6/30/2013	Percent Change
105,002	794	2,138	107,934	104,640	3.1%



AGE AND SERVICE DISTRIBUTION AS OF JUNE 30, 2014 FOR ACTIVE MEMBERS*

Males and Females - Regular Membership

Years of Service

	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 and 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	No.	Avg. Salary
Under 25	6,021	16,929	73	25,141	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	6,094	17,028
25-29	10,471	30,351	2,668	39,787	39	35,134	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	13,178	32,275
30-34	6,775	31,482	6,826	45,117	2,066	50,237	28	40,985	0	NA	0	NA	0	NA	0	NA	0	NA	15,695	39,897
35-39	5,697	29,570	4,488	44,286	4,977	53,543	1,489	57,572	6	63,688	0	NA	0	NA	0	NA	0	NA	16,657	43,213
40-44	5,178	27,965	4,295	40,617	3,247	51,527	4,393	60,164	1,068	62,217	19	59,172	0	NA	0	NA	0	NA	18,200	44,969
45-49	4,203	27,264	4,069	36,153	3,367	43,658	3,215	54,125	3,237	63,728	1,020	64,245	21	50,831	0	NA	0	NA	19,132	44,720
50-54	3,894	28,100	3,798	34,459	3,780	39,506	3,866	46,030	2,776	55,266	3,231	63,978	1,613	62,765	135	55,885	1	110,178	23,094	44,886
55-59	3,675	24,827	3,090	35,193	3,035	38,885	3,612	43,072	2,970	49,301	2,634	58,597	2,548	66,312	1,376	61,047	52	54,018	22,992	44,803
60-64	4,044	18,483	2,558	30,026	2,073	36,686	2,223	43,088	2,199	47,207	1,829	53,337	1,075	59,546	1,160	66,950	408	63,535	17,569	39,407
65-69	2,739	11,965	1,688	18,369	898	30,065	626	39,757	527	43,055	383	48,667	243	52,088	189	62,378	198	69,040	7,491	26,046
70 & over	2,718	13,902	1,635	11,628	709	11,972	220	14,046	60	19,843	20	30,220	23	39,997	12	47,965	13	56,509	5,410	13,383
Totals	55,415	25,387	35,188	37,021	24,191	44,018	19,672	49,943	12,843	54,555	9,136	59,601	5,523	63,165	2,872	63,221	672	64,354	165,512	39,729

*Including retired/reemployed members

AGE AND SERVICE DISTRIBUTION AS OF JUNE 30, 2014 FOR ACTIVE MEMBERS*

Males and Females - Sheriffs and Deputies

Years of Service

	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 and 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	No.	Avg. Salary
Under 25	33	43,747	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	33	43,747
25-29	108	49,342	55	56,612	1	58,545	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	164	51,836
30-34	52	51,469	119	58,788	56	58,209	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	227	56,969
35-39	19	48,442	52	58,004	111	61,973	67	64,541	1	49,556	0	NA	0	NA	0	NA	0	NA	250	60,758
40-44	10	57,447	31	56,992	64	61,441	99	66,209	45	65,024	0	NA	0	NA	0	NA	0	NA	249	63,270
45-49	10	61,122	19	58,627	37	61,367	60	65,622	90	69,359	45	70,199	1	82,824	0	NA	0	NA	262	66,478
50-54	7	44,742	5	69,313	13	66,879	38	62,775	43	67,780	53	70,769	15	80,741	1	95,195	0	NA	175	67,921
55-59	24	18,876	3	49,951	9	65,116	10	61,056	17	64,473	35	68,007	22	70,794	19	69,111	0	NA	139	58,607
60-64	19	23,188	22	25,196	4	65,488	2	58,668	11	65,505	10	60,796	9	68,433	8	73,638	8	76,202	93	48,573
65-69	9	7,013	6	12,584	3	81,149	1	50,512	1	65,500	1	68,936	1	52,188	0	NA	2	83,631	24	32,769
70 & over	2	9,571	6	14,489	4	13,718	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	12	13,412
Totals	293	43,837	318	54,149	302	60,980	277	64,910	208	67,378	144	69,214	48	73,323	28	71,336	10	77,688	1,628	59,419

*Including retired/reemployed members

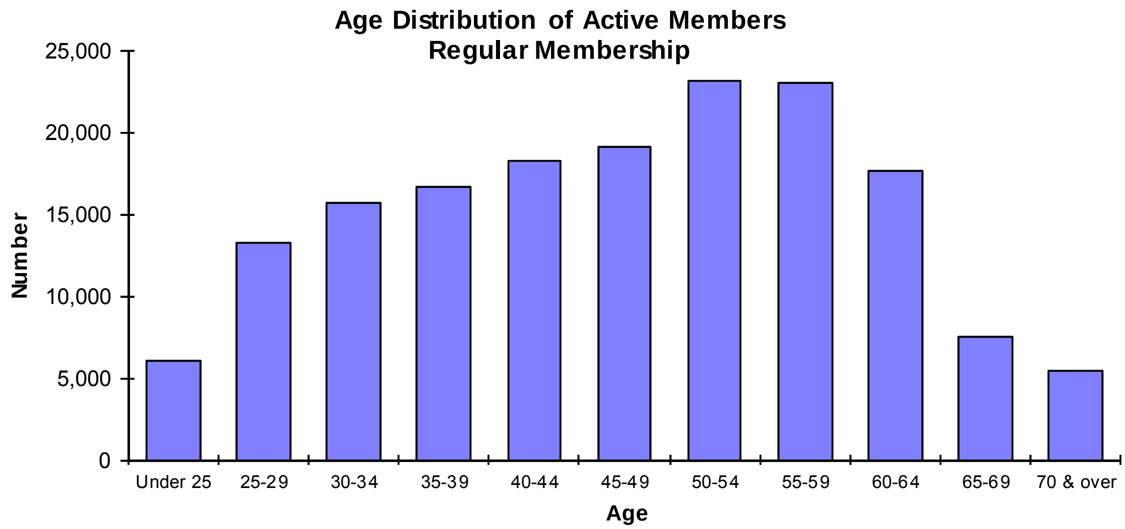
AGE AND SERVICE DISTRIBUTION AS OF JUNE 30, 2014 FOR ACTIVE MEMBERS*

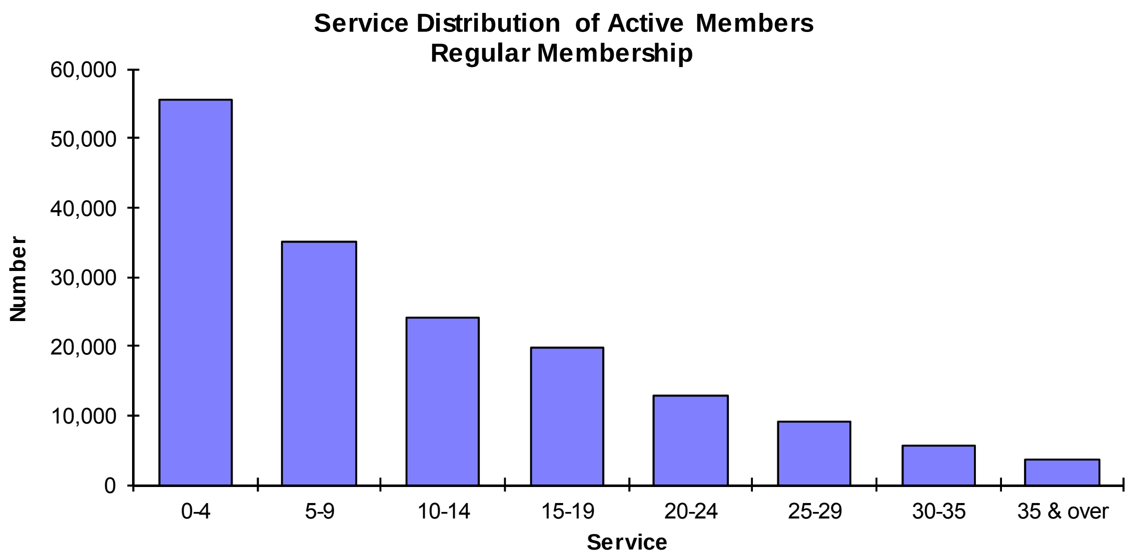
Males and Females - Protection Occupation

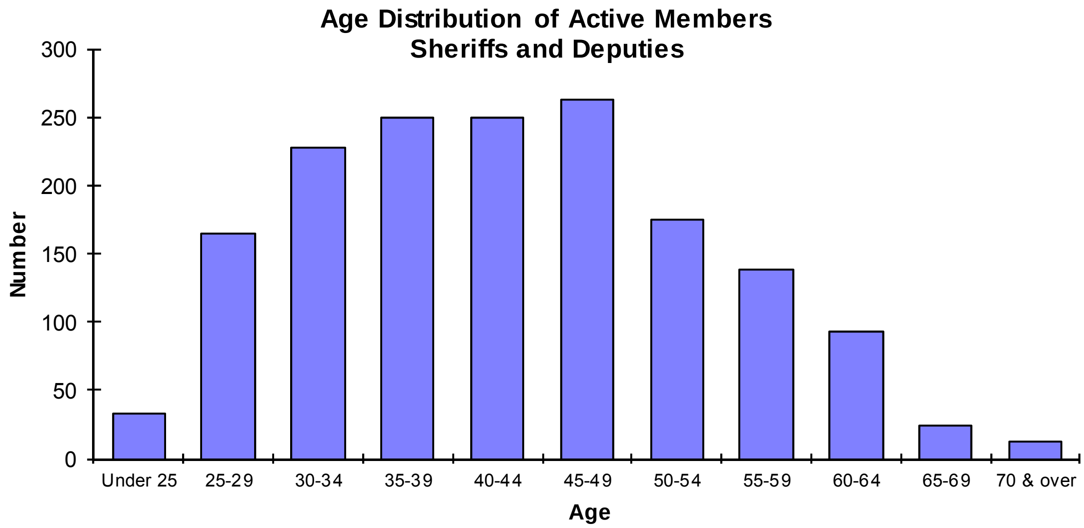
Years of Service

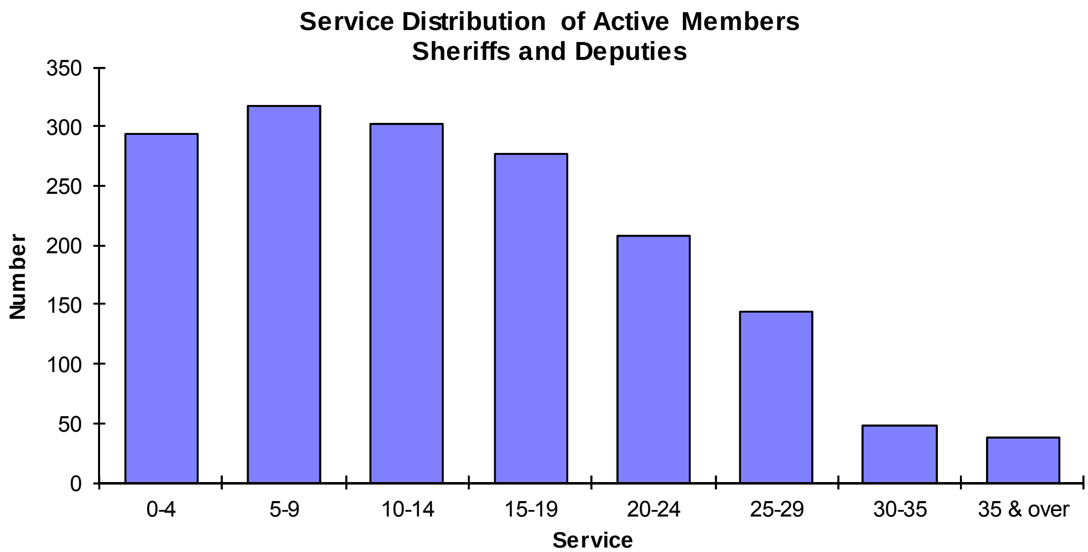
	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 and over		Total	
Age	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary
Under 25	348	25,827	8	40,257	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	356	26,151
25-29	610	30,889	233	43,663	2	45,336	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	845	34,445
30-34	410	32,109	442	47,482	120	50,750	1	61,170	0	NA	0	NA	0	NA	0	NA	0	NA	973	41,421
35-39	242	33,001	304	45,150	264	50,988	109	52,675	1	61,812	0	NA	0	NA	0	NA	0	NA	920	44,539
40-44	207	30,983	215	44,488	198	49,285	269	56,541	84	60,302	1	62,979	0	NA	0	NA	0	NA	974	47,305
45-49	134	30,669	176	40,700	172	46,512	217	57,428	158	61,311	64	59,488	0	NA	0	NA	0	NA	921	49,109
50-54	89	33,263	157	41,733	145	49,329	178	53,378	117	55,095	152	62,645	97	63,866	6	59,686	0	NA	941	51,740
55-59	81	28,573	106	44,075	107	45,952	135	50,634	87	52,891	71	59,012	84	65,559	23	68,791	0	NA	694	49,884
60-64	61	20,094	73	36,953	68	48,213	79	55,335	44	48,883	24	54,748	19	69,822	21	56,540	7	71,192	396	45,581
65-69	26	9,411	21	28,027	12	39,718	15	39,758	7	34,381	4	44,494	6	61,634	3	43,891	1	61,563	95	30,399
70 & over	27	10,802	12	20,749	5	5,439	0	NA	1	9,243	0	NA	0	NA	0	NA	0	NA	45	12,824
Totals	2,235	29,772	1,747	43,901	1,093	48,721	1,003	54,615	499	56,639	316	60,361	206	65,041	53	61,497	8	69,988	7,160	44,109

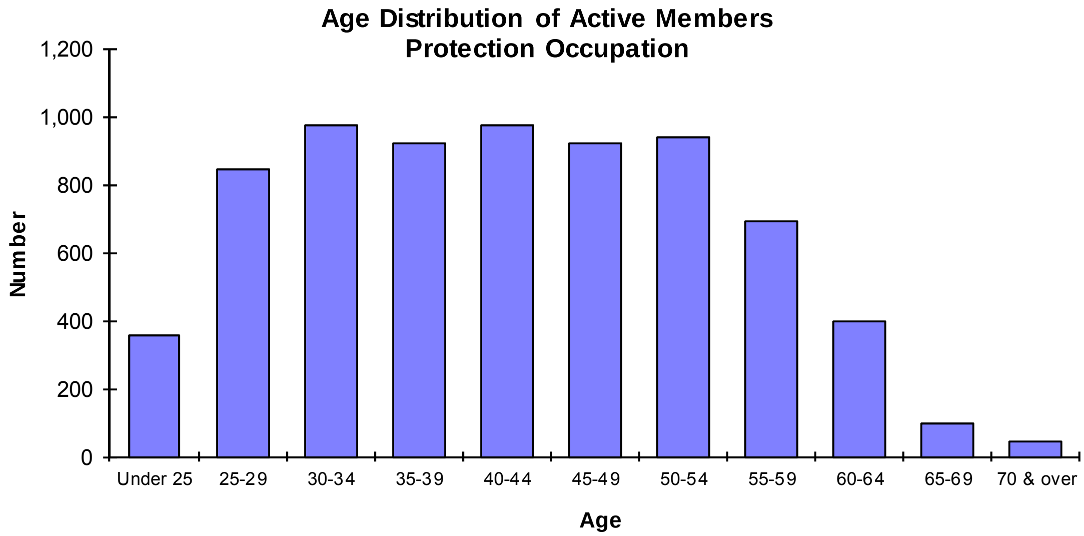
*Including retired/reemployed members

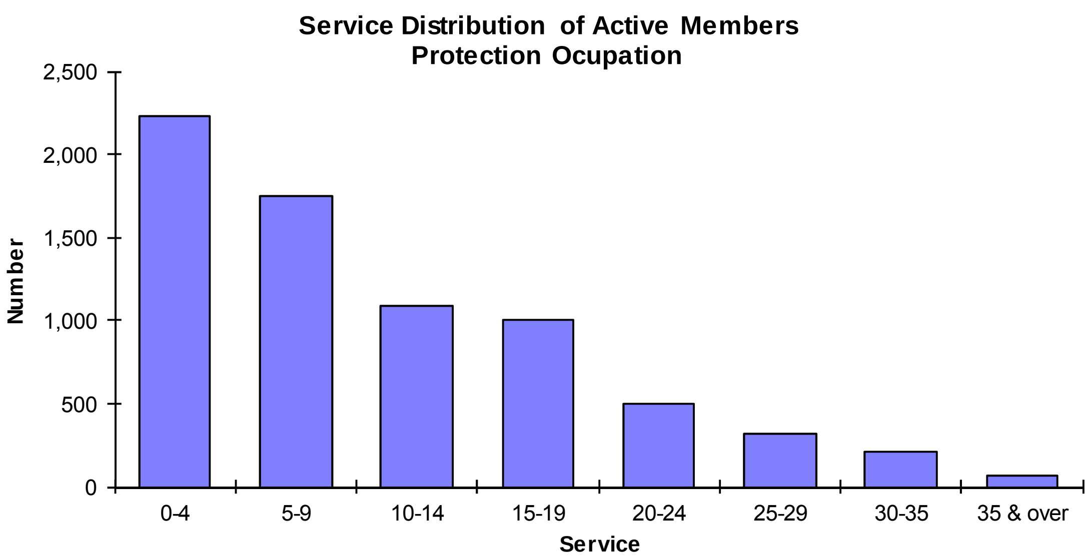

Age Distribution of Active Members
Regular Membership
25,000
20,000
15,000
10,000
5,000
0
Number
Under 25
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70 & over
Age


Service Distribution of Active Members
Regular Membership
60,000
50,000
40,000
30,000
20,000
10,000
0
Number
0-4
5-9
10-14
15-19
20-24
25-29
30-35
35 & over
Service


Age Distribution of Active Members
Sheriffs and Deputies
Number
300
250
200
150
100
50
0
Under 25
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70 & over
Age


Service Distribution of Active Members
Sheriffs and Deputies
Number
350
300
250
200
150
100
50
0
0-4
5-9
10-14
15-19
20-24
25-29
30-35
35 & over
Service


Age Distribution of Active Members
Protection Occupation
Number
1,200
1,000
800
600
400
200
0
Under 25
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70 & over
Age


Service Distribution of Active Members
Protection Ocupation
Number
2,500
2,000
1,500
1,000
500
0
0-4
5-9
10-14
15-19
20-24
25-29
30-35
35 & over
Service

AGE AND SERVICE DISTRIBUTION AS OF JUNE 30, 2014 FOR INACTIVE VESTED MEMBERS*

Males and Females - Regular Membership

	Years of Service																			
	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 and over		Total	
Age	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.
Under 25	5	7,177	6	6,999	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	11	7,080
25-29	144	19,107	232	20,471	1	33,579	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	377	19,985
30-34	531	24,551	1,039	30,194	64	27,663	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	1,634	28,261
35-39	469	22,969	1,319	28,839	285	37,746	22	39,482	0	NA	0	NA	0	NA	0	NA	0	NA	2,095	28,848
40-44	475	22,883	1,417	26,339	525	35,871	140	39,393	12	41,167	0	NA	0	NA	0	NA	0	NA	2,569	28,428
45-49	520	19,861	1,750	22,813	688	30,379	239	38,808	90	48,501	9	42,549	0	NA	0	NA	0	NA	3,296	25,841
50-54	597	17,758	2,264	20,770	1,101	24,903	515	33,135	237	38,963	90	42,528	27	50,519	4	48,949	0	NA	4,835	24,143
55-59	991	14,897	2,204	18,677	1,162	21,587	527	25,931	216	32,700	76	38,706	25	49,393	4	37,470	0	NA	5,205	20,378
60-64	2,238	11,632	1,550	15,946	717	19,733	306	23,567	129	30,309	27	35,445	7	46,424	3	25,614	0	NA	4,977	15,547
65-69	2,445	7,933	630	10,171	207	12,698	71	14,907	21	22,062	6	40,910	3	25,530	2	39,303	0	NA	3,385	8,967
70 & over	766	5,909	170	6,097	63	5,362	19	8,726	4	12,509	2	22,785	0	NA	1	325	0	NA	1,025	6,012
Totals	9,181	13,409	12,581	21,603	4,813	25,330	1,839	29,812	709	36,079	210	40,001	62	48,393	14	35,818	0	NA	29,409	20,712

*Including inactive retired/reemployed members

AGE AND SERVICE DISTRIBUTION AS OF JUNE 30, 2014 FOR INACTIVE VESTED MEMBERS*

Males and Females - Sheriffs and Deputies

Years of Service

	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 and over		Total	
Age	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.	No.	Avg. Sal.
Under 25	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA
25-29	2	43,397	1	49,627	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	3	45,473
30-34	4	38,799	9	50,429	1	61,325	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	14	47,884
35-39	2	41,704	8	44,798	4	50,711	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	14	46,045
40-44	2	39,740	9	38,619	11	42,564	1	52,310	2	66,644	0	NA	0	NA	0	NA	0	NA	25	43,234
45-49	1	25,997	5	43,039	3	42,699	2	48,737	3	52,345	0	NA	0	NA	0	NA	0	NA	14	44,557
50-54	0	NA	5	33,772	5	42,703	5	50,993	0	NA	0	NA	0	NA	0	NA	0	NA	15	42,489
55-59	3	14,269	2	18,420	0	NA	2	39,668	0	NA	0	NA	0	NA	0	NA	0	NA	7	22,712
60-64	3	5,116	1	7,095	0	NA	2	18,643	0	NA	0	NA	0	NA	0	NA	0	NA	6	9,955
65-69	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA
70 & over	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA
Totals	17	28,766	40	40,936	24	44,750	12	43,447	5	58,065	0	NA	0	NA	0	NA	0	NA	98	40,940

*Including inactive retired/reemployed members

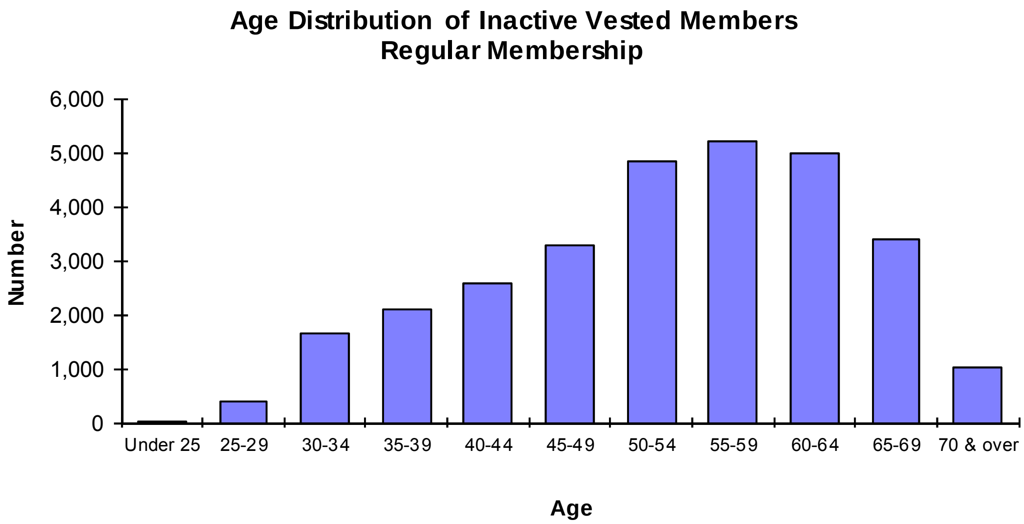
AGE AND SERVICE DISTRIBUTION AS OF JUNE 30, 2014 FOR INACTIVE VESTED MEMBERS*

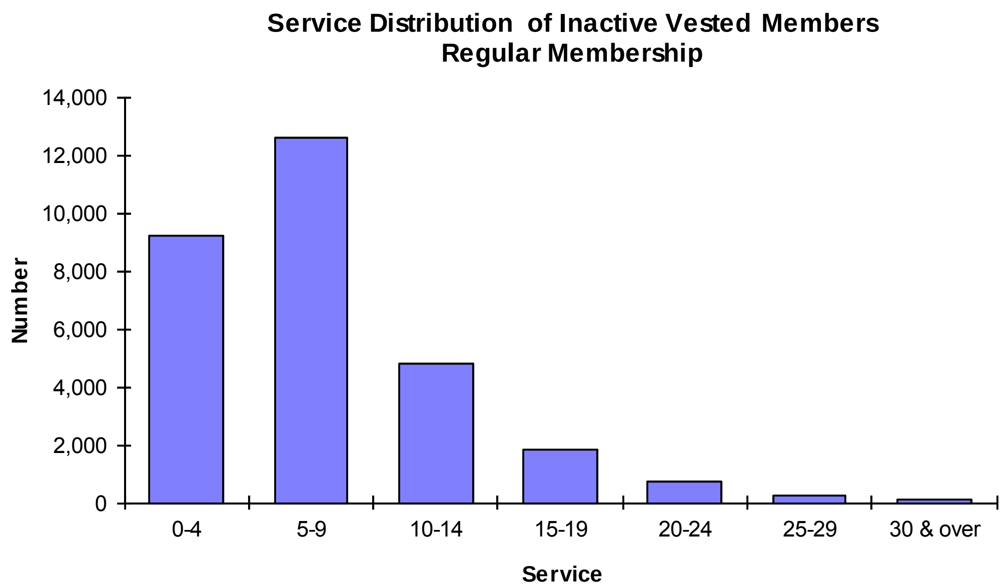
Males and Females - Protection Occupation

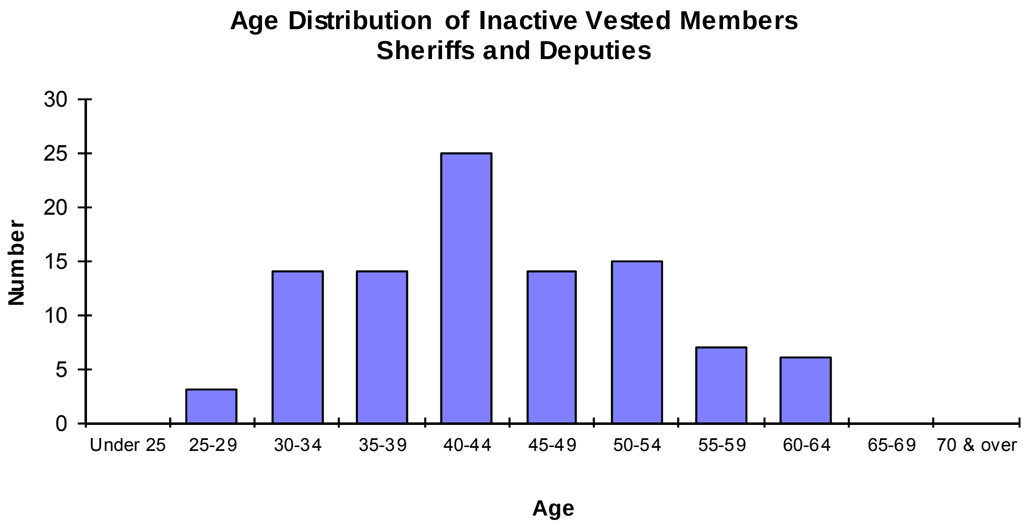
Years of Service

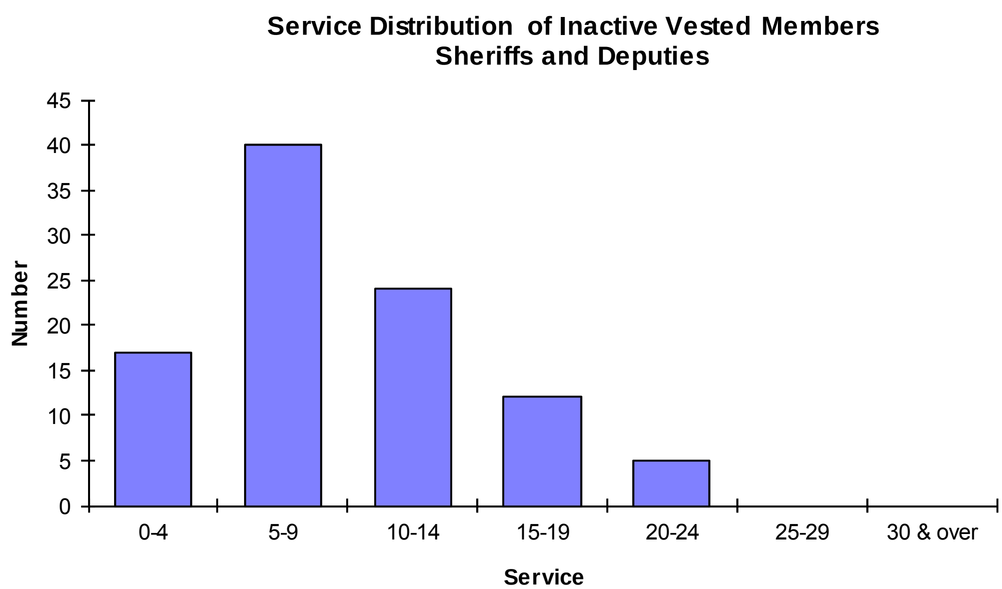
Age	0 to 5 No.	0 to 5 Avg. Sal.	5 to 10 No.	5 to 10 Avg. Sal.	10 to 15 No.	10 to 15 Avg. Sal.	15 to 20 No.	15 to 20 Avg. Sal.	20 to 25 No.	20 to 25 Avg. Sal.	25 to 30 No.	25 to 30 Avg. Sal.	30 to 35 No.	30 to 35 Avg. Sal.	35 to 40 No.	35 to 40 Avg. Sal.	40 and over No.	40 and over Avg. Sal.	Total No.	Total Avg. Sal.
Under 25	3	15,229	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	3	15,229
25-29	22	22,503	19	27,025	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	41	24,599
30-34	21	17,128	62	28,847	2	9,568	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	85	25,498
35-39	12	10,928	66	19,893	20	32,630	4	26,661	0	NA	0	NA	0	NA	0	NA	0	NA	102	21,601
40-44	14	13,155	54	17,596	27	33,496	10	42,606	0	NA	0	NA	0	NA	0	NA	0	NA	105	23,474
45-49	11	16,261	48	14,530	36	23,279	6	16,872	5	36,453	3	44,595	0	NA	0	NA	0	NA	109	19,556
50-54	11	8,754	49	18,474	38	27,221	17	27,969	8	34,117	3	55,380	3	42,561	0	NA	0	NA	129	23,862
55-59	20	14,788	33	11,681	18	17,560	2	865	1	30,929	0	NA	0	NA	0	NA	0	NA	74	13,919
60-64	39	10,388	11	3,678	7	12,894	6	16,048	0	NA	0	NA	0	NA	0	NA	0	NA	63	10,033
65-69	24	6,999	4	13,513	1	33,205	2	3,203	0	NA	0	NA	0	NA	0	NA	0	NA	31	8,440
70 & over	5	1,128	1	2,458	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	6	1,350
Totals	182	12,997	347	19,165	149	26,095	47	25,826	14	34,723	6	49,988	3	42,561	0	NA	0	NA	748	20,095

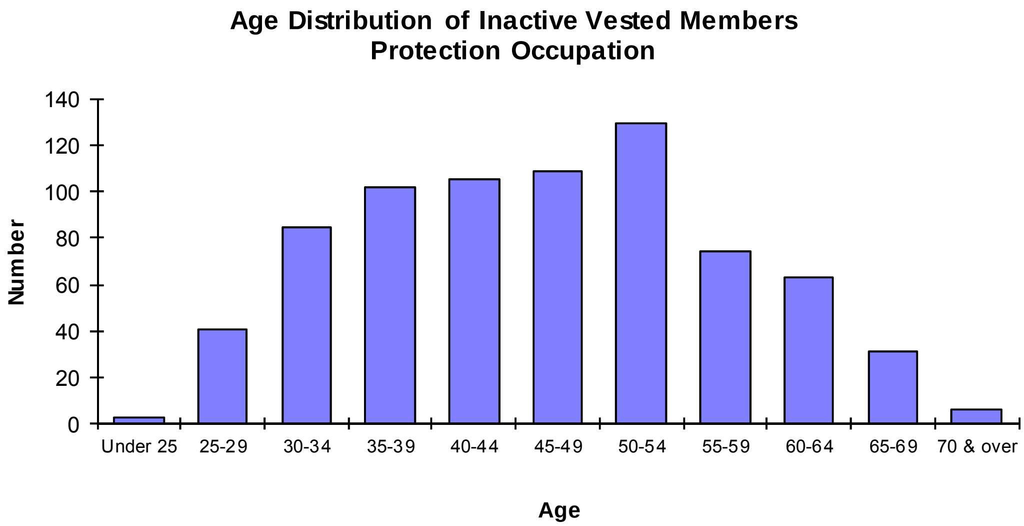
*Including inactive retired/reemployed members

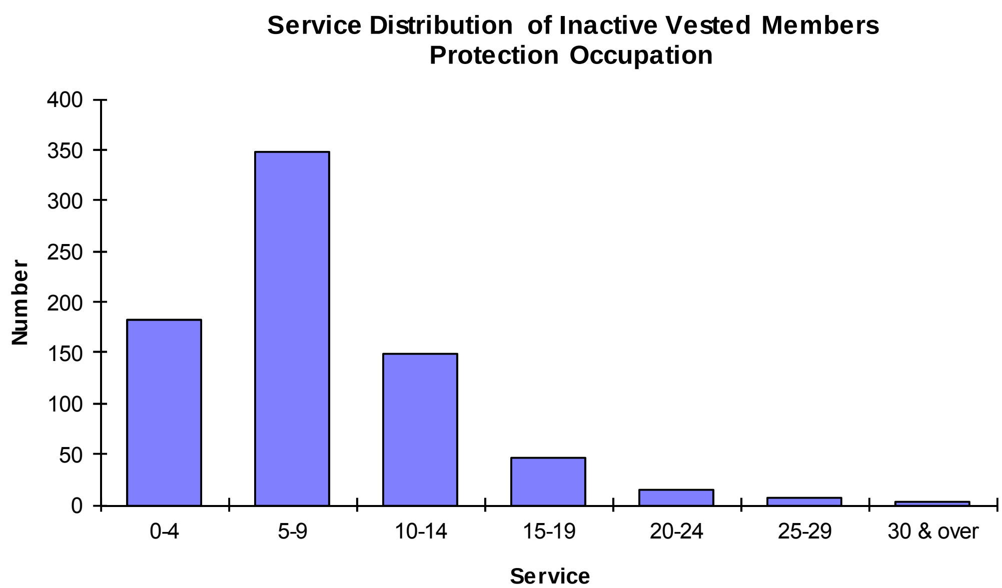

Age Distribution of Inactive Vested Members
Regular Membership
6,000
5,000
4,000
3,000
2,000
1,000
0
Number
Under 25
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70 & over
Age


Service Distribution of Inactive Vested Members
Regular Membership
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Number
0-4
5-9
10-14
15-19
20-24
25-29
30 & over
Service


Age Distribution of Inactive Vested Members
Sheriffs and Deputies
Number
30
25
20
15
10
5
0
Under 25
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70 & over
Age


Service Distribution of Inactive Vested Members
Sheriffs and Deputies
Number
45
40
35
30
25
20
15
10
5
0
0-4
5-9
10-14
15-19
20-24
25-29
30 & over
Service


Age Distribution of Inactive Vested Members
Protection Occupation
Number
140
120
100
80
60
40
20
0
Under 25
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70 & over
Age


Service Distribution of Inactive Vested Members
Protection Occupation
Number
400
350
300
250
200
150
100
50
0
0-4
5-9
10-14
15-19
20-24
25-29
30 & over
Service

ANALYSIS OF RETIREES AND BENEFICIARIES

Males and Females - Regular Membership

	Number of Members and Beneficiaries										Average
						Contingent			Period		Annual
Age	Chpt 97	Option 1	Option 2	Option 3	Option 4	Beneficiary	Option 5	Option 6	Certain	Total	Benefit
Under 40	0	4	1	3	0	38	1	4	6	57	$9,769
40 to 44	0	11	3	4	8	25	1	7	3	62	6,888
45 to 49	0	23	22	1	4	43	3	15	5	116	9,943
50 to 54	0	80	40	19	19	74	10	36	4	282	10,252
55 to 59	0	750	629	288	251	174	256	971	8	3,327	20,443
60 to 64	0	2,812	3,026	1,593	967	344	1,112	3,659	23	13,536	22,471
65 to 69	0	5,192	5,389	3,448	1,704	584	2,085	5,931	24	24,357	19,852
70 to 74	0	4,761	4,428	3,100	1,887	646	1,967	3,229	22	20,040	15,400
75 to 79	0	4,430	3,583	2,348	2,234	801	1,924	1,013	10	16,343	12,207
80 to 84	0	3,691	2,700	1,437	1,985	878	1,516	164	7	12,378	9,384
85 to 89	0	2,551	2,253	851	1,094	727	873	12	3	8,364	6,932
90 to 94	0	1,329	1,348	473	424	422	490	2	0	4,488	5,362
95 to 99	2	177	669	113	93	92	253	0	0	1,399	5,545
100 & up	1	5	170	17	10	6	44	0	0	253	4,001
Counts	3	25,816	24,261	13,695	10,680	4,854	10,535	15,043	115	105,002	$15,008
% of Total	0.0%	24.6%	23.1%	13.0%	10.2%	4.6%	10.0%	14.3%	0.1%	100.0%	

ANALYSIS OF RETIREES AND BENEFICIARIES

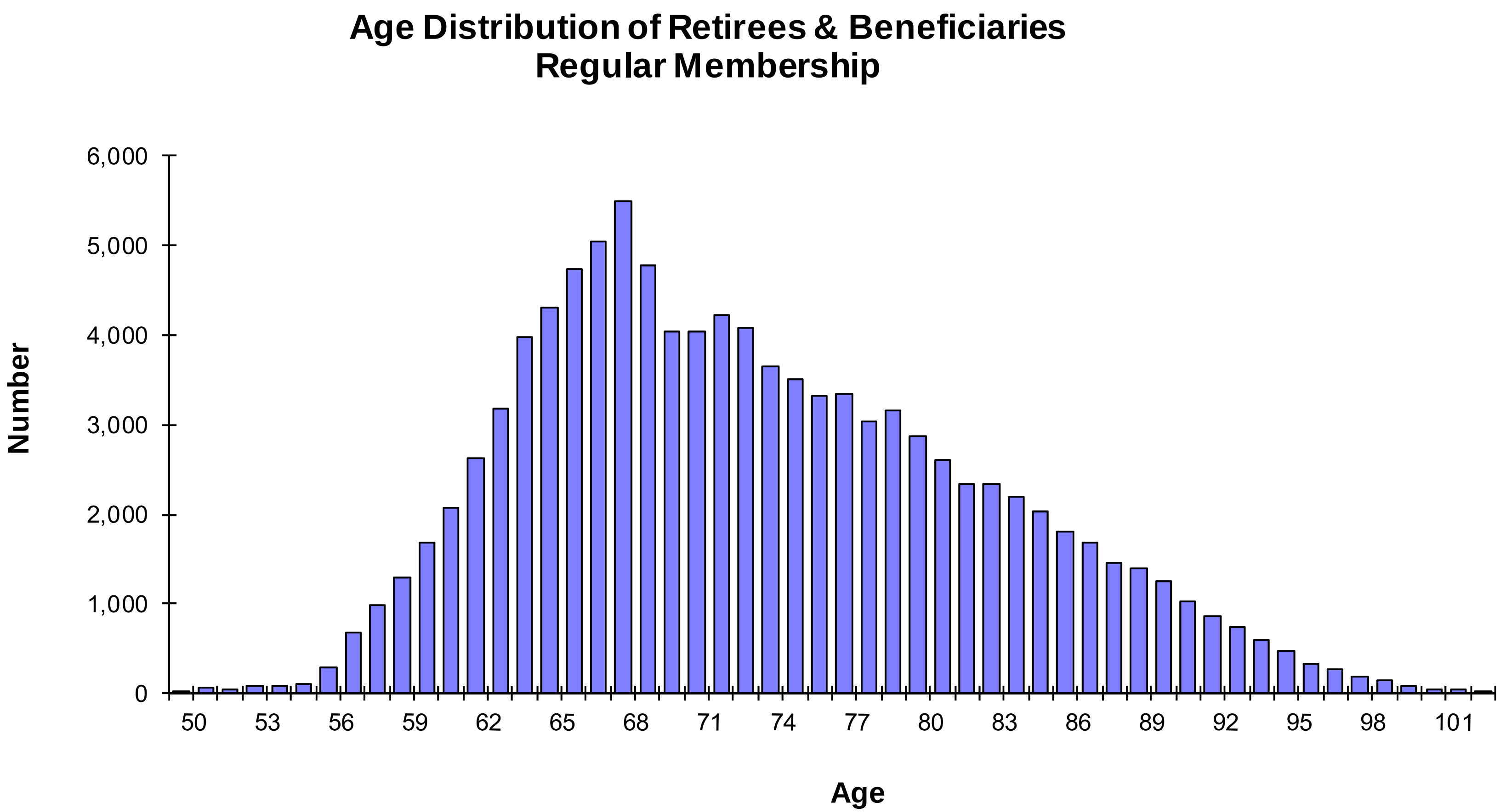
Males and Females - Sheriffs and Deputies

	Number of Members and Beneficiaries									Average
					Contingent			Period		Annual
Age	Option 1	Option 2	Option 3	Option 4	Beneficiary	Option 5	Option 6	Certain	Total	Benefit
Under 40	0	0	1	0	0	0	0	0	1	$15,194
40 to 44	0	0	0	0	1	0	0	0	1	6,159
45 to 49	6	1	0	0	0	0	1	0	8	33,235
50 to 54	7	2	1	6	3	1	10	0	30	36,901
55 to 59	23	15	12	29	6	6	57	0	148	37,545
60 to 64	32	25	17	37	7	6	62	0	186	34,416
65 to 69	43	17	6	29	6	8	63	0	172	30,499
70 to 74	24	13	11	25	7	6	21	0	107	25,629
75 to 79	14	5	4	25	9	5	8	0	70	18,998
80 to 84	13	7	3	16	8	1	0	0	48	12,956
85 to 89	3	2	1	1	7	0	0	0	14	9,555
90 to 94	1	1	0	3	3	0	0	0	8	7,495
95 to 99	0	1	0	0	0	0	0	0	1	8,309
100 & up	0	0	0	0	0	0	0	0	0	NA
Counts	166	89	56	171	57	33	222	0	794	$29,590
% of Total	20.9%	11.2%	7.1%	21.5%	7.2%	4.2%	28.0%	0.0%	100.0%	

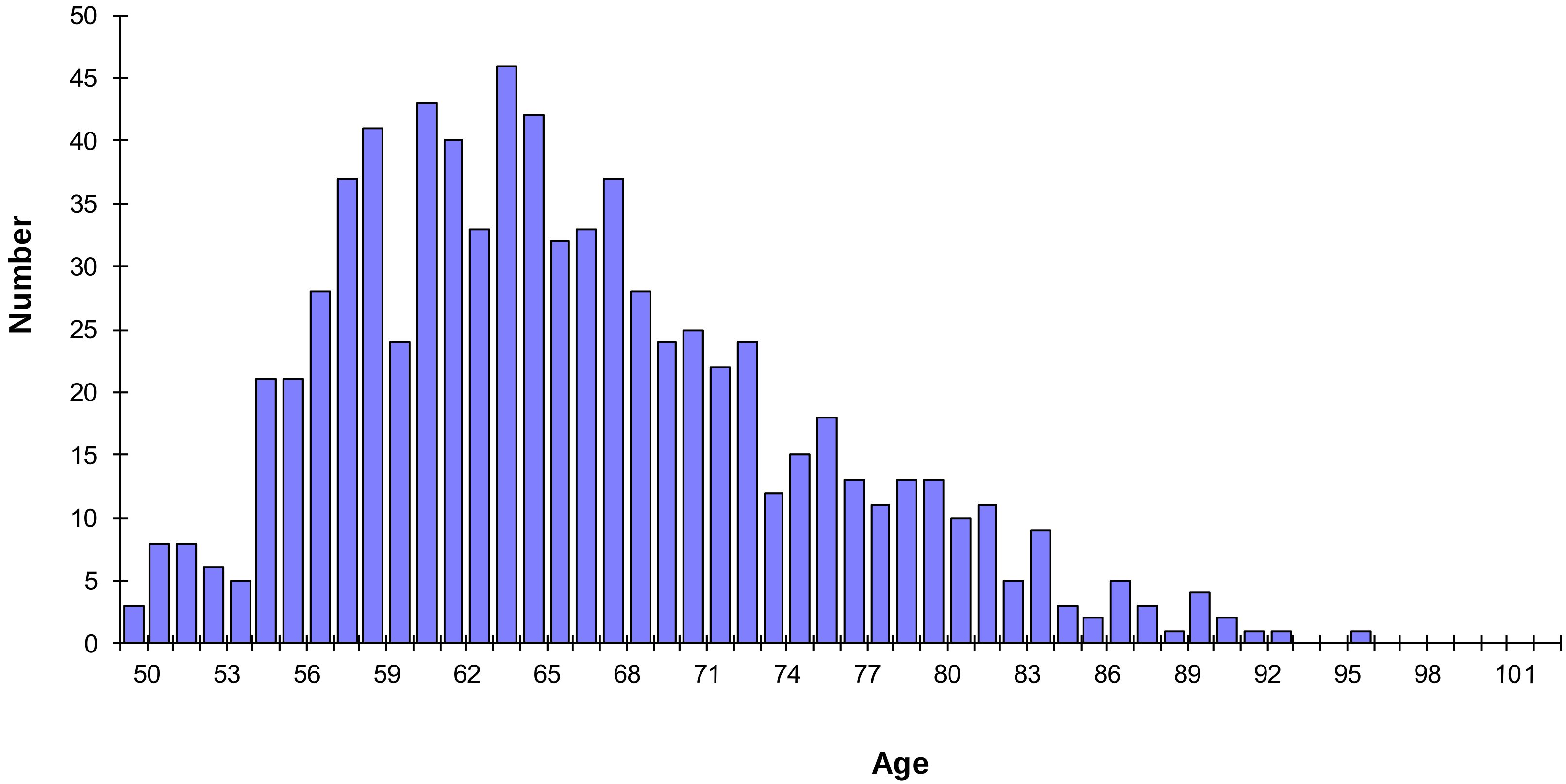
ANALYSIS OF RETIREES AND BENEFICIARIES

Males and Females - Protection Occupation

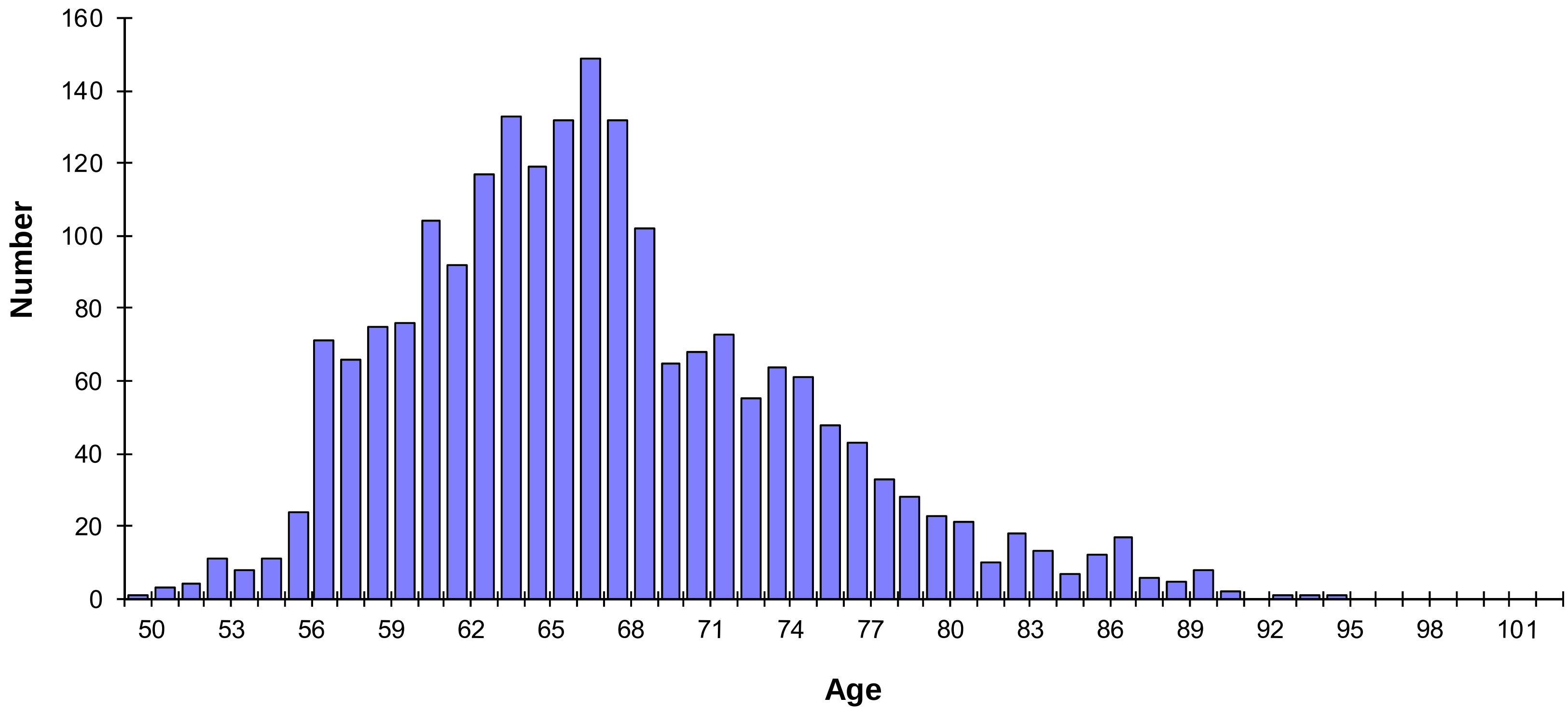
Age	Number of Members and Beneficiaries									Average
					Contingent			Period		Annual
Age	Option 1	Option 2	Option 3	Option 4	Beneficiary	Option 5	Option 6	Certain	Total	Benefit
Under 40	1	0	0	0	1	0	0	0	2	$11,802
40 to 44	1	0	0	1	0	0	4	2	8	26,370
45 to 49	3	0	3	3	3	0	3	0	15	16,439
50 to 54	9	2	4	4	3	0	5	0	27	21,958
55 to 59	37	25	18	51	10	16	90	0	247	31,283
60 to 64	111	86	40	82	20	16	167	0	522	28,985
65 to 69	121	105	53	100	19	27	208	1	634	23,506
70 to 74	77	47	27	56	22	20	75	1	325	18,134
75 to 79	47	27	17	55	24	13	30	0	213	14,964
80 to 84	18	3	3	39	15	6	1	0	85	12,802
85 to 89	20	3	1	12	8	3	0	0	47	9,153
90 to 94	2	0	0	3	3	4	0	0	12	7,849
95 to 99	0	0	0	0	1	0	0	0	1	10,227
100 & up	0	0	0	0	0	0	0	0	0	NA
Counts	447	298	166	406	129	105	583	4	2,138	$23,170
% of Total	20.9%	13.9%	7.8%	19.0%	6.0%	4.9%	27.3%	0.2%	100.0%	


Age Distribution of Retirees & Beneficiaries
Regular Membership
Number
6,000
5,000
4,000
3,000
2,000
1,000
0
50
53
56
59
62
65
68
71
74
77
80
83
86
89
92
95
98
101
Age

Age Distribution of Retirees & Beneficiaries
Sheriffs and Deputies



Age Distribution of Retirees & Beneficiaries
Protection Occupation



SUMMARY OF DATA FILE RECONCILIATION

The following table reconciles the data we received from IPERS to the final membership counts used in the valuation.

Records on the in-pay data file	107,971
Removed deaths prior to 7/1/14 and those no longer entitled to benefits	(37)
Records used in the valuation	107,934
Records on the not-in-pay data file	248,128
Records removed because the member has received all benefits	(72)[1]
Records used in the valuation	248,056

These records are allocated as follows:

Active members	165,911
Retired, reemployed members	8,389
Vested inactive members	30,255
Nonvested inactive members	43,501
Total	248,056

Nonvested inactive members include deceased vested inactive members with employee contributions still held by the System. Records that had no remaining benefit or had passed away prior to the valuation date were removed.

[1] These 72 were removed because they are no longer active, nor are they entitled to benefits

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APPENDIX B

SUMMARY OF PLAN PROVISIONS

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Chapter 97B of the Iowa code sets out the IPERS provisions, which are briefly summarized as follows:

Participation:	In general, the System covers people in non-federal public employment within the State of Iowa. Membership is mandatory if a person is in covered employment. Exceptions to this are set out in the law. Notable exceptions are those covered by another public system in Iowa (such as judges, state patrol, and policemen and firemen in cities having civil service), employees of the Regents' institutions, and employees of the community colleges who elect alternative coverage.
Service Credit:	A member will receive membership credit for service rendered after July 4, 1953 (special rules apply to service before this date). Service is counted to the complete quarter of a calendar year. A member will not receive credit for more than four quarters of service in a calendar year regardless of the number of employers reporting covered wages for that member. A calendar year is the 12-month period beginning January 1 and ending December 31. Members may purchase service under specified conditions. To make such a purchase, the member must pay the actuarial cost of such service.

REGULAR MEMBERS:

Average Salary:	The average of the member’s highest three years of covered wages. Effective July 1, 2012 the average of a member’s highest five years of covered wages, but not less than the member’s highest three years as of June 30, 2012, if vested at that time.

Age and Service Requirements for Benefits:

Normal Retirement	Earliest of the first day of the month of the member's 65th birthday, age 62 with 20 years of service or Rule of 88 (age plus service equals/exceeds 88), with a minimum of age 55.
Early Retirement	First day of any month starting with the month of the member's 55th birthday but preceding the normal retirement date.
Inactive Vested Benefit	Four years of service (seven years effective July 1, 2012). Prior to July 1, 2005 inactive members could become eligible for a vested benefit merely by reaching age 55.
Pre-retirement Death Benefit	Upon death of a member before benefits have started.
Disability Benefit	Upon meeting requirements to be vested, if the active or inactive member begins receiving federal Social Security disability or Railroad Retirement disability benefits.

Retirement Benefits:

Normal Retirement	An annuity equal to 2% of Average Salary (AS) for each year of service up to 30 years plus 1% of AS for each of the next 5 years of service. Maximum years of service recognized for benefit accrual purposes is 35 with a resulting maximum benefit of 65% of AS.
Early Retirement	An annuity, determined in the same manner as for normal retirement. However, a reduction of 0.25% per month is applied for each month the benefit commences prior to normal retirement age (based on service at early retirement). Effective July 1, 2012, the reduction changed to 0.50% per month and applies to each month that the benefit commences before age 65. Transition rules apply if members have service both before and after July 1, 2012.
Pre-retirement Death Benefits	Beneficiaries of members may receive a lump sum determined by a formula that includes how much the member contributed to IPERS, years of service, highest year's salary, and other factors. Beneficiaries may have the option of receiving a monthly benefit based on the present value of the member's accrued benefit at death.
Disability Benefits	An annuity, payable immediately, equal to the Normal Retirement Benefit without an early retirement adjustment.

Termination Benefits:

Less than four* years of Service (Nonvested)	A refund of all of the member's accumulated contributions.
Four* or more years of Service (Vested)	At the member's election either: (1) a refund of all of the member's accumulated contributions plus a portion (years of service divided by 30) of the employer's contributions with interest, or (2) a deferred benefit determined in the same manner as for normal retirement. Payments can begin at normal or early retirement.

* Effective July 1, 2012 seven years of service for those not vested at that time.

Form of Annuity:	The base form, or normal form, is a life annuity with a guaranteed return of employee contributions (Option 2).

Optional Forms of Payment:

Option 1: The member specifies a dollar amount, in $1,000 increments, that the member wishes to have paid to a designated beneficiary following the death of the member. The death benefit will be in the form of a single payment and cannot exceed the amount of a member's own accumulated contributions to IPERS, and it cannot lower the member's benefit as calculated under Option 2 by more than 50%.

Option 3: After the member's death, all benefits cease.

Option 4: The member receives a reduced monthly benefit so that a lifetime monthly benefit may be provided after the member's death to the person named by the member as the contingent annuitant. The member specifies what benefit the contingent annuitant will receive after the death of the member. The monthly benefit can be the same as the member's monthly benefit or three-fourths, one-half, or one-fourth of the amount. These choices may be restricted if the contingent annuitant is not the member's spouse and is more than ten years younger than the member.

Option 5: If the member dies before ten full years (120 months of payments) have ended, the member's beneficiary will receive a monthly benefit for the remainder of the ten years. Members who have attained age 90 as of the first month of entitlement are not allowed to select this option.

Option 6: The member receives a reduced monthly benefit so that a lifetime monthly benefit may be provided after the member's death to the person named by the member as the contingent annuitant. In addition, the monthly amounts are also reduced to pay for a pop-up feature. The pop-up feature provides that if the contingent annuitant dies before the member, the member's benefit will pop back up to what it would have been under IPERS Option 2, and death benefits may be payable to the member's designated beneficiary if certain conditions are met.

Actuarial Equivalent Lump Sum Payment:

If a vested member is entitled to receive a benefit and it is less than $50 per month under Option 2, the member shall receive a retirement benefit in an actuarial equivalent lump sum payment. The lump sum will include the member's and employer's accumulated contributions.

Post-retirement Benefit Increases:

Annual dividends are paid to those retired prior to July 1, 1990. Effective with the November 2000 dividend payment, the dividend is adjusted by the least of the following percentages: (1) the change in the CPI, (2) percentage certified to by the actuary as affordable by the System, and (3) 3%.

Favorable Experience Dividend (FED): For members who retired after June 30, 1990, a favorable experience dividend (FED) reserve account has been established under Iowa Code §97B.49F(2). The main purpose of this account is to help offset the negative effects of postretirement inflation. All members and beneficiaries who receive a monthly allowance qualify for favorable experience dividend payments. Each November, IPERS determines if a FED payment should be paid the following January subject to the following conditions:

- The member must be retired one year.
- The FED rate cannot exceed 3%.
- The FED payment will be issued in a lump sum in January.
- The FED payment is not guaranteed.

The formula is as follows:
(December's Monthly benefit) X (12 months) X (Rate) X (Full calendar years retired) = FED

Source of Funds:

Regular Membership:

Time Period	Contribution Rates: Employees**	Employer	Total
Prior to 7/1/07	3.70%	5.75%	9.45%
7/1/07 – 6/30/08	3.90%	6.05%	9.95%
7/1/08 – 6/30/09	4.10%	6.35%	10.45%
7/1/09 – 6/30/10	4.30%	6.65%	10.95%
7/1/10 – 6/30/11	4.50%	6.95%	11.45%
7/1/11 – 6/30/12	5.38%	8.07%	13.45%
7/1/12 and later	Determined by Contribution Rate Funding Policy*		

*Change in contribution rate cannot exceed 1.0% per year.
**Employee rate is 40% of total contribution rate.

SHERIFFS/DEPUTIES AND PROTECTION OCCUPATION:

Average Salary: The average of the member's highest three years of covered wages

Age and Service Requirements for Benefits:

Normal Retirement: Generally age 55. However, a member of the Sheriffs and Deputy Sheriffs (Group 1) may retire at age 50 with 22 years of service.

Inactive Vested Benefit: Four years of service. Prior to July 1, 2005 inactive members could become eligible for vested benefits merely by reaching age 55.

Pre-retirement Death Benefit: Upon death of a member before benefits have started.

Disability Benefit	Upon meeting requirements to be vested, (i) if the active or inactive member begins receiving federal Social Security or Railroad Retirement disability benefits, or (ii) upon being determined by IPERS to be disabled under the provisions of Iowa Code section 97B.50A. The disability benefits under Iowa Code section 97B.50A must be applied for through IPERS within one (1) year after termination of employment. Benefits under Iowa Code section 97B.50A may be paid for in-service disability or ordinary disability.

Retirement Benefits:

Normal Retirement	60% of average salary after completion of 22 years of service, plus an additional 1.5% of average salary for years of service greater than 22 but not more than 30. Maximum formula is 72% of average salary.
Pre-retirement Death Benefit	Beneficiaries of members may receive a lump sum determined by a formula that includes how much the member contributed to IPERS, years of service, highest year's salary, and other factors. Beneficiaries may have the option of receiving a monthly benefit based on the present value of the member's accrued benefit at death.
Disability Benefits	An annuity, payable immediately, equal to the Normal Retirement Benefit, without an adjustment. The benefit is the greater of the Normal Retirement Benefit and either 50% (for ordinary disability) or 60% (for in-service disability) of Average Salary.

Termination Benefits:

Less than four years of Service (Non-vested)	A refund of all of the member's accumulated contributions.
Four or more years of Service (Vested)	At the member's election either: (1) a refund of all of the member's accumulated contributions plus a portion (years of service divided by 22) of the employer's contributions with interest, or (2) a deferred benefit determined in the same manner as for normal retirement. Payments begin at normal retirement.

Form of Annuity:	The base form, or normal form, is a life annuity with a guaranteed return of employee contributions (Option 2).

Optional Forms of Payment:

Option 1: The member specifies a dollar amount, in $1,000 increments, that the member wishes to have paid to a designated beneficiary following the death of the member. The death benefit will be in the form of a single payment and cannot exceed the amount of a member's own accumulated contributions to IPERS, and it cannot lower the member's benefit as calculated under Option 2 by more than 50%.

Option 3: After the member's death, all benefits cease.

Option 4: The member receives a reduced monthly benefit so that a lifetime monthly benefit may be provided after the member's death to the person named by the member as the contingent annuitant. The member specifies what benefit the contingent annuitant will receive after the death of the member. The monthly benefit can be the same as the member's monthly benefit or three-fourths, one-half, or one-fourth of the amount. These choices may be restricted if the contingent annuitant is not the member's spouse and is more than ten years younger than the member.

Option 5: If the member dies before ten full years (120 months of payments) have ended, the member's beneficiary will receive a monthly benefit for the remainder of the ten years. Members who have attained age 90 as of the first month of entitlement are not allowed to select this option.

Option 6: The member receives a reduced monthly benefit so that a lifetime monthly benefit may be provided after the member's death to the person named by the member as the contingent annuitant. In addition, the monthly amounts are also reduced to pay for a pop-up feature. The pop-up feature provides that if the contingent annuitant dies before the member, the member's benefit will pop back up to what it would have been under IPERS Option 2, and death benefits may be payable to the member's designated beneficiary if certain conditions are met.

Level Income Payment Option: A Level Income payment alternative is authorized for members of the Sheriffs and Deputies group and the Protection Occupation group. This alternative applies to all IPERS retirement options listed above except Option 6. The Level Income payment alternative permits a member to receive a relatively level income both before and after age 62 when benefits from IPERS and Social Security are combined. Higher IPERS benefits are paid prior to age 62. When the member reaches age 62, the member's IPERS benefit is permanently reduced. This amount is determined when the member retires and is not recomputed based on the actual Social Security benefit.

Actuarial Equivalent Lump Sum Payment:	If a vested member is entitled to receive a benefit and it is less than $50 per month under Option 2, the member shall receive a retirement benefit in an actuarial equivalent lump sum payment. The lump sum will include the member's and employer's accumulated contributions.
Post-retirement Benefit Increases:	Annual dividends are paid to those retired prior to July 1, 1990. Effective with the November 2000 dividend payment, the dividend is adjusted by the least of the following percentages: (1) the change in the CPI, (2) percentage certified to by the actuary as affordable by the System, and (3) 3%.
Favorable Experience Dividend (FED):	For members who retired after June 30, 1990, a favorable experience dividend (FED) reserve account has been established under Iowa Code §97B.49F(2). The main purpose of this account is to help offset the negative effects of postretirement inflation. All members and beneficiaries who receive a monthly allowance qualify for favorable experience dividend payments. Each November, IPERS determines if a FED payment should be paid the following January subject to the following conditions: • The member must be retired one year. • The FED rate cannot exceed 3%. • The FED payment will be issued in a lump sum in January. • The FED payment is not guaranteed. The formula is as follows: (December's Monthly benefit) x (12 months) x (Rate) x (Full calendar years retired) = FED

Source of Funds:

Sheriffs and Deputies:	Determined by Contribution Rate Funding Policy. Employees contribute 50% and employers contribute 50%.
Protection Occupation:	Determined by Contribution Rate Funding Policy. Employees contribute 40% and employers contribute 60%.

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APPENDIX C

ACTUARIAL ASSUMPTIONS AND METHODS

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Sound financing of any retirement system requires that benefits accruing to its members shall be paid for during their active working lifetime so that when a member (or his beneficiary) becomes entitled to a benefit, the monies necessary to provide such benefit shall be on hand. In this way, the cost of benefits for present active members will not become a liability to future members and taxpayers.

The principal purpose of an actuarial valuation is to calculate, on the basis of certain assumptions, the present value of benefits that are payable in the future from the system to present members (and their beneficiaries) and the present value of future contributions to be made by the members and their employers. Having calculated such present values, the level of annual contribution to the system required to fund (or pay for) the benefits, in accordance with the above stated principle of sound financing, may be determined.

VALUATION ASSUMPTIONS

Retirement System contribution requirements and actuarial present values are calculated by applying experience assumptions to the benefit provisions and census (member) information of the Retirement System, using the actuarial cost method.

The principal areas of risk which require experience assumptions about future activities of the Retirement System are:

- long-term rates of investment return to be generated by the assets of the system
- patterns of pay increases to members
- rates of mortality among members, retirants and beneficiaries
- rates of withdrawal of active members
- rates of disability among active members
- the age patterns of actual retirements

In making a valuation, the monetary effect of each assumption is calculated for as long as a present member survives -- a period of time which can be as long as a century.

Actual experience of the Retirement System will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experiences. The result is a continual series of adjustments to the computed contribution rate, or alternatively to the amortization period for the unfunded actuarial liability.

From time to time, one or more of the assumptions are modified to reflect experience trends (but not random or temporary year to year fluctuations). A complete review of the actuarial assumptions was completed in 2014, based on experience from 2009-2013. The Investment Board has adopted and approved the use of the assumptions and methods presented in the 2009-13 Experience Study. The following is a summary of the assumptions and methods used in the valuation:

ECONOMIC ASSUMPTIONS:

Rate of Inflation (effective June 30, 2014)

3.00% per annum

Rate of Crediting Interest on Contribution Balances (effective June 30, 2014)

3.75% per annum, compounded annually

Rate of Investment Return (effective June 30, 1996)

7.50% per annum, compounded annually, net of expenses.

Wage Growth Assumption (effective June 30, 1999)*

4.00% per annum based on 3.00% inflation assumption and 1.00% real wage inflation.

*Total of 4.00% did not change, but the components changed June 30, 2006 and June 30, 2014

Payroll Increase Assumption (effective June 30, 1999)

4.00% per year

DEMOGRAPHIC ASSUMPTIONS:

Rates of Mortality

To reflect anticipated future mortality improvements, generational mortality is used with projected mortality improvements based on Projection Scale AA.

Pre-Retirement (effective June 30, 2010)

State	
Male	RP-2000 Employee Table, Generational, set back 3 years
Female	RP-2000 Employee Table, Generational, set back 8 years
School	
Male	RP-2000 Employee Table, Generational, set back 3 years
Female	RP-2000 Employee Table, Generational, set back 8 years
Other	
Male	RP-2000 Employee Table, Generational, no set back
Female	RP-2000 Employee Table, Generational, set back 8 years
Sheriffs/Deputies and Protection Occupation	
Male	RP-2000 Employee Table, Generational
Female	RP-2000 Employee Table, Generational

5% of active deaths are assumed to be service related for non-regular members.

Post-Retirement (effective June 30, 2014)

State	RP-2000 Healthy Annuitant Table, Generational
Male	No age adjustment
Female	1 Year set back with 5% increase above age 75
School	RP-2000 Healthy Annuitant Table, Generational
Male	1 Year set back with rates decreased by 5% below age 75
Female	3 Year set back with 10% decrease before age 75 and 10% increase above age 75
Other	RP-2000 Healthy Annuitant Table, Generational
Male	No age adjustment
Female	2 Year set back with 5% increase above age 75
Sheriffs/Deputies and Protection Occupation	RP-2000 Healthy Annuitant Table, Generational
Male	No age adjustment
Female	No age adjustment

Beneficiaries: Same as members

Disabled Members (all groups): RP-2000 Disabled Mortality, Generational
Set back 1 year for males and set forward 3 years for females

Retirement Rates (effective June 30, 2014)

Upon meeting the requirements for early retirement, the following rates apply to Regular Members:

	Assumed Retirement Rates – Early		
Age	State	School	Other
55	5.0%	8.0%	5.0%
56	5.0%	8.0%	5.0%
57	5.0%	8.0%	5.0%
58	5.0%	8.0%	5.0%
59	5.0%	9.0%	5.0%
60	5.0%	10.0%	5.0%
61	15.0%	15.0%	10.0%
62	15.0%	20.0%	20.0%
63	15.0%	20.0%	20.0%
64	15.0%	20.0%	20.0%

Upon reaching the requirements for normal retirement (unreduced benefits), the following rates apply:

Assumed Retirement Rates – Select Unreduced

Age	State	School	Other
55	20.0%	30.0%	20.0%
56	15.0%	30.0%	20.0%
57	15.0%	30.0%	20.0%
58	15.0%	30.0%	20.0%
59	15.0%	30.0%	20.0%
60	15.0%	30.0%	20.0%
61	20.0%	30.0%	20.0%
62	40.0%	40.0%	40.0%
63	35.0%	30.0%	35.0%
64	30.0%	30.0%	35.0%
65	30.0%	30.0%	30.0%

Assumed Retirement Rates – Ultimate Unreduced

Age	State	School	Other
55	15.0%	23.0%	15.0%
56	15.0%	23.0%	15.0%
57	15.0%	23.0%	15.0%
58	15.0%	23.0%	15.0%
59	15.0%	23.0%	15.0%
60	15.0%	23.0%	15.0%
61	20.0%	30.0%	20.0%
62	40.0%	35.0%	35.0%
63	30.0%	30.0%	25.0%
64	30.0%	30.0%	25.0%
65	30.0%	45.0%	40.0%
66	30.0%	35.0%	30.0%
67	20.0%	25.0%	20.0%
68	20.0%	25.0%	20.0%
69	35.0%	40.0%	40.0%
70	100.0%	100.0%	100.0%

	Assumed Retirement Rates	
Age	Sheriffs and Deputies	Protection Occupation
50	20.0%	
51	20.0%	
52	20.0%	
53	20.0%	
54	20.0%	
55	17.0%	20.0%
56	17.0%	10.0%
57	17.0%	10.0%
58	17.0%	10.0%
59	17.0%	10.0%
60	17.0%	10.0%
61	17.0%	10.0%
62	30.0%	35.0%
63	30.0%	30.0%
64	30.0%	30.0%
65	100.0%	100.0%

Terminated vested members are assumed to retire at age 62 (55 for Sheriffs/Deputies and Protection Occupation groups).
For Regular Membership, retired reemployed members are assumed to retire at a rate of 25% per year until age 80 when all are assumed to retire.

Rates of Disablement (effective June 30, 2010)

	Assumed Rates					
	Males			Females		
Age	State	School	Other	State	School	Other
27	0.020%	0.020%	0.020%	0.020%	0.030%	0.020%
32	0.020%	0.020%	0.020%	0.020%	0.030%	0.020%
37	0.040%	0.040%	0.040%	0.032%	0.040%	0.032%
42	0.065%	0.065%	0.065%	0.051%	0.050%	0.051%
47	0.120%	0.110%	0.140%	0.087%	0.090%	0.087%
52	0.220%	0.160%	0.326%	0.220%	0.165%	0.200%
57	0.320%	0.260%	0.630%	0.390%	0.240%	0.350%
62	0.420%	0.360%	0.900%	0.620%	0.320%	0.500%

Age	Assumed Rates Sheriffs/Deputies Protection Occupation Rate
27	0.150%
32	0.150%
37	0.150%
42	0.180%
47	0.230%
52	0.280%
57	0.380%
62	0.510%

Rates of Termination of Employment (effective June 30, 2010)

Regular Membership

	Male			Female		
Years of Service	State	School	Other	State	School	Other
1	15.4%	15.0%	21.0%	15.4%	15.0%	21.0%
5	5.5%	6.9%	8.4%	5.5%	6.9%	9.2%
10	2.2%	2.9%	4.3%	2.2%	2.9%	5.8%
15	1.7%	1.8%	2.6%	1.7%	1.8%	4.1%
20	1.1%	1.3%	2.4%	1.1%	1.3%	3.2%
25	1.1%	1.2%	2.0%	1.1%	1.2%	2.4%
30	1.1%	1.2%	1.2%	1.1%	1.2%	1.5%

Sheriffs/Deputies and Protection Occupation

Age	Rate of Termination
22	5.8%
27	5.8%
32	3.5%
37	3.0%
42	2.6%
47	2.0%
52	2.0%

Probability of Electing a Deferred Vested Benefit (effective June 30, 2010)

	Regular Membership					
	Male			Female		
Years of Service	State	School	Other	State	School	Other
5	66.0%	76.0%	61.0%	61.0%	80.0%	70.0%
10	73.0%	81.0%	66.0%	66.0%	80.0%	73.0%
15	78.0%	86.0%	71.0%	76.0%	85.0%	80.0%
20	83.0%	91.0%	76.0%	86.0%	90.0%	85.0%
25	88.0%	95.0%	80.0%	96.0%	95.0%	90.0%
30	90.0%	95.0%	80.0%	100.0%	100.0%	90.0%

Years of Service	Sheriffs/Deputies and Protection Occupation Rate
5	53%
10	65%
15	85%
20	95%
25	100%
30	100%

Rates of Salary Increase* (effective June 30, 2010)

	Annual Increase			
Years of Service	State	School	Other	Sheriffs/Deputies and Protection Occupation
1	15.0%	17.0%	15.0%	17.0%
5	7.6%	6.5%	6.1%	6.5%
10	6.3%	5.3%	5.3%	5.3%
15	5.2%	4.5%	4.8%	4.8%
20	4.8%	4.2%	4.5%	4.5%
25	4.6%	4.0%	4.4%	4.5%
30+	4.3%	4.0%	4.4%	4.0%

* Includes 4.0% wage growth

ACTUARIAL COST METHOD (adopted 1996)

The actuarial cost method is a procedure for allocating the actuarial present value of pension plan benefits and expenses to time periods. The method used for the valuation is known as the entry age normal actuarial cost method. Under this method, a total contribution rate is determined which consists of two parts: (i) the normal cost rate and (ii) the unfunded actuarial liability (UAL) rate. The entry age normal cost method has the following characteristics:

(i) The annual normal costs for each individual active member are sufficient to accumulate the value of the member's pension at time of retirement.

(ii) Each annual normal cost is a constant percentage of the member's year by year projected compensation rates.

The entry age normal actuarial cost method allocates the actuarial present value of each member's projected benefits on a level basis over the member's compensation rates between the entry age of the member and the assumed exit ages.

ACTUARIAL AMORTIZATION METHOD (adopted 2013)

The portion of the actuarial present value of benefits allocated to the valuation year is called the normal cost. The portion of the actuarial present value of benefits not provided for by the actuarial present value of future normal costs is called the actuarial liability. Deducting the actuarial value of assets from the actuarial liability determines the unfunded actuarial liability (UAL). The one-year lag between the valuation date and the date the contribution rate is effective is reflected in calculating the corresponding amortization payment. The UAL is amortized according to the Actuarial Amortization Method adopted by the Investment Board and summarized below:

1. Amortization payments will be calculated as a level percentage of payroll.
2. For the actuarial valuation prepared as of June 30, 2013, the amortization period of the UAL shall be 30-year open for all membership groups.
3. For the actuarial valuation prepared as of June 30, 2014:
    a. The UAL for each membership group shall be amortized over a 30-year closed period.
    b. This will be designated as the initial UAL base for subsequent valuations and it will be amortized over the remaining years of the 30-year closed period set on June 30, 2014.
4. For each valuation subsequent to June 30, 2014, annual net experience gains/losses for each membership group will be amortized over a new, closed 20-year period.
5. Subsequent plan amendments or changes in actuarial assumptions or methods that create a change in the UAL will be amortized over a demographically appropriate period selected by the Investment Board at the time that the change is incurred.
6. The dollar amount of the UAL payment for purposes of computing the UAL component of the actuarial and required contribution rate will be the sum of the amortization payments for each amortization schedule divided by the total projected payroll. Unless the plan has been 110 percent funded for the current and prior two years, a negative amortization payment shall be ignored.

7. If the valuation shows that the group has surplus, the prior amortization bases will be eliminated and one base equal to the amount of surplus shall be established. The amortization period of a surplus shall be a 30-year open period for all groups.

ACTUARIAL VALUE OF ASSETS SMOOTHING METHOD (adopted 2007)

The market value of assets, representing a fair value of System assets, may not necessarily 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 volatility in the market value while still indirectly recognizing market value. The specific technique follows:

Step 1: Determine the expected value of plan assets at the current valuation date using the actuarial assumption for investment return applied to the prior actuarial value and the actual receipts and disbursements of the fund for the previous 12 months.

Step 2: Subtract the expected value determined in Step 1 from the total market value of the Fund at the current valuation date.

Step 3: Multiply the difference between market and expected values determined in Step 2 by 25%.

Step 4: Add the expected value of Step 1 and the product of Step 3 to determine the actuarial value of assets.

Step 5: Verify the preliminary actuarial value of assets in Step 4 is not more than 120% of the market value of assets nor less than 80% of the market value. If it is, adjust the actuarial value of assets so it falls within the 80% - 120% corridor.

TECHNICAL VALUATION PROCEDURES

Data Procedures

In-pay members:

If a birth date is not available, the member is assumed to be 80. If a retirement date is also not available, the member is assumed to have retired at 65.

If a beneficiary birth date is needed but not supplied, husbands are assumed to be 3 years older than wives.

Not in-pay members:

If a birth date is not available, the member is assumed to be the average age of the members with the same status.

If gender is not provided, regular members are assumed to be female and Sheriffs/Deputies and Protection Occupation members are assumed to be male.

Salaries for first year members are annualized based on the number of quarters with wages.

Membership Transfers

IPERS provides a code in the valuation data to indicate that a member is in a membership group (regular, Sheriffs and Deputies and Protection Occupation) different from that on the prior valuation date. The actuarial liability for these members is calculated under the assumptions and provisions of the prior membership group. A preliminary funded ratio (before asset transfer) is determined for the three membership groups. Assets are then transferred from the prior to the current membership group based on the funded ratio of the prior group times the actuarial liability of the member in the prior group. Then, the members are revalued in the current membership group for purposes of valuation calculations.

Other Valuation Procedures

No actuarial accrued liability in excess of the unclaimed member contribution balance is held for nonvested, inactive members. Inactive vested members who have died are treated in the same manner.

The wages used in the projection of benefits and liabilities are considered earnings for the current year ending June 30, increased by the salary scale.

The calculations for the actuarial required contribution are determined as of mid-year. This is a reasonable estimate since contributions are made throughout the year.

The projected IRC Section 415 limit for active participants was not valued. The impact was assumed to be *de minimus*.

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

DEFINITION OF TERMS

Accrued Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Actuarial Assumptions	Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement system benefits between future normal cost and actuarial accrued liability. Sometimes referred to as the "actuarial funding method."
Actuarial Equivalent	A single amount or series of amounts of equal value to another single amount or series of amounts computed on the basis of a given set of actuarial assumptions.
Actuarial Liability	The difference between the actuarial present value of system benefits and the actuarial value of future normal costs. Also referred to as "accrued liability" or "actuarial accrued liability."
Actuarial Present Value	The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
Experience Gain (Loss)	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
Normal Cost	The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.

Unfunded Actuarial Liability

The difference between actuarial liability and the actuarial value of assets. Sometimes referred to as "unfunded accrued liability" or "unfunded liability".

Most retirement systems have unfunded actuarial liability. They arise anytime new benefits are added and anytime an actuarial loss is realized.

The existence of unfunded actuarial liability is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial liability does not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial liability and make payments to finance it. Also of importance are trends in the amount or duration of payment.

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APPENDIX D

CONTRIBUTION RATE FUNDING POLICY

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Background:

IPERS is charged with setting a "Required Contribution Rate" for each membership category within IPERS that will discharge its liabilities. Iowa Code §97B.11(3)(d) provides the basic framework for implementing this charge by stating:

> The Required Contribution Rate that is set by the system for a membership category shall be the contribution rate the system actuarially determines, based upon the most recent actuarial valuation of the system and using the actuarial methods, assumptions, and funding policy approved by the investment board, is the rate required by the system to discharge its liabilities as a percentage of the covered wages of members in that membership category. However, the Required Contribution Rate set by the system for members in regular service for a fiscal year shall not vary by more than one percentage point from the Required Contribution Rate for the prior fiscal year.

Goal:

To establish policy and procedures in setting contribution rates that combined with investment income will fund the benefits specified in Chapter 97B of the Iowa Code.

To move towards fully funding the benefits (100% or greater funded ratio) in as expeditious manner as is reasonable within the guidelines acknowledged herein.

Procedure:

The Investment Board shall retain a consulting actuary to conduct an annual actuarial valuation of assets and liabilities. The consulting actuary shall use the entry age normal cost method and all other actuarial assumptions and methods approved by the Investment Board.

In the annual valuation process, the consulting actuary shall calculate an Actuarial Contribution Rate and a Required Contribution Rate pursuant to this policy. Each shall be calculated as a level percent of pay.

There is a one year lag between the completion of an annual actuarial valuation report and the fiscal year to which the contribution rates calculated therein are applied. Therefore, the Actuarial Contribution Rate and the Required Contribution Rate declared in the annual valuation process are applicable to the fiscal year immediately following the completion of the valuation report (for example the rates declared in the report presented to the Investment Board in December, 2013 are applicable to the rates for the fiscal year beginning July 1, 2014).

Actuarial Contribution Rate (ACR):

1. ACR is the combined employer and employee contribution rate that is the minimum rate necessary to fund the benefits using the actuarial assumptions and methods approved by the Investment Board.

2. A separate ACR shall be determined for each membership group within IPERS according to this policy.

3. The ACR shall consist of:
    a. Normal cost and an amortization payment (not less than zero) of any unfunded actuarial liability.

b. Normal cost may only be offset by a negative amortization payment after a membership group has attained a funded ratio of 110 percent or greater for 3 consecutive years.

Required Contribution Rate:

1. The Required Contribution Rate is the combined employer and employee rate payable pursuant to this policy and Iowa Code §97B.11(3)(d).

2. The Required Contribution Rate shall be determined by comparing the ACR determined in the annual valuation process to the Required Contribution Rate of the previous year.
   a. IF the ACR is less than the previous Required Contribution Rate by fewer than 50 basis points, then the Required Contribution Rate shall remain unchanged from the previous year.
   b. If the ACR is less than the previous Required Contribution Rate by 50 basis points or more, then the Required Contribution Rate shall be lowered by 50 basis points provided the funded ratio of the membership group is 95% or higher.
   c. If the ACR is greater than the Required Contribution Rate of the previous year, then the Required Contribution Rate shall be:
      i. Increased to be equal to ACR for Sheriffs and Deputies.
      ii. Increased to be equal to ACR for Protection Occupation.
      iii. Increased to be equal to ACR for Regular membership, or one percentage point greater than the prior year's Required Contribution Rate, whichever is smaller.

Policy Guidelines:

In adopting actuarial assumptions and methods to be used in setting contributions, the Investment Board shall strive to provide a balance among the following:

1. Stability in contributions (such as use of smoothing and amortization schedules that do not produce dramatic swings in the required contributions from year to year).

2. Disciplined funding approach (such as requiring full payment of normal cost and an amortization payment towards the unfunded actuarial liability and deferring decreases in contribution rates until strong funded ratios are attained).

3. Interperiod equity (such as shortening the amortization schedule when reasonable and amortization of retroactive benefit enhancements over a reasonable time period such as the average working lifetime for active members and the average life expectancy of retired members).

4. Support an affordable, sustainable plan (in consultation with the BAC review affordability of required contribution rates and/or the benefit provisions).

5. At a minimum, this policy will be reviewed in conjunction with the quadrennial experience study.