

# OBRA 1990 Retirement System of the County of Milwaukee

## Actuarial Valuation Report

Plan Year

January 1, 2016 – December 31, 2016

June 2016





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Consulting Actuary*

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June 2016

The Retirement Board  
Employees' Retirement System of the County of Milwaukee  
901 N. 9th St.  
Milwaukee, WI 53233

## Certification of Actuarial Valuation

Ladies and Gentlemen:

This report presents the results of the annual actuarial valuation of the OBRA 1990 Retirement System of the County of Milwaukee as of January 1, 2016. The valuation takes into account all of the promised benefits to which members are entitled as of January 1, 2016; and as required by the Retirement Code is the basis for the Budget Contribution for fiscal year 2016.

The valuation was based on the actuarial assumptions and methods as adopted by the Board of Trustees, including a valuation interest rate of 8% per annum compounded annually. Based on our recommendations in November 2012, the Board adopted revised actuarial assumptions effective with the January 1, 2013 valuation.

Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, you should ask Buck to review any statement you wish to make on the results contained in this report. Buck will not accept any liability for any such statement made without prior review by Buck.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, changes expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions, applicable law or regulations. Because of limited scope, Buck performed no analysis of the potential range of such future differences.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the Plan and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the Plan. The valuation was based on the actuarial assumptions and methods as adopted by the Board of Trustees, including a valuation interest rate of 8% per annum compounded annually. The actuary performs an analysis of Plan experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The recommendations of the last review were implemented with the January 1, 2013 valuation and are to remain in place until the next Experience Review. The next Experience Study will be based on the period from January 1, 2012 to December 31, 2016 and upon approval by the Board will be the basis of valuations performed from January 1, 2018 through January 1, 2022. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Table 17.

Where presented, references to "funded ratio" and "unfunded accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is

appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

### **Assets and Membership Data**

The Retirement System reported the individual data for members of the System as of the valuation date to the actuary. In reviewing the data, it appears that significant changes were made in correcting previous data elements from past years. This had the end result of drastically decreasing the active population and increasing the deferred vested inactive population. The accuracy and validity of the valuation results is dependent on the accuracy of the membership data.

For 2016 we received the data in multiple files. Missing information was updated with either supplemental information sent or by using assumptions based on the current and prior year's data. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Retirement System.

### **Funding Adequacy**

The 2015 valuation performed last year resulted in an Actual Funding Contribution of \$770,384 against which \$443,914 (adjusted for interest as shown in Table 10) was actually contributed. The difference is a deficiency of \$326,470 that is included in the increase of unfunded actuarial accrued liability amortization as of January 1, 2016.

The Actual Funding Contribution for 2016, based on the results of this valuation, is \$826,567. It is expected that \$819,000 will be contributed during 2016 on behalf of the 2016 plan year. The deficiency of \$7,567 will be amortized over five as of January 1, 2017.

### **Budget Contribution**

The 2017 Budget Contribution, expected to be contributed in 2017, is \$848,000.

### **Financial Results and Membership Data**

Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report. The actuary prepared supporting schedules and required supplementary information included in the County of Milwaukee Annual Report of the Pension Board.

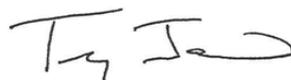
### **Qualifications**

The undersigned actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice. We are qualified to render the opinions set forth in this report and are available to answer questions about it.

Respectfully submitted,



Larry Langer, ASA, EA, MAAA  
Principal, Consulting Actuary



Troy Jaros, FSA, EA, MAAA  
Senior Consultant, Retirement Actuary

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## Executive Summary

This report presents the actuarial valuation as of January 1, 2016 for the OBRA 1990 Retirement System of the County of Milwaukee. The principal valuation results include:

- The Actual Funding Contribution for fiscal year 2016, which is \$826,567.
- The Budget Contribution for fiscal year 2017, which is \$848,000.
- The total funded ratio of the plan determined as of January 1, 2016, which is 34.4% based on the accrued liability and the actuarial value of assets.
- The determination of the actuarial gain or loss as of January 1, 2016, which is a loss of \$247,836.

The valuation was based on membership and financial data submitted by the Retirement System.

### **Changes since Last Year**

#### *Legislative and Administrative Changes*

There were no legislative or administrative changes since the prior valuation.

The benefit provisions and contribution provisions are summarized in Table 18.

### **Actuarial Assumptions and Methods**

No actuarial assumptions have changed for 2016 since the previous valuation.

The actuarial assumptions and methods are outlined in Table 17.

### Contribution Amounts

The results of the valuation as of January 1, 2016 determine the Actual Funding Contribution for fiscal year 2016 and the Budget Contribution for fiscal year 2017. The Actual Funding Contribution for fiscal year 2016 is \$826,567. The Budget Contribution for fiscal year 2017 is \$848,000.

### Reasons for Change in Budget Contribution Calculated by the Actuary

The Budget Contribution calculated by the actuary increased from \$819,000 for fiscal year 2016 to \$848,000 for fiscal year 2017. A reconciliation of the increase of \$29,000 is shown in the following table:

Item	Amount
1. 2016 Budget Contribution	\$ 819,000
2. Increase / (Decrease) during 2015 due to	
a. Unanticipated liability loss (gain)	\$ (3,000)
b. Asset loss (gain) other than expected	7,000
c. 2015 reimbursable expenses other than assumed	6,000
d. 2015 contribution variance other than assumed	(2,000)
e. Full recognition of bases	-
f. Increase due to assumption/method/plan changes	-
g. Total	<u>8,000</u>
3. 2016 Actual Contribution (1 + 2)	\$ 827,000
4. Expected Increase / (Decrease) during 2016 due to	
a. Normal cost and existing amortization schedule	\$ 10,000
b. Phase-in of deferred asset (gains) losses	-
c. 2016 reimbursable expenses	9,000
d. Expected contribution variance for 2016	2,000
e. Full recognition of bases	-
f. Increase due to assumption changes	-
g. Total	<u>21,000</u>
5. 2017 Budget Contribution (3 + 4)	\$ 848,000

## Summary of Principal Results

Summarized below are the principal financial results for the OBRA 1990 Retirement System of the County of Milwaukee based upon the actuarial valuation as of January 1, 2016. Comparable results from the January 1, 2015 valuation are also shown.

Item	January 1, 2016	January 1, 2015
<b>Demographics</b>		
<u>Active Members</u>		
• Number	386	394
• Average Annual Pay	\$ 10,171	\$ 9,962
<u>Inactive Members</u>		
• Members Receiving Benefits		
• Number	48	47
• Average Annual Benefit Payment	\$ 1,486	\$ 1,810
• Members With Deferred Benefits		
• Number	5,073	4,783
• Average Annual Benefit Payment	\$ 287	\$ 288
<b>Actual Funding Contribution</b>	<b>(Fiscal Year 2016)</b>	<b>(Fiscal Year 2015)</b>
• Normal Cost with Interest	\$ 81,893	\$ 92,281
• Net Amortization Payments	223,830	168,351
• Expenses	<u>520,844</u>	<u>509,752</u>
• Total Contribution	\$ 826,567	\$ 770,384
<b>Actuarial Funded Status</b>		
• Accrued Liability	\$ 3,804,778	\$ 3,483,712
• Actuarial Value of Assets	<u>1,310,545</u>	<u>1,560,392</u>
• Unfunded Accrued Liability	\$ 2,494,233	\$ 1,923,320
• Funded Ratio	34.4 %	44.8 %

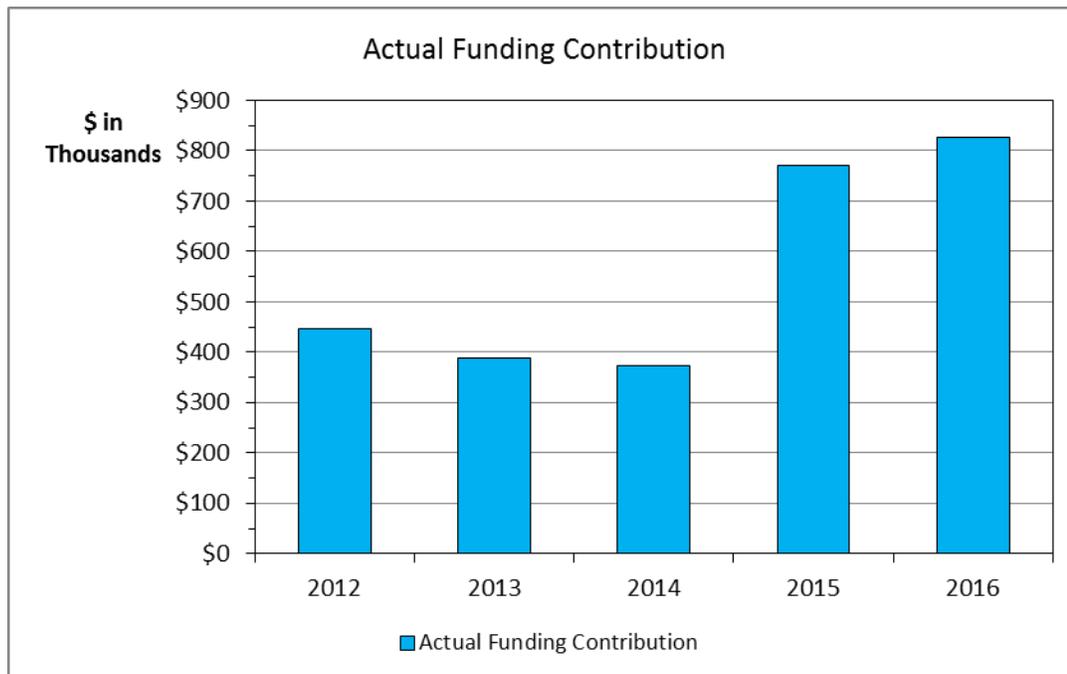
## Five-Year History of Principal Financial Results

### Five-Year History of Contribution Amounts

Valuation as of January 1	Actual Funding Contributions			
	Normal Cost with Interest	Net Amortization Payments	Expenses	Total
2016	\$ 81,893	\$ 223,830	\$ 520,844	\$ 826,567
2015	92,281	168,351	509,752	770,384
2014	88,705	284,795		373,500
2013	163,337	225,288		388,625
2012	183,014	263,438		446,452

The following chart shows a five-year history of employer contribution amounts:

### Five-Year History of Actual Funding Contributions



## **Funded Ratio**

The financing objective of the System is to:

- Fully fund all current costs based on the normal contribution rate determined under the funding method; and
- Liquidate the unfunded accrued liability based on the amortization schedules as required by the retirement code, i.e., a schedule of 5 or 20 years for each change in the unfunded accrued liability according to Section 3.1.

The total Actual Funding Contribution of \$826,567 when taken together with any contributions payable by members and asset returns, is the amount sufficient to achieve the financing objective for 2016.

The System's total funded ratio on the funding basis is measured by comparing the actuarial value of assets (same as market value) with the accrued liability. The accrued liability for pensions is the present value of benefits accumulated to date under the System's funding method.

On this basis, the System's funded ratio is 34.4% as of January 1, 2016. This funded ratio is based on an actuarial value of assets of \$1,310,545 and an accrued liability of \$3,804,778.

## **Reasons for Change in the Total Funded Ratio**

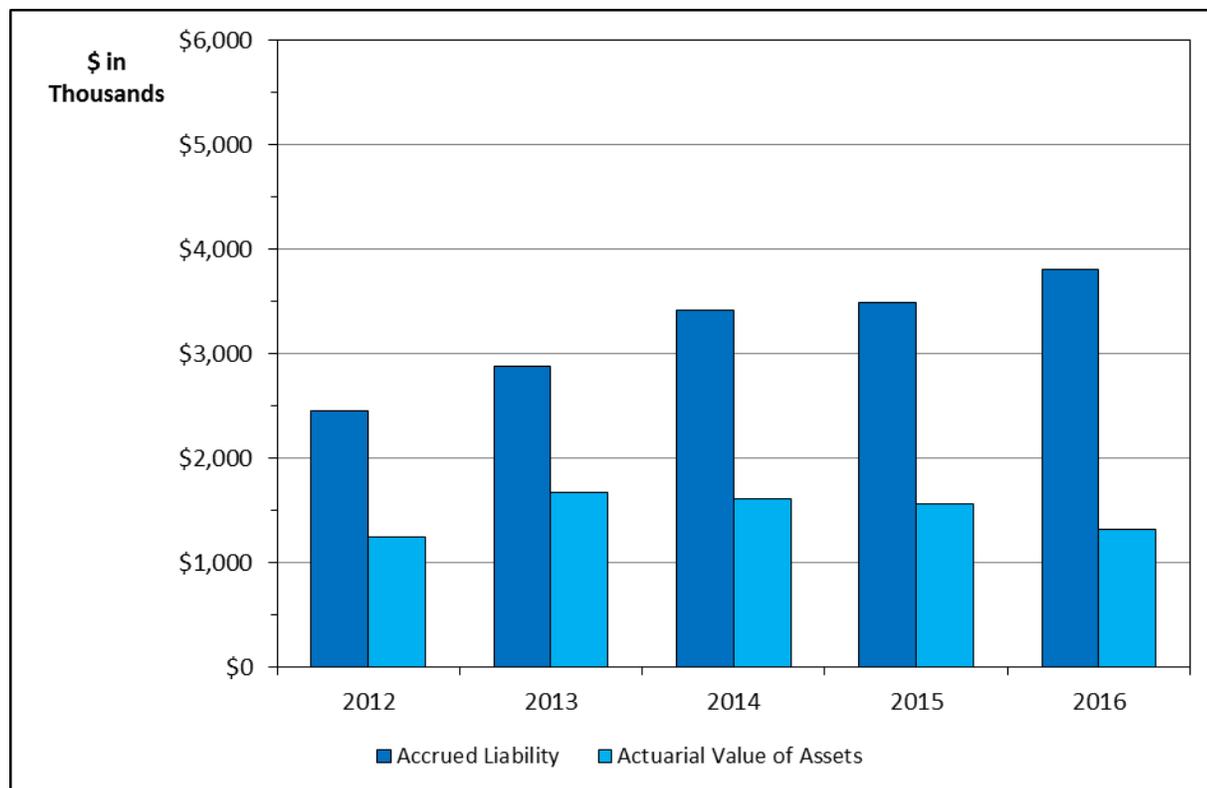
The total funded ratio decreased from 44.8% as of January 1, 2015 to 34.4% as of January 1, 2016. We expected the funded ratio to decrease to 39.2% due to a lower contribution expected to be made in 2015 than the calculated Actual Funding Contribution. A liability loss paired with an asset loss resulted in the funded ratio of 34.4% coming in lower than expected.

### Five-Year History of Total Funded Ratio

Valuation as of January 1	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio
2016	\$ 3,804,778	\$ 1,310,545	\$ 2,494,233	34.4%
2015	3,483,712	1,560,392	1,923,320	44.8
2014	3,410,663	1,602,994	1,807,669	47.0
2013	2,868,585	1,661,607	1,206,978	57.9
2012	2,444,436	1,235,525	1,208,911	50.5

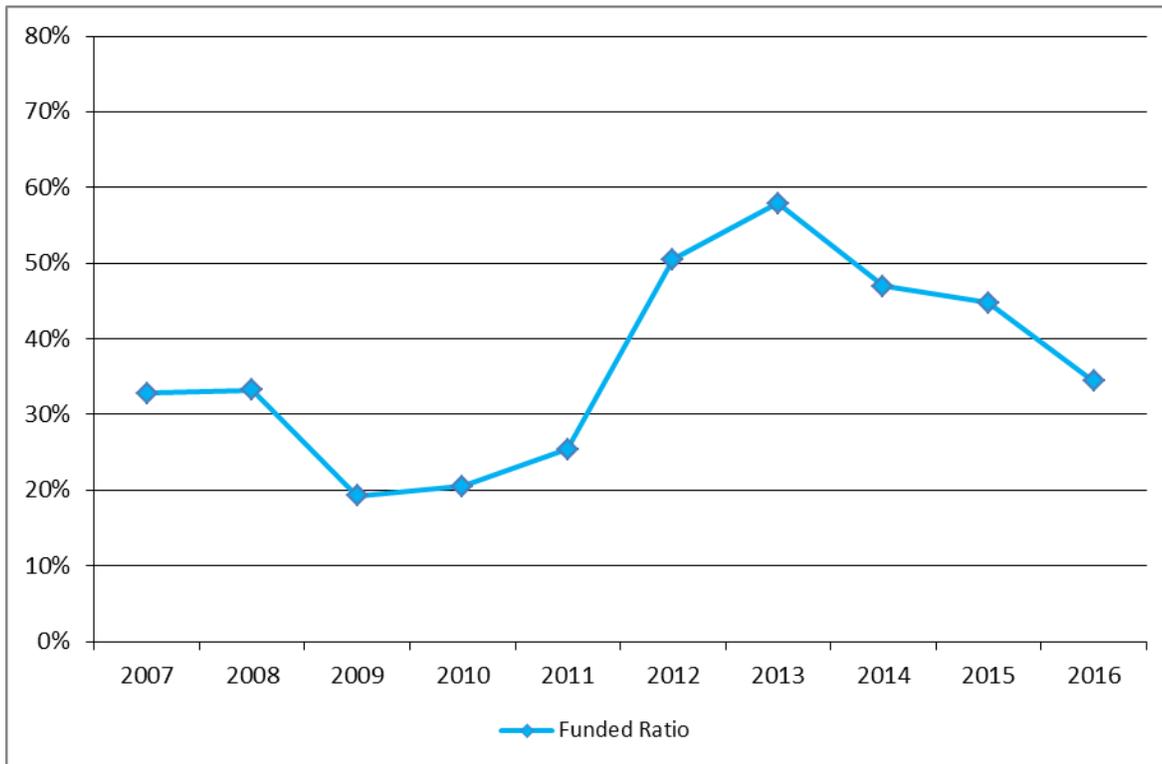
The following chart shows a five-year history of the accrued liability and the actuarial value of assets:

### Five-Year History of Accrued Liability and Actuarial Value of Assets



The following chart shows a ten-year history of the total funded ratio:

**Ten-Year History of Total Funded Ratio  
(2007 - 2016)**



## Rate of Return

The estimated investment return of the fund (i.e. total return including both realized and unrealized gains and losses) for fiscal years 2011 through 2015 is shown in the table below. The return based on the actuarial value of assets used for determining annual contribution rates is also shown.

The rate of return on market value reflects the investment earnings on the market value of assets from the beginning of the fiscal year to the end of the fiscal year. The actuarial assets are the assets recognized for valuation purposes. Actuarial assets are the same as market value for purposes of this valuation. The rates of return shown below have been developed by the actuary for illustrative purposes only. They are based on simplifying assumptions and as such, likely will not exactly match the returns presented by your investment consultants. The reader is encouraged to use the returns developed by the investment consultants.

## Five Year History of Assets and Returns

As of 12/31	Asset Values		Rates of Return		
	Market	Actuarial	Market	Actuarial	Assumed
2015	\$ 1,310,545	\$ 1,310,545	2.5%	2.5%	8.0%
2014	1,560,392	1,560,392	6.4%	6.4%	8.0%
2013	1,602,994	1,602,994	14.0%	14.0%	8.0%
2012	1,661,607	1,661,607	12.6%	12.6%	8.0%
2011	1,235,525	1,235,525	(8.2%)	(8.2%)	8.0%
Compound Rate of Return (five years):			5.2%	5.2%	

## GASB No. 67 and GASB No. 68 Disclosure

Please note that GASB Statement No. 25 (Financial Reporting for Defined Benefit Pension Plans) is applicable for fiscal years ending prior to 2014 and has been replaced by GASB Statement No. 67 (Financial Reporting for Pension Plans) for fiscal years ending 2014 and later. Similarly, GASB Statement No. 27 (Accounting for Pensions by State and Local Governmental Employers) is applicable for fiscal years ending prior to 2015 and has been replaced by GASB Statement No. 68 (Accounting and Financial Reporting for Pensions) for fiscal years ending 2015 and later.

The discount rate used to measure the total pension liability was 8.0%. The projection of cash flows used to determine the discount rate assumed that System contributions will continue to follow the current funding policy. Based on those assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members.

The liabilities and normal cost presented for purposes of GASB No. 67 are calculated under the Entry Age Normal methodology per GASB Statement No. 67, with all other assumptions and methods listed in Table 11.

<b>Net Pension Liability (Asset)</b>		
	<b>December 31, 2015</b>	<b>December 31, 2014</b>
Total Pension Liability	\$ 4,028,407	\$ 3,721,299
Plan Fiduciary Net Position	<u>1,310,545</u>	<u>1,560,392</u>
Net Pension Liability (Asset)	\$ 2,717,862	\$ 2,160,907
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)	32.53%	41.93%
Covered Employee Payroll	\$ 3,925,214	\$ 3,477,968
Net Pension Liability (Asset) as a Percentage of Covered Employee Payroll	69.24%	62.13%

Please see Tables 11 – 16 for a summary of all GASB 67 results and assumptions.

**TABLE 1 – Summary of Results of Actuarial Valuation**

Item	January 1, 2016	January 1, 2015
<b>Participant Data</b>		
1. Number of Participants		
a. Active Participants	386	394
b. Participants with Deferred Benefits	5,073	4,783
c. Participants Receiving Benefits	<u>48</u>	<u>47</u>
d. Total	5,507	5,224
2. Total Compensation	\$ 3,926,027	\$ 3,925,214
3. Annual Annuities	\$ 71,310	\$ 85,058
<b>Valuation Results</b>		
4. Actuarial Accrued Liability		
a. Active Participants	\$ 545,457	\$ 443,185
b. Participants with Deferred Benefits	2,629,332	2,278,756
c. Participants Receiving Benefits	<u>629,989</u>	<u>761,771</u>
d. Total	\$ 3,804,778	\$ 3,483,712
5. Actuarial Value of Assets	\$ 1,310,545	\$ 1,560,392
6. Funded Status: (5 / 4)	34.4%	44.8%
7. Unfunded Actuarial Accrued Liability: (4 - 5)	\$ 2,494,233	\$ 1,923,320
8. Normal Cost for the Plan Year	75,827	85,445
<b>Employer Actual Funding Contribution and Annual Required Contribution for Fiscal 2016</b>		
9. Actual Funding Contribution Calculated by Actuary		
a. Normal Cost with Interest	\$ 81,893	\$ 92,281
b. Net Annual Amortization Payments	223,830	168,351
c. Expenses	<u>520,844</u>	<u>509,752</u>
d. Total Contribution: ((a + b + c), not less than zero)	\$ 826,567	\$ 770,384

**TABLE 2 – Security of Promised Benefits - Unfunded Actuarial Accrued Liability - Funded Status**

Item	January 1, 2016	January 1, 2015
1. Actuarial Accrued Liability		
a. Active Participants		
Retirement Benefits	\$ 456,377	\$ 358,004
Withdrawal Benefits	<u>89,080</u>	<u>85,181</u>
Total Active	545,457	443,185
b. Participants with Deferred Benefits	2,629,332	2,278,756
c. Participants Receiving Benefits	<u>629,989</u>	<u>761,771</u>
d. Total All Participants	3,804,778	3,483,712
2. Actuarial Value of Assets	1,310,545	1,560,392
3. Unfunded Actuarial Accrued Liability (1d - 2)	2,494,233	1,923,320
4. Funded Status: (2 / 1d)	34.4%	44.8%

Both valuations were based on the same plan provisions.

The interest rate used as of January 1, 2016 and January 1, 2015 was 8.00%

**TABLE 3 – Actuarial Gain/(Loss) for Plan Year Ending**

Item	Amount
1. Actuarial Accrued Liability at January 1, 2015	\$ 3,483,712
2. Increases/(Decreases) During the Year	
a. Normal Cost for 2015	85,445
b. Member Contributions	-
c. Benefit Payments and Refunds	(206,452)
d. Assumed Interest to End of Year*	277,434
e. Assumption Changes	-
f. Total: (a + b + c + d + e)	<u>156,427</u>
3. Expected Liability at January 1, 2016: (1 + 2)	3,640,139
4. Actuarial Accrued Liability at January 1, 2016	3,804,778
<b>5. Liability Gain/(Loss): (3 - 4)</b>	<b>\$ (164,639)</b>
6. Actuarial Value of Assets at January 1, 2015	\$ 1,560,392
7. Increases/(Decreases) During the Year	
a. County Contributions	440,000
b. Member Contributions	-
c. Benefit Payments and Refunds	(206,452)
d. Administrative Expenses	(520,844)
e. Assumed Interest to End of Year*	120,646
f. Total: (a + b + c + d + e)	<u>(166,650)</u>
8. Expected Actuarial Assets at January 1, 2016 (6 + 7)	1,393,742
9. Actuarial Value of Assets at January 1, 2016	1,310,545
<b>10. Actuarial Asset Gain/(Loss): (9 - 8)</b>	<b>\$ (83,197)</b>
<b>11. Total Gain/(Loss): (5 + 10)</b>	<b>\$ (247,836)</b>

\* 8.00% per annum interest rate assumed for 2015 plan year

**TABLE 4 – Amortization Schedule for Funding**

**For Actual Funding Contribution for 2016**

Type of Payment	Amortization Period				Balances		Payment
	Date Created	Initial Years	Remaining Years	Last Payment	Initial	Outstanding	
1. Charges							
Reestablished unfunded	1/1/2015	21	20	2035	1,923,320	1,908,835	171,297
Increase to unfunded liability	1/1/2016	20	20	2035	585,398	<u>585,398</u>	<u>52,533</u>
Total Charges						\$ 2,494,233	\$ 223,830
2. Credits							
Total Credits						\$ -	\$ -
3. Net Amount (1 - 2)						\$ 2,494,233	\$ 223,830

**For Budget Contribution for 2017**

Type of Payment	Amortization Period				Balances		Payment
	Date Created	Initial Years	Remaining Years	Last Payment	Initial	Outstanding	
1. Charges							
Reestablished unfunded	1/1/2015	21	19	2035	1,923,320	1,890,245	174,295
Increase to unfunded liability	1/1/2016	20	19	2035	585,398	579,697	53,452
Contribution variance	1/1/2017	5	5	2021	7,567	<u>7,567</u>	<u>1,895</u>
Total Charges						\$ 2,477,509	\$ 229,642
2. Credits							
Total Credits						\$ -	\$ -
3. Net Amount (1 - 2)						\$ 2,477,509	\$ 229,642

**TABLE 5 – Statement of Normal Cost for Current and Prior Plan Year Actual Funding Calculations**

Item	January 1, 2016	January 1, 2015
1. Unit Credit Normal Cost		
a. Active Participants		
Retirement Benefits	\$ 51,139	\$ 60,080
Withdrawal Benefits	<u>24,688</u>	<u>25,365</u>
Total	75,827	85,445
2. Interest to the End of the Plan Year	6,066	6,836
<b>3. Normal Cost for the Plan Year: (1 + 2)</b>	<b>81,893</b>	<b>92,281</b>

**TABLE 6 – Gross Contribution Requirements**

Item	2017 Budget	2016	
		Actual	Budget
1. Normal Cost with Interest	\$ 88,000	\$ 81,893	\$ 100,000
2. Net Annual Amortizations	230,000	223,830	204,000
3. Expenses	<u>530,000</u>	<u>520,844</u>	<u>515,000</u>
4. Total Contribution (1 + 2 +3, not less than zero)	\$ 848,000	\$ 826,567	\$ 819,000

The budgeted contributions shown above for the 2017 and 2016 plan years were estimated based on participant data as of January 1, 2016, and January 1, 2015, respectively.

**TABLE 7 – Summary Statement of Market Value of Plan Assets**

<b>Asset Category</b>	<b>December 31, 2015</b>	<b>December 31, 2014</b>
1. Cash and Cash Equivalents	\$ 15,072	\$ (9,149)
2. Assets Held by ERS Pension Plan	1,292,205	1,561,458
3. Contributions Receivable	8,083	8,083
4. Taxes Payable	<u>(4,815)</u>	<u>-</u>
5. Net Assets Available for Benefits (1 + 2 + 3 + 4)	\$ 1,310,545	\$ 1,560,392

**TABLE 8 – Summary Reconciliation of Market Value of Plan Assets**

Item	For Year Ending December 31, 2015	For Year Ending December 31, 2014
1. Market Value of Assets at the Beginning of the Year	\$ 1,560,392	\$ 1,602,994
2. Contributions for Plan Year		
a. County	\$ 440,000	\$ 440,000
b. Member	-	-
c. Total	<u>440,000</u>	<u>440,000</u>
3. Disbursements for Plan Year		
a. Benefit payments and refunds	\$ 206,452	\$ 126,636
b. Administrative expenses payable to County	<u>520,844</u>	<u>454,752</u>
c. Total	727,296	581,388
4. Market Value of Assets at the End of the Year	1,310,545	1,560,392
5. Net Investment Income* (4 - 1 - 2c + 3c)	37,449	98,786
6. Expected Net Investment Income (8.00% per annum)	120,646	123,272
7. Gain (Loss) on Market Value of Assets (5 - 6)	(83,197)	(24,486)
8. Estimated Rate of Return	2.5%	6.4%

\*Net Investment Income is the change in the value of assets for reasons other than contributions and disbursements.

**TABLE 9 – Actuarial Value of Plan Assets**

	January 1, 2016	January 1, 2015
1. Actuarial Value of Assets	\$ 1,310,545	\$ 1,560,392

The actuarial value of plan assets is equal to the market value of plan assets.

**TABLE 10 – Contributions for 2015 Plan Year and Variance from the Funding Calculation Contribution**

Item					Amount
1.	Total Funding Calculation, End-of-Year Basis, for 2015 Plan Year (from January 1, 2015 actuarial valuation report)				\$ 770,384
2.	Total Employer Contributions Made, End-of-Year Basis				
	Contribution Made	Fraction of a Year Invested	Contribution Amount	Interest to Year End*	End of Year Amount
	Bi-weekly	50.0%	\$ -	\$ -	\$ -
	11/20/2015	11.5%	\$ 440,000	\$ 3,914	\$ 443,914
	Total		\$ 440,000	\$ 3,914	\$ 443,914
3.	Variance from Funding Calculation Amount** (2 - 1)				\$ (326,470)

\* Interest to 12/31/2015 at 8.00% per annum

\*\* Variance is included in the reestablished UAAL amortization

**TABLE 11 – Actuarial Methods and Assumptions for GASB 67/68 Disclosure Purposes**

The total pension liability as of December 31, 2015 was determined as of December 31, 2015 using the following actuarial methods and assumptions. All other assumptions such as retirement rates, termination rates, and disability rates used to determine the total pension liability are set forth in Table 17 – Description of Actuarial Assumptions and Methods.

Please note that the results presented as of December 31, 2014 are an update and a revision to the results contained in the 2014 Actuarial Valuation Report dated August 2015. All previous GASB results presented is superseded by the results presented herein.

Valuation Date:	January 1, 2015
Actuarial Cost Method:	Entry Age Normal – Level Percentage of Pay
Amortization Method:	For pension expense; the difference between expected and actual liability experience and changes of assumptions are amortized over the average expected remaining service lives of all members as of the Valuation Date. The difference between projected and actual earnings is amortized over a closed period of five years as of the Valuation Date.
Mortality:	<p>Healthy pensioners: The sex-distinct UP-1994 Mortality Table with Projection scale AA to 2012 and then fully generational thereafter using scale AA.</p> <p>Active members: 70% of the rates applicable to healthy pensioners.</p>
Experience Study:	The actuarial assumptions used were based on the results of an actuarial experience study for the period January 1, 2006 through December 31, 2011.

**TABLE 12 – GASB 67 Net Pension Liability as of December 31, 2015 and December 31, 2014**

<b>Schedule of Changes in Net Pension Liability</b>		
	<b>Fiscal Year Ending December 31, 2015</b>	<b>Fiscal Year Ending December 31, 2014</b>
<b>Total Pension Liability</b>		
Service Cost	\$ 111,283	\$ 97,190
Interest	298,507	297,724
Changes of Benefit Terms	-	-
Difference between Expected and Actual Experience	103,770	(233,437)
Change of Assumptions	-	-
Benefit Payments, including Refund of Member Contributions	(206,452)	(126,636)
Net Change in Total Pension Liability	307,108	34,841
Total Pension Liability - Beginning of Year	\$ 3,721,299	\$ 3,686,458
Total Pension Liability - End of Year	\$ 4,028,407	\$ 3,721,299
<b>Plan Fiduciary Net Position</b>		
Employer Contributions	\$ 440,000	\$ 440,000
Member Contributions	-	-
Net Investment Income	37,449	98,786
Benefit Payments, including Refund of Member Contributions	(206,452)	(126,636)
Administrative Expenses	(520,844)	(454,752)
Other	-	-
Net Change in Plan Fiduciary Net Position	(249,847)	(42,602)
Plan Fiduciary Net Position - Beginning of Year	\$ 1,560,392	\$ 1,602,994
Plan Fiduciary Net Position - End of Year	\$ 1,310,545	\$ 1,560,392

<b>Net Pension Liability (Asset)</b>		
	<b>December 31, 2015</b>	<b>December 31, 2014</b>
Total Pension Liability	\$ 4,028,407	\$ 3,721,299
Plan Fiduciary Net Position	1,310,545	1,560,392
Net Pension Liability (Asset)	\$ 2,717,862	\$ 2,160,907
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)	32.53%	41.93%
Covered Employee Payroll	\$ 3,925,214	\$ 3,477,968
Net Pension Liability (Asset) as a Percentage of Covered Employee Payroll	69.24%	62.13%

**TABLE 13 – Sensitivity of the Net Pension Liability as of December 31, 2015 and December 31, 2014 to Changes in the Discount Rate**

<b>Sensitivity of the Net Pension Liability to Changes in the Discount Rate December 31, 2015</b>			
	<b>1% Decrease</b>	<b>Current</b>	<b>1% Increase</b>
Discount Rate	7.00%	8.00%	9.00%
Net Pension Liability (Asset)	3,572,548	2,717,862	2,077,418

<b>Sensitivity of the Net Pension Liability to Changes in the Discount Rate December 31, 2014</b>			
	<b>1% Decrease</b>	<b>Current</b>	<b>1% Increase</b>
Discount Rate	7.00%	8.00%	9.00%
Net Pension Liability (Asset)	2,969,540	2,160,907	1,557,748

**TABLE 14 – Pension Expense for Year Ended December 31, 2015 and December 31, 2014 and Deferred Inflows & Outflows of Resources Related to Pensions**

**Exhibit 1: Pension Expense**

For the period ending December 31, 2016, pension expense (based on a measurement date of December 31, 2015) is shown in the table below. The corresponding results for the period ending December 31, 2015 are shown for comparison purposes.

<b>Pension Expense for the Plan Fiscal Year Ended</b>		
	<b>December 31, 2015</b>	<b>December 31, 2014</b>
	<b>(For Plan Sponsor 2016 FY)</b>	<b>(For Plan Sponsor 2015 FY)</b>
Service cost	\$ 111,283	\$ 97,190
Interest	298,507	297,724
Projected earnings on plan investments	(120,646)	(123,272)
Employee contributions	-	-
Administrative expense	520,844	454,752
Current period:		
Difference between expected and actual experience	103,770	(233,437)
Changes in assumptions	-	-
Difference between expected and actual investment earnings	16,640	4,898
Changes of benefit terms	-	-
Recognition of prior years'		
Deferred outflows of resources	4,898	-
Deferred inflows of resources	-	-
<b>Total Pension Expense</b>	<u>935,296</u>	<u>497,855</u>

For 2015, the difference between expected and actual experience is recognized over the average expected remaining service lives of active and inactive members as of January 1, 2015 (0.7 years).

The difference between projected and actual investment earnings is recognized over 5.0 years.

Details of the deferred inflows and outflows of resources are shown in Exhibit 2 and Exhibit 3.

**TABLE 14 – Pension Expense for Year Ended December 31, 2015 and December 31, 2014 and Deferred Inflows & Outflows of Resources Related to Pensions**

**Exhibit 2: Amortization of Differences between Expected and Actual Liability Experience**

Measurement Year End	2014	2015	2016	2017	2018
Amount Established	\$ (233,437)	\$ 103,770			
Recognition Period	0.7	0.7			
Annual Recognition	\$ (233,437)	\$ 103,770			

Measurement Year End	Amount Recognized					Outflows	Inflows	Total
	2014	2015	2016	2017	2018			
2014	\$ (233,437)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (233,437)	\$ (233,437)
2015	-	103,770	-	-	-	103,770	-	103,770
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-

Measurement Year End	Deferred Balance					Outflows	Inflows	Total
	2014	2015	2016	2017	2018			
2014	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-

**TABLE 14 – Pension Expense for Year Ended December 31, 2015 and December 31, 2014 and Deferred Inflows & Outflows of Resources Related to Pensions**

**Exhibit 3: Amortization of Differences between Projected and Actual Earnings**

Measurement Year End	2014	2015	2016	2017	2018
Amount Established	\$ 24,486	\$ 83,197			
Recognition Period	5.00	5.00			
Annual Recognition	\$ 4,898	\$ 16,640			

Measurement Year End	Amount Recognized					Outflows	Inflows	Total
	2014	2015	2016	2017	2018			
2014	\$ 4,898	\$ -	\$ -	\$ -	\$ -	\$ 4,898	\$ -	\$ 4,898
2015	4,898	16,640	-	-	-	21,538	-	21,538
2016	4,898	16,640	-	-	-	21,538	-	21,538
2017	4,898	16,640	-	-	-	21,538	-	21,538
2018	4,894	16,640	-	-	-	21,534	-	21,534
2019	-	16,637	-	-	-	16,637	-	16,637

Measurement Year End	Deferred Balance					Outflows	Inflows	Total
	2014	2015	2016	2017	2018			
2014	\$ 19,588	\$ -	\$ -	\$ -	\$ -	\$ 19,588	\$ -	\$ 19,588
2015	14,690	66,557	-	-	-	81,247	-	81,247
2016	9,792	49,917	-	-	-	59,709	-	59,709
2017	4,894	33,277	-	-	-	38,171	-	38,171
2018	-	16,637	-	-	-	16,637	-	16,637
2019	-	-	-	-	-	-	-	-

**TABLE 15 – Projection of Fiduciary Net Position**

<b>Year</b>	<b>Projected Beginning Fiduciary Net Position</b>	<b>Projected Total Contributions</b>	<b>Projected Benefit Payments</b>	<b>Projected Administrative Expense</b>	<b>Projected Investment Earnings</b>	<b>Projected Ending Fiduciary Net Position</b>
2016	\$ 1,310,545	\$ 819,000	\$ 108,255	\$ 530,200	\$ 100,597	\$ 1,591,687
2017	1,591,687	843,072	127,313	457,068	122,341	1,972,719
2018	1,972,719	779,242	137,741	415,092	152,413	2,351,541
2019	2,351,541	736,166	159,103	384,795	181,882	2,725,691
2020	2,725,691	714,613	176,885	354,347	211,116	3,120,188
2021	3,120,188	689,855	206,574	336,355	241,511	3,508,625
2022	3,508,625	665,453	226,724	319,003	271,796	3,900,147
2023	3,900,147	656,366	237,066	299,062	302,712	4,323,097
2024	4,323,097	645,668	254,410	290,755	335,867	4,759,467
2025	4,759,467	642,558	290,801	284,935	369,349	5,195,638
2026	5,195,638	639,765	320,364	276,174	403,083	5,641,948
2027	5,641,948	640,296	337,570	264,121	438,113	6,118,666
2028	6,118,666	630,815	365,803	262,240	475,143	6,596,581
2029	6,596,581	636,798	375,467	258,295	512,997	7,112,614
2030	7,112,614	638,217	400,887	258,538	553,282	7,644,688
2031	7,644,688	644,027	423,258	253,656	594,970	8,206,771
2032	8,206,771	640,725	439,182	247,013	639,312	8,800,613
2033	8,800,613	641,178	445,190	242,612	686,584	9,440,573
2034	9,440,573	639,294	461,732	245,207	737,132	10,110,060
2035	10,110,060	644,755	472,077	243,861	790,285	10,829,162
2036	10,829,162	330,715	482,158	244,456	847,417	11,280,680
2037	11,280,680	332,112	477,374	248,279	883,727	11,770,866
2038	11,770,866	343,880	476,179	254,319	922,988	12,307,236
2039	12,307,236	349,851	507,991	262,290	964,651	12,851,457
2040	12,851,457	359,627	516,677	257,005	1,007,847	13,445,249
2041	13,445,249	352,938	533,941	263,187	1,054,673	14,055,732
2042	14,055,732	334,983	576,692	267,387	1,101,835	14,648,471
2043	14,648,471	318,337	580,481	258,372	1,149,105	15,277,060
2044	15,277,060	278,714	611,599	268,127	1,198,171	15,874,219
2045	15,874,219	268,136	650,299	264,864	1,244,426	16,471,618
2046	16,471,618	264,864	700,392	265,943	1,290,253	17,060,400
2047	17,060,400	265,943	758,480	258,250	1,335,076	17,644,689
2048	17,644,689	258,250	815,865	245,562	1,379,568	18,221,080
2049	18,221,080	245,562	859,326	232,693	1,423,975	18,798,598
2050	18,798,598	232,693	903,106	235,399	1,468,459	19,361,245
2051	19,361,245	235,399	982,584	231,378	1,510,352	19,893,034
2052	19,893,034	231,378	1,076,046	212,643	1,549,229	20,384,952
2053	20,384,952	212,643	1,171,446	191,716	1,584,840	20,819,273
2054	20,819,273	191,716	1,243,516	162,754	1,616,758	21,221,477
2055	21,221,477	162,754	1,302,617	148,800	1,646,616	21,579,430
2056	21,579,430	148,800	1,434,796	140,000	1,670,067	21,823,501
2057	21,823,501	140,000	1,519,474	101,652	1,686,270	22,028,645
2058	22,028,645	101,652	1,580,533	82,400	1,700,287	22,167,651
2059	22,167,651	82,400	1,641,325	67,516	1,709,022	22,250,232
2060	22,250,232	67,516	1,692,278	49,151	1,713,630	22,289,949
2061	22,289,949	49,151	1,719,169	33,065	1,715,752	22,302,618
2062	22,302,618	33,065	1,732,597	22,561	1,716,239	22,296,764
2063	22,296,764	22,561	1,742,271	13,389	1,715,391	22,279,056
2064	22,279,056	13,389	1,736,253	5,118	1,714,210	22,265,284
2065	22,265,284	5,118	1,689,926	111	1,714,926	22,295,291
2066	22,295,291	111	1,640,519	-	1,719,265	22,374,148
2067	22,374,148	-	1,589,074	-	1,727,592	22,512,666
2068	22,512,666	-	1,535,423	-	1,740,778	22,718,021
2069	22,718,021	-	1,479,465	-	1,759,402	22,997,958
2070	22,997,958	-	1,421,090	-	1,784,087	23,360,955

**TABLE 16 – Actuarial Present Values of Projected Benefit Payments**

Year	Projected Beginning	Projected Benefit	Funded Portion of	Unfunded Portion of	Present Value of	Present Value of	Present Value of
	<u>Fiduciary Net Position</u>	<u>Payments</u>	Projected Benefit	Projected Benefit	Funded Benefit	Unfunded Benefit	Benefit Payments
			<u>Payments</u>	<u>Payments</u>	<u>Payments at 8.00%</u>	<u>Payments at 3.20%</u>	Using Single Discount
							Rate of 8.00%
2016	\$ 1,310,545	\$ 108,255	\$ 108,255	\$ -	\$ 108,255	\$ -	108,255
2017	1,591,687	127,313	127,313	-	122,507	-	122,507
2018	1,972,719	137,741	137,741	-	122,723	-	122,723
2019	2,351,541	159,103	159,103	-	131,256	-	131,256
2020	2,725,691	176,885	176,885	-	135,116	-	135,116
2021	3,120,188	206,574	206,574	-	146,106	-	146,106
2022	3,508,625	226,724	226,724	-	148,480	-	148,480
2023	3,900,147	237,066	237,066	-	143,752	-	143,752
2024	4,323,097	254,410	254,410	-	142,842	-	142,842
2025	4,759,467	290,801	290,801	-	151,180	-	151,180
2026	5,195,638	320,364	320,364	-	154,212	-	154,212
2027	5,641,948	337,570	337,570	-	150,458	-	150,458
2028	6,118,666	365,803	365,803	-	150,964	-	150,964
2029	6,596,581	375,467	375,467	-	143,475	-	143,475
2030	7,112,614	400,887	400,887	-	141,841	-	141,841
2031	7,644,688	423,258	423,258	-	138,663	-	138,663
2032	8,206,771	439,182	439,182	-	133,222	-	133,222
2033	8,800,613	445,190	445,190	-	125,041	-	125,041
2034	9,440,573	461,732	461,732	-	120,081	-	120,081
2035	10,110,060	472,077	472,077	-	113,677	-	113,677
2036	10,829,162	482,158	482,158	-	107,504	-	107,504
2037	11,280,680	477,374	477,374	-	98,553	-	98,553
2038	11,770,866	476,179	476,179	-	91,025	-	91,025
2039	12,307,236	507,991	507,991	-	89,913	-	89,913
2040	12,851,457	516,677	516,677	-	84,676	-	84,676
2041	13,445,249	533,941	533,941	-	81,024	-	81,024
2042	14,055,732	576,692	576,692	-	81,029	-	81,029
2043	14,648,471	580,481	580,481	-	75,519	-	75,519
2044	15,277,060	611,599	611,599	-	73,674	-	73,674
2045	15,874,219	650,299	650,299	-	72,533	-	72,533
2046	16,471,618	700,392	700,392	-	72,334	-	72,334
2047	17,060,400	758,480	758,480	-	72,530	-	72,530
2048	17,644,689	815,865	815,865	-	72,239	-	72,239
2049	18,221,080	859,326	859,326	-	70,451	-	70,451
2050	18,798,598	903,106	903,106	-	68,556	-	68,556
2051	19,361,245	982,584	982,584	-	69,064	-	69,064
2052	19,893,034	1,076,046	1,076,046	-	70,031	-	70,031
2053	20,384,952	1,171,446	1,171,446	-	70,592	-	70,592
2054	20,819,273	1,243,516	1,243,516	-	69,384	-	69,384
2055	21,221,477	1,302,617	1,302,617	-	67,298	-	67,298
2056	21,579,430	1,434,796	1,434,796	-	68,636	-	68,636
2057	21,823,501	1,519,474	1,519,474	-	67,302	-	67,302
2058	22,028,645	1,580,533	1,580,533	-	64,821	-	64,821
2059	22,167,651	1,641,325	1,641,325	-	62,328	-	62,328
2060	22,250,232	1,692,278	1,692,278	-	59,503	-	59,503
2061	22,289,949	1,719,169	1,719,169	-	55,971	-	55,971
2062	22,302,618	1,732,597	1,732,597	-	52,230	-	52,230
2063	22,296,764	1,742,271	1,742,271	-	48,631	-	48,631
2064	22,279,056	1,736,253	1,736,253	-	44,873	-	44,873
2065	22,265,284	1,689,926	1,689,926	-	40,440	-	40,440
2066	22,295,291	1,640,519	1,640,519	-	36,350	-	36,350
2067	22,374,148	1,589,074	1,589,074	-	32,602	-	32,602
2068	22,512,666	1,535,423	1,535,423	-	29,168	-	29,168
2069	22,718,021	1,479,465	1,479,465	-	26,023	-	26,023
2070	22,997,958	1,421,090	1,421,090	-	23,145	-	23,145

**TABLE 17 – Description of Actuarial Assumptions and Methods to Determine Projected Contributions**

**ASSUMPTIONS**

**Interest Rate:** 8.0% per annum, compounded annually. The components are 3.00% for inflation and 5.00% for the real rate of return.

**Salary Increase:** 4.50% per annum, compounded annually.

**Payroll Growth:** 3.00% per annum.

**Separation From Service:** Retirement age is assumed to be age 65. Illustrative rates of assumed separation from service (mortality and turnover) are shown in the following tables.

**Annual Rates per 100 Participants**

Attained Age	Mortality	
	Males	Females
45	0.13	0.11
50	0.19	0.19
55	0.31	0.38
60	0.59	0.76
65	1.11	1.26
70	1.86	1.96
75	2.87	3.40
80	5.03	5.86
85	8.61	10.72

Healthy pensioners:

The sex-distinct UP-1994 Mortality Table with Projection scale AA to 2012 and then fully generational thereafter using scale AA.

Active members:

70% of the rates applicable to healthy pensioners.

### Annual Rates per 100 Participants

Withdrawal						
Attained Age	Select Rates by Year of Employment + Ultimate					
	0	1	2	3	4	Ult.
20	33.75	31.50	28.50	24.00	19.05	15.00
25	31.35	29.46	26.88	22.86	18.54	14.25
30	27.30	25.47	22.92	18.99	15.36	12.00
35	22.35	20.64	18.03	14.01	10.17	6.00
40	17.85	16.26	13.80	10.26	7.23	3.90
45	17.25	14.85	11.94	8.43	5.37	2.52
50	16.50	13.38	10.98	7.89	4.47	1.07
55	14.85	12.45	9.78	6.93	3.63	0.23

### METHODS

**Calculations:** The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system, and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

**Actuarial Cost Method:** Liabilities and contributions shown in this report are computed using the Unit Credit Cost Method. The outstanding balance of the unfunded actuarial accrued liability (UAAL) as of January 1, 2015 and any changes to the UAAL arising from plan changes, assumption changes, and actuarial gains/losses are amortized as a level percentage of payroll over a 20-year period.

The full administrative expenses incurred by the County related to the System are payable by the System to the County. The County then reimburses the System for this payment in the annual contribution.

The variance between the amount contributed to the System for a plan year, and the actual contribution requirement for that year is amortized on a level dollar basis over 5 years.

**Asset Valuation Method:** The actuarial asset value is the market value of assets plus any receivable contributions.

### DATA

**Census and Assets:** The valuation was based on members of the System as of January 1, 2016 and does not take into account future members. All census data was supplied by the System and was subject to reasonable consistency checks. Asset data was supplied by the System. An assumption was made for deferred vested inactive members for which no salary or benefit info was provided. For these members, it is assumed that their benefit amount is equal to the average benefit amount of the deferred vested population for which benefit information is available.

**TABLE 18 – Summary of Benefit and Contribution Provisions**

**MEMBERSHIP**

Any person employed by the County for whom the County is not obligated to collect and withhold FICA taxes. However, such persons shall not include: 1) an employee hired to relieve him from unemployment; 2) an employee of a hospital, home, or institution where he is an inmate; 3) an employees who is a temporary employee to handle fire, storm, snow, earthquake or similar emergencies; 4) an employee paid on a fee basis as self-employed; or 5) an employee who is a member of a collective bargaining unit covered by an agreement which does not provide for his inclusion.

**VESTING SERVICE**

One year of service is credited on and after January 1, 1992 for each plan year during which the employee is employed at any time. However, the employee shall not receive credit for any plan year in which the County is obligated to collect and withhold FICA taxes. If, during such plan year, FICA taxes are withheld for only a portion of the year, the employee shall receive a pro rata credit for the portion of the year worked when no FICA taxes were withheld.

**BENEFIT SERVICE**

Same as vesting service.

**EARNINGS**

Earnable compensation shall include the compensation earned during the period for which no FICA tax was withheld, exclusive of any amounts reimbursed for moving expenses. However, such compensation shall be limited to the Social Security taxable wage base for the plan year.

Average compensation is the average of the total earnings accumulated during the plan years of employment with the County, with the exception of years prior to January 1, 1992.

**BENEFITS**

Normal Retirement

Eligibility

Age 65.

Amount

2% of the member's average compensation multiplied by years of service (not in excess of 30).

Deferred Vested Benefit

Upon termination of employment, a member is eligible for a deferred vested pension commencing at age 65. Such benefit shall be calculated the same as for normal retirement, considering average compensation and service at termination.

**TABLE 19 – Summary of Membership Data as of January 1, 2016**

**Active Participants**

<b>Item</b>	<b>Total</b>
Number of Participants	386
Average Annual Salaries *	\$ 10,171
Average Age	29.2
Average Service	4.1

\* The salaries shown in the table above represent total annual pay increased by the salary assumption.

**Inactive Participants**

<b>Item</b>	<b>Number</b>	<b>Annual Annuities</b>	<b>Average Annuities</b>
Participants with Deferred Benefits	5,073	\$ 1,455,328	\$ 287
Participants receiving benefits	<u>48</u>	<u>71,324</u>	<u>1,486</u>
Total	5,121	\$ 1,526,652	\$ 298

## EXHIBIT I – Active Membership Data

### Number And Average Annual Salary\* As Of January 1, 2016

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 25</b>	173 \$7,177	24 \$11,142								197 \$7,660
<b>25-29</b>	35 \$12,593	24 \$17,710	11 -							70 \$14,943
<b>30-34</b>	17 -	4 -	9 -	2 -						32 \$13,592
<b>35-39</b>	10 -	1 -	1 -	4 -						16 -
<b>40-44</b>	9 -		1 -		1 -					11 -
<b>45-49</b>	15 -									15 -
<b>50-54</b>	7 -	2 -	1 -	2 -	1 -					13 -
<b>55-59</b>	11 -	2 -			2 -					15 -
<b>60-64</b>	4 -	1 -	2 -							7 -
<b>Over 64</b>	7 -		2 -		1 -					10 -
<b>Total</b>	288 \$8,510	58 \$14,319	27 \$14,938	8 -	5 -					386 \$10,171

\* Compensation in cells with fewer than 20 records has been suppressed.

**EXHIBIT II – 5-Year History of Membership Data**

**Active Participants**

<b>Valuation as of January 1</b>	<b>Number of Active Participants</b>	<b>Percentage Change in Membership</b>	<b>Total Annual Payroll</b>	<b>Percentage Change in Payroll</b>
2016	386	(2.03%)	\$ 3,926,027	0.02%
2015	394	20.86%	3,925,214	12.86%
2014	326	(74.87%)	3,477,968	(55.04%)
2013	1,297	(15.23%)	7,735,644	(13.46%)
2012	1,530	(0.65%)	8,939,076	0.03%

**Retired Participants**

<b>Valuation as of January 1</b>	<b>Number on roll</b>	<b>Additions</b>	<b>Deletions</b>	<b>Percentage Change in Membership</b>	<b>Annual Annuities</b>	<b>Percentage Change in Annuities</b>
2016	48	1	-	2.13%	\$ 71,324	(16.15%)
2015	47	8	-	20.51%	85,058	28.01%
2015	39	1	-	2.63%	66,446	8.37%
2014	38	10	-	35.71%	61,316	65.45%
2013	28	26	-	1300.00%	37,061	863.62%

**EXHIBIT III – Detailed Tabulations of the Data**

**TABLE III-A**

**The Number and Annual Salaries  
of Members in Active Service Distributed by  
Age as of January 1, 2016**

**(Compensation in cells with fewer than 20 records has been suppressed)**

Age	Men		Women	
	Number	Compensation	Number	Compensation
16			1	
17	9		12	
18	13		15	
19	13		17	
20	15		13	
21	17		9	
22	9		15	
23	12		8	
24	11		8	
25	22	312,177	5	
26	8		1	
27	7		7	
28	7		2	
29	7		4	
30	7		3	
31	2		3	
32	6		1	
33	3		2	
34	2		3	
35	2		2	
36	5		1	
37			3	
39	2		1	
40	2			
41	1		1	
42	1		3	
43	1			
44	2			
45	1		2	
46			1	
47	2		2	
48	2			
49	4		1	
50	2		2	
51	1		3	

**TABLE III-A**

**The Number and Annual Salaries  
of Members in Active Service Distributed By  
Age as of January 1, 2016**

**(Compensation in cells with fewer than 20 records has been suppressed)**

Age	Men		Women	
	Number	Compensation	Number	Compensation
52	2			
53	1		1	
54	1			
55	2		2	
56	1		2	
57	2			
58	1		1	
59	1		3	
60	3			
61	1			
62	3			
65	2			
66	1			
68	1		1	
71	1			
73			1	
75	1		1	
80			1	
<b>Total</b>	222	\$ 2,370,238	164	\$ 1,555,789

**TABLE III-B**

**The Number and Annual Salaries  
of Members in Active Service Distributed By  
Years of Credited Service as of January 1, 2016**

**(Compensation in cells with fewer than 20 records has been suppressed)**

Years of Service	Men		Women	
	Number	Compensation	Number	Compensation
0	1		3	
1	76	\$ 462,410	50	\$ 186,604
2	42	464,325	29	265,258
3	23	277,007	31	376,733
4	21	272,169	12	
5	7		12	
6	10		3	
7	3		3	
8	6		2	
9	8		4	
10	5		3	
11	7			
12	4		1	
13	2		3	
14	2			
15	1		2	
16				
17	1		1	
18	1		1	
19	1			
20			1	
21			1	
22			1	
23	1			
24			1	
<b>Total</b>	222	\$ 2,370,238	164	\$ 1,555,789

**TABLE III-C**

**The Number and Annual Benefits Payable to Participants with Deferred Benefits as of January 1, 2016**

Age	Men		Women	
	Number	Annuity	Number	Annuity
16	2	\$ 574	2	\$ 574
17	48	12,667	42	9,830
18	82	13,230	69	10,426
19	112	11,807	85	10,865
20	133	14,125	131	17,011
21	153	19,588	132	16,802
22	143	22,208	130	17,770
23	190	26,975	170	24,493
24	248	38,144	199	25,010
25	235	38,295	188	30,314
26	200	33,902	158	24,925
27	179	37,082	141	23,113
28	122	27,350	108	22,009
29	121	42,364	72	20,740
30	79	31,469	60	19,453
31	57	20,921	48	25,448
32	47	25,795	42	30,471
33	51	26,967	40	15,890
34	42	24,272	28	13,489
35	36	24,680	28	21,161
36	32	22,544	22	19,306
37	28	14,171	21	9,000
38	28	21,547	12	3,751
39	15	10,224	20	6,442
40	25	13,480	14	10,734
41	29	17,307	11	3,807
42	21	19,843	15	4,524
43	15	9,520	10	5,676
44	13	4,421	6	3,324
45	20	14,085	12	5,254
46	17	7,492	9	5,662
47	27	10,933	8	5,120
48	18	10,407	10	3,027
49	14	6,952	10	3,767
50	17	8,077	7	4,939
51	16	7,894	7	9,477
52	18	11,017	13	4,341
53	21	24,394	7	4,164
54	17	15,271	10	6,508
55	22	10,399	11	6,858
56	19	12,172	12	18,499

**TABLE III-C**

**The Number and Annual Benefits Payable to  
Participants with Deferred Benefits  
as of January 1, 2016**

Age	Men		Women	
	Number	Annuity	Number	Annuity
57	23	\$ 17,206	10	\$ 5,208
58	9	5,083	7	9,369
59	15	7,262	8	7,763
60	15	26,318	8	3,939
61	22	12,130	7	5,096
62	15	10,425	6	3,615
63	13	11,073	5	1,850
64	17	18,351	6	2,864
65	9	1,369	4	2,322
66	6	3,339		
67	5	730		
68	6	5,338	2	1,730
69	3	503		
70	4	673		
71	1	287		
72	2	350		
73	2	1,322	1	312
74	2	16		
75	2	681		
76	2	207		
80	1	1		
82	1	52		
85	1	1	1	4
<b>Total</b>	<b>2,888</b>	<b>\$ 887,282</b>	<b>2,185</b>	<b>\$ 568,046</b>

**TABLE III-D**

**The Number and Annual Benefits Payable to  
Participants Receiving Benefits  
as of January 1, 2016**

Age	Men		Women	
	Number	Annuity	Number	Annuity
65	4	\$ 2,736	3	1,827
66	4	3,320		\$
67	6	9,283	2	7,398
68	2	5,994	2	1,944
69	6	12,054	3	4,821
70	2	3,585	1	1,879
71	3	4,524	1	829
72	2	2,046	1	690
73				
74	2	3,495	1	967
75	1	1,585		
76	1	975		
81	1	1,371		
<b>Total</b>	<b>34</b>	<b>\$ 50,969</b>	<b>14</b>	<b>\$ 20,355</b>

## EXHIBIT IV – Glossary

<b>Accrued Liability</b>	The difference between (a) the present value of future plan benefits, and (b) the present value of future normal cost. It is the portion of the present value of future plan benefits attributable to service accrued as of the valuation date. Sometimes referred to as “actuarial accrued liability.”
<b>Accrued Service</b>	The service credited under the plan which was rendered before the date of the actuarial valuation.
<b>Actual Funding Contribution</b>	The Actual Funding Contribution for a plan year is calculated using census and asset information as of the first day of the plan year, and includes Normal Cost, with interest to the end of the plan year, and a net amortization payment.
<b>Actuarial Assumptions</b>	Estimates of future plan 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.
<b>Actuarial Cost Method</b>	A mathematical budgeting procedure for allocating the dollar amount of the “present value of future plan benefits” between the present value of future normal cost and the accrued liability. Sometimes referred to as the “actuarial funding method.”
<b>Actuarial Equivalent</b>	A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.
<b>Actuarial Value of Assets</b>	The value of current plan assets recognized for valuation purposes. Based on market value.
<b>Amortization</b>	Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

## EXHIBIT IV – Glossary (cont'd)

<b>Annual Required Contribution</b>	The Annual Required Contribution, or ARC, is the amount determined in accordance with Governmental Accounting Standards Board Statements Nos. 25 and 27.
<b>Budget Contribution</b>	The Budget Contribution for a year is based on census and asset information as of the first day of the PRIOR plan year, rolled forward to the next plan year based on all actuarial assumptions being met. For example, the Budget Contribution for 2015 is based on census and asset information as of January 1, 2014, rolled forward to January 1, 2015.
<b>Contribution Variance</b>	The difference between the Actual Contribution and the Budget Contribution for a plan year is referred to as the Contribution Variance. A Contribution Variance resulting from an overpayment is amortized over 5 years as a level dollar credit. A Contribution Variance resulting from an underpayment is amortized over 5 years as a level dollar charge.
<b>Experience Gain (Loss)</b>	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.
<b>Normal Cost</b>	The annual cost assumed, under the actuarial funding method, for current and subsequent plan years. Sometimes referred to as “current service cost.”
<b>Present Value</b>	The amount of funds presently required to provide a payment or series of payments in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
<b>Unfunded Accrued Liability</b>	The difference between the actuarial accrued liability and valuation assets.