

**ARBOR PARK SD 145 REGULAR**  
GASB STATEMENT NO. 68 EMPLOYER REPORTING  
ACCOUNTING SCHEDULES  
DECEMBER 31, 2015

## TABLE OF CONTENTS

	<u>Page</u>
<b>Certification Letter</b>	
<b>Section A</b> Executive Summary	
Executive Summary .....	1
Discussion .....	2 - 4
Other Observations .....	5 - 6
<b>Section B</b> Financial Statements	
Pension Expense/(Income) under GASB Statement No. 68 .....	7
Statement of Outflows and Inflows Arising from Current Period .....	8
Statement of Outflows and Inflows Arising from Current and Prior Periods .....	9
Schedule of Changes in Net Pension Liability and Related Ratios Current Period....	10
Sensitivity of Net Pension Liability/(Asset) to the Single Discount Rate Assumption .....	10
Multiyear Schedule of Changes in Net Pension Liability and Related Ratios .....	11
Multiyear Schedule of Contributions .....	12
Notes to Schedule of Contributions .....	13
Development of Market Value of Assets .....	14
Summary of Actuarial Methods and Assumptions used in the Calculation of the Total Pension Liability .....	15
<b>Section C</b> Calculation of the Single Discount Rate	
Calculation of the Single Discount Rate .....	16
Projection of Contributions .....	17 - 18
Projection of Plan Fiduciary Net Position .....	19 - 20
Present Values of Projected Benefits .....	21 - 22
Projection of Plan Net Position and Benefit Payments .....	23
<b>Section D</b> Glossary of Terms .....	24 - 27



Gabriel Roeder Smith & Company  
Consultants & Actuaries

One Towne Square  
Suite 800  
Southfield, MI 48076-3723

248.799.9000 phone  
248.799.9020 fax  
www.gabrielroeder.com

April 15, 2016

Arbor Park SD 145  
Illinois Municipal Retirement System

Ladies and Gentlemen:

The accounting schedules submitted in this report are required under the Governmental Accounting Standards Board (GASB) Statement No. 68 "Accounting and Financial Reporting for Pensions."

Our calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement No. 68. These calculations have been made on a basis that is consistent with our understanding of these accounting standards. These results are subject to review by the system's auditor and may be revised.

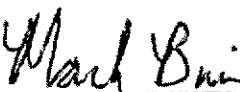
Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 68. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the Arbor Park SD 145 only in its entirety and only with the permission of Arbor Park SD 145.


This report is based upon information, furnished to us by IMRF, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different than ours, please let us know and do not use or distribute this report until those differences have been resolved to your satisfaction. This information was checked for internal consistency, but it was not otherwise audited.

Please see the actuarial valuation report for the Illinois Municipal Retirement Fund as of December 31, 2015 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, the information contained in this report is accurate, and fairly represents the GASB 68 information relates to Arbor Park SD 145. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Mark Buis and Francois Pieterse are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinions herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

By   
Mark Buis  
FSA, EA, MAAA

By   
Francois Pieterse  
ASA, MAAA

---

**SECTION A**  
EXECUTIVE SUMMARY

---

**EXECUTIVE SUMMARY  
AS OF DECEMBER 31, 2015**

Actuarial Valuation Date	December 31, 2015
Measurement Date of the Net Pension Liability	December 31, 2015
Fiscal Year End	June 30, 2016

**Membership**

Number of	
- Retirees and Beneficiaries	223
- Inactive, Non-Retired Members	272
- Active Members	83
- Total	<u>578</u>
Covered Valuation Payroll	\$ 2,137,254

**Net Pension Liability**

Total Pension Liability/(Asset)	\$ 11,543,206
Plan Fiduciary Net Position	<u>10,139,726</u>
Net Pension Liability/(Asset)	\$ 1,403,480
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	87.84%
Net Pension Liability as a Percentage of Covered Valuation Payroll	65.67%

**Development of the Single Discount Rate as of December 31, 2015**

Long-Term Expected Rate of Investment Return	7.50%
Long-Term Municipal Bond Rate*	3.57%
Last year ending December 31 in the 2016 to 2115 projection period for which projected benefit payments are fully funded	2087
Resulting Single Discount Rate based on the above development	7.48%

Single Discount Rate calculated using December 31, 2014 Measurement Date 7.49%

**Total Pension Expense/(Income)** \$ 278,363

**Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses**

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Difference between expected and actual experience	\$ 7,039	\$ 0
Changes in assumptions	2,454	0
Net difference between projected and actual earnings on pension plan investments	<u>653,017</u>	<u>0</u>
<b>Total</b>	<u>\$ 662,510</u>	<u>\$ 0</u>

\*Source: "State & local bonds" rate from Federal Reserve statistical release (H.15) as of December 31, 2015. The statistical release describes this rate as "Bond Buyer Index, general obligation, 20 years to maturity, mixed quality." In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

## DISCUSSION

### Accounting Standard

For state and local government employers (as well as certain non-employers) that contribute to a Defined Benefit (DB) pension plan administered through a trust or equivalent arrangement, Governmental Accounting Standards Board (GASB) Statement No. 68 establishes standards for pension accounting and financial reporting. Under GASB Statement No. 68, the employer must account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information is not included in this report if it is not actuarial in nature, such as the notes to the financial statements regarding accounting policies and investments. As a result, the retirement system and/or plan sponsor is responsible for preparing and disclosing the non-actuarial information needed to comply with these accounting standards.

### Financial Statements

GASB Statement No. 68 requires state and local government employers that contribute to DB pension plans to recognize the net pension liability and the pension expense on their financial statements, along with the related deferred outflows of resources and deferred inflows of resources. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 says, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to IMRF subsequent to the measurement date of December 31, 2015.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the certain changes in the liability and investment experience.

## Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows of resources and inflows of resources related to pensions.

In addition, GASB Statement No. 68 requires the notes of the financial statements for the employers to include certain additional information, including (page numbers refer to page numbers from this report unless specified otherwise):

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs (please see pages B-1 - B-5 of the December 31, 2015 Annual Actuarial Valuation report dated April 1, 2016);
- the number and classes of employees covered by the benefit terms (page 1);
- for the current year, sources of changes in the net pension liability (page 10);
- significant assumptions and methods used to calculate the total pension liability (page 15);
- inputs to the single discount rate (page 16);
- certain information about mortality assumptions and the dates of experience studies (page 13 and page 15);
- the date of the valuation used to determine the total pension liability (page 1);
- information about changes of assumptions or other inputs and benefit terms (pages 13 and 15);
- the basis for determining contributions to the plan, including a description of the plan's funding policy, as well as member and employer contribution requirements (please see page A-3, B-5 and Section D of the December 31, 2015 Annual Actuarial Valuation report dated April 1, 2016, as well as page 13);
- the total pension liability, fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability (page 10);
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes (page 10); and
- a description of the system that administers the pension plan (to be provided by IMRF).

## Required Supplementary Information

The financial statements of employers also include required supplementary information showing the 10-year fiscal history of:

- sources of changes in the net pension liability (page 11);
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll (page 11); and
- comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy (page 12).

These tables may be built prospectively as the information becomes available.

**Timing of the Valuation**

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For the employer's financial reporting purposes, the net pension liability and pension expense should be measured as of the employer's "measurement date" which may not be earlier than the employer's prior fiscal year-end date. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of December 31, 2015 and a measurement date of December 31, 2015.

**Single Discount Rate**

Projected benefit payments are required to be discounted to their actuarial present values using a single discount rate that reflects: (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the plan's projected fiduciary net position is not sufficient to pay benefits).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.57% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting single discount rate is 7.48%.



## OTHER OBSERVATIONS

### General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial value of assets), it is expected that:

- (1) The employer normal cost as a percentage of pay will decrease to the level of Tier 2 normal cost as time passes as the majority of the active population will consist of Tier 2 members.
- (2) The unfunded liability will increase in dollar amount for several years before it begins to decrease.
- (3) The funded status of the plan will increase gradually towards a 100% funded ratio.

This funding policy results in a crossover date in 2087 and a discount rate of 7.48%. The projections in this report are strictly for the purposes of determining the GASB discount rate and are different from a funding projection for the ongoing plan.

### Limitations of Assets as a Percent of Total Pension Liability Measurements

This report includes a measure of the plan fiduciary net position as a percent of total pension liability. Unless otherwise indicated, with regard to any such measurements presented in this report:

- (1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.
- (2) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

### Limitations of Funded Status Measurements

Unless otherwise indicated, a funded ratio measurement presented in this report is based upon the actuarial accrued liability and the market value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

- (1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, in other words of transferring the obligations to a unrelated third party in an arm's length market value type transaction.
- (2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amount of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon actuarial assumptions. A funded ratio measurement in this report of 100% is not synonymous with no required future contributions. If the funded ratio were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).

**Limitation of Project Scope**

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

---

**SECTION B**  
FINANCIAL STATEMENTS

---

**PENSION EXPENSE/(INCOME) UNDER GASB STATEMENT NO. 68**  
**CALENDAR YEAR ENDED DECEMBER 31, 2015**

**A. Expense/(Income)**

1. Service Cost	\$	217,911
2. Interest on the Total Pension Liability		816,194
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(96,371)
5. Projected Earnings on Plan Investments (made negative for addition here)		(761,180)
6. Other Changes in Plan Fiduciary Net Position		(163,369)
7. Recognition of Outflow (Inflow) of Resources due to Liabilities		94,894
8. Recognition of Outflow (Inflow) of Resources due to Assets		170,284
<b>9. Total Pension Expense/(Income)</b>	<b>\$</b>	<b>278,363</b>

**STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING  
PERIOD  
CALENDAR YEAR ENDED DECEMBER 31, 2015**

**A. Outflows (Inflows) of Resources due to Liabilities**

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$	33,893
2. Assumption Changes (gains) or losses	\$	11,816
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		1.2621
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the Difference between expected and actual experience of the Total Pension Liability	\$	26,854
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$	9,362
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$	36,216
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the Difference between expected and actual experience of the Total Pension Liability	\$	7,039
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$	2,454
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$	9,493

**B. Outflows (Inflows) of Resources due to Assets**

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	710,843
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$	142,169
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	568,674

\* Please note that employer contributions made after the measurement date have not been reported as deferred outflows of resources. These employer contributions must be separately accounted for by the employer.

**STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR  
REPORTING PERIODS  
CALENDAR YEAR ENDED DECEMBER 31, 2015**

**A. Outflows and Inflows of Resources due to Liabilities and Assets to be recognized in Current Pension Expense**

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 132,100	\$ 37,206	\$ 94,894
2. Due to Assets	170,284	0	170,284
<b>3. Total</b>	<b>\$ 302,384</b>	<b>\$ 37,206</b>	<b>\$ 265,178</b>

**B. Outflows and Inflows of Resources by Source to be recognized in Current Pension Expense**

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 26,854	\$ 37,206	\$ (10,352)
2. Assumption changes	105,246	0	105,246
3. Net difference between projected and actual earnings on pension plan investments	170,284	0	170,284
<b>4. Total</b>	<b>\$ 302,384</b>	<b>\$ 37,206</b>	<b>\$ 265,178</b>

**C. Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses**

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 7,039	\$ 0	\$ 7,039
2. Assumption changes	2,454	0	2,454
3. Net difference between projected and actual earnings on pension plan investments	653,017	0	653,017
<b>4. Total</b>	<b>\$ 662,510</b>	<b>\$ 0</b>	<b>\$ 662,510</b>

**D. Deferred Outflows and Deferred Inflows of Resources by Year to be recognized in Future Pension Expenses**

Year Ending December 31	Net Deferred Outflows of Resources
2016	\$ 179,777
2017	170,284
2018	170,282
2019	142,167
2020	0
Thereafter	0
<b>Total</b>	<b>\$ 662,510</b>

**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS  
CURRENT PERIOD  
CALENDAR YEAR ENDED DECEMBER 31, 2015**

<b>A. Total pension liability</b>	
1. Service Cost	\$ 217,911
2. Interest on the Total Pension Liability	816,194
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	33,893
5. Changes of assumptions	11,816
6. Benefit payments, including refunds of employee contributions	(649,543)
7. Net change in total pension liability	\$ 430,271
8. Total pension liability – beginning	11,112,935
9. Total pension liability – ending	<u>\$ 11,543,206</u>
<b>B. Plan fiduciary net position</b>	
1. Contributions – employer	\$ 270,455
2. Contributions – employee	96,371
3. Net investment income	50,337
4. Benefit payments, including refunds of employee contributions	(649,543)
5. Other (Net Transfer)	163,369
6. Net change in plan fiduciary net position	\$ (69,011)
7. Plan fiduciary net position – beginning	10,208,737
8. Plan fiduciary net position – ending	<u>\$ 10,139,726</u>
<b>C. Net pension liability/(asset)</b>	<u>\$ 1,403,480</u>
<b>D. Plan fiduciary net position as a percentage of the total pension liability</b>	87.84%
<b>E. Covered Valuation payroll</b>	\$ 2,137,254
<b>F. Net pension liability as a percentage of covered valuation payroll</b>	65.67%

**SENSITIVITY OF NET PENSION LIABILITY/(ASSET) TO THE SINGLE DISCOUNT RATE ASSUMPTION**

	1% Decrease 6.48%	Current Single Discount Rate Assumption 7.48%	1% Increase 8.48%
Total Pension Liability	\$ 12,812,955	\$ 11,543,206	\$ 10,476,662
Plan Fiduciary Net Position	10,139,726	10,139,726	10,139,726
Net Pension Liability/(Asset)	\$ 2,673,229	\$ 1,403,480	\$ 336,936

**SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION**  
**MULTIYEAR SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**

**Last 10 Calendar Years**

(schedule to be built prospectively from 2014)

Calendar year ending December 31,	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Total Pension Liability</b>										
Service Cost	\$ 217,911	\$ 240,979								
Interest on the Total Pension Liability	816,194	764,359								
Benefit Changes	0	0								
Difference between Expected and Actual Experience	33,893	(192,102)								
Assumption Changes	11,816	495,070								
Benefit Payments and Refunds	(649,543)	(559,875)								
<b>Net Change in Total Pension Liability</b>	<b>430,271</b>	<b>748,431</b>								
<b>Total Pension Liability - Beginning</b>	<b>11,112,935</b>	<b>10,364,504</b>								
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 11,543,206</b>	<b>\$ 11,112,935</b>								
<b>Plan Fiduciary Net Position</b>										
Employer Contributions	\$ 270,455	\$ 255,429								
Employee Contributions	96,371	88,024								
Pension Plan Net Investment Income	50,337	582,648								
Benefit Payments and Refunds	(649,543)	(559,875)								
Other	163,369	182,698								
<b>Net Change in Plan Fiduciary Net Position</b>	<b>(69,011)</b>	<b>548,924</b>								
<b>Plan Fiduciary Net Position - Beginning</b>	<b>10,208,737</b>	<b>9,659,813</b>								
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 10,139,726</b>	<b>\$ 10,208,737</b>								
<b>Net Pension Liability/(Asset) - Ending (a) - (b)</b>	<b>1,403,480</b>	<b>904,198</b>								
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	<b>87.84%</b>	<b>91.86 %</b>								
<b>Covered Valuation Payroll</b>	<b>\$ 2,137,254</b>	<b>\$ 1,911,173</b>								
<b>Net Pension Liability as a Percentage of Covered Valuation Payroll</b>	<b>65.67%</b>	<b>47.31 %</b>								



## MULTIYEAR SCHEDULE OF CONTRIBUTIONS

### Last 10 Calendar Years

Calendar Year Ending December 31,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Valuation Payroll	Actual Contribution as a % of Covered Valuation Payroll
2014	\$ 254,377	\$ 255,429	\$ (1,052)	\$ 1,911,173	13.37%
2015	270,790 *	270,455	335	2,137,254	12.65%

\* Estimated based on contribution rate of 12.67% and covered valuation payroll of \$2,137,254.  
This number should be verified by the auditor.

## NOTES TO SCHEDULE OF CONTRIBUTIONS

### SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS USED IN THE CALCULATION OF THE 2015 CONTRIBUTION RATE\*

**Valuation Date:**

Notes Actuarially determined contribution rates are calculated as of December 31 each year, which is 12 months prior to the beginning of the fiscal year in which contributions are reported.

**Methods and Assumptions Used to Determine 2015 Contribution Rates:**

Actuarial Cost Method	Aggregate Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	Non-Taxing bodies: 10-year rolling period. Taxing bodies (Regular, SLEP and ECO groups): 28-year closed period until remaining period reaches 15 years (then 15-year rolling period). Early Retirement Incentive Plan liabilities: a period up to 10 years selected by the Employer upon adoption of ERI. SLEP supplemental liabilities attributable to Public Act 94-712 were financed over 23 years for most employers (two employers were financed over 32 years).
Asset Valuation Method	5-Year smoothed market; 20% corridor
Wage growth	4.00%
Price Inflation	3.0% – approximate; No explicit price inflation assumption is used in this valuation.
Salary Increases	4.40% to 16.00% including inflation
Investment Rate of Return	7.50%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2011 valuation pursuant to an experience study of the period 2008 - 2010.
Mortality	RP-2000 Combined Healthy Mortality Table, adjusted for mortality improvements to 2020 using projection scale AA. For men 120% of the table rates were used. For women 92% of the table rates were used. For disabled lives, the mortality rates are the rates applicable to non-disabled lives set forward 10 years.

**Other Information:**

Notes There were no benefit changes during the year.

\* Based on Valuation Assumptions used in the December 31, 2013 actuarial valuation

**DEVELOPMENT OF MARKET VALUE OF ASSETS****Market Value of Assets as of December 31, 2015**

1. Employee Contribution Reserve (MDF Assets from IMRF)	\$	1,603,241
2. Employer Contribution Reserve (EAF assets from IMRF)		1,744,548
3. Annuitant Reserve		6,790,279
4. Miscellaneous Adjustment*		<u>1,658</u>
5. Net Market Value	\$	10,139,726

\* Includes an adjustment factor of .000163582 on Items 1 through 4 to ensure that Market Value of Assets for all employers balances to the total Market Value of IMRF. Miscellaneous adjustments are due to various items such as suspended annuity reserve, disability benefit reserve, death benefit reserve, supplemental benefit reserve, employers with no assets, etc.

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS  
USED IN THE CALCULATION OF THE TOTAL PENSION LIABILITY**

**Methods and Assumptions Used to Determine Total Pension Liability:**

Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	Market Value of Assets
Price Inflation	2.75%
Salary Increases	3.75% to 14.50%
Investment Rate of Return	7.48%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2014 valuation pursuant to an experience study of the period 2011-2013.
Mortality	For non-disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2014 (base year 2014). The IMRF specific rates were developed from the RP-2014 Blue Collar Health Annuitant Mortality Table with adjustments to match current IMRF experience. For disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2014 (base year 2014). The IMRF specific rates were developed from the RP-2014 Disabled Retirees Mortality Table applying the same adjustment that were applied for non-disabled lives. For active members, an IMRF specific mortality table was used with fully generational projection scale MP-2014 (base year 2014). The IMRF specific rates were developed from the RP-2014 Employee Mortality Table with adjustments to match current IMRF experience.

**Other Information:**

Notes	There were no benefit changes during the year.
-------	--

A detailed description of the actuarial assumptions and methods can be found in the December 31, 2015 Illinois Municipal Retirement Fund annual actuarial valuation report.

---

**SECTION C**

**CALCULATION OF THE SINGLE DISCOUNT RATE**

---

## CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 68 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a "risk-free" rate is required, as described in the following paragraph.

The *Single Discount Rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.57%; and the resulting single discount rate is 7.48%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

Expected Contributions are developed based on the following:

- Member Contributions for current members
- Normal Cost contributions for current members
- Unfunded Liability contributions for current and future members.

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

**SINGLE DISCOUNT RATE DEVELOPMENT  
PROJECTION OF CONTRIBUTIONS**

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions
0	\$ 2,137,254				
1	2,125,788	\$ 95,660	\$ 145,201	\$ 97,589	\$ 338,450
2	1,944,015	87,481	129,120	77,206	293,807
3	1,793,307	80,699	117,331	81,985	280,015
4	1,657,304	74,579	108,269	87,143	269,990
5	1,529,293	68,818	99,602	92,719	261,139
6	1,415,970	63,719	91,519	98,757	253,995
7	1,316,290	59,233	84,424	102,213	245,870
8	1,222,563	55,015	77,563	105,791	238,369
9	1,134,397	51,048	71,182	109,493	231,723
10	1,051,470	47,316	65,144	113,326	225,785
11	976,055	43,922	59,793	117,292	221,008
12	907,393	40,833	54,957	121,397	217,187
13	842,802	37,926	50,627	125,646	214,199
14	784,032	35,281	46,708	123,484	205,473
15	729,919	32,846	43,194	121,359	197,399
16	682,665	30,720	40,195	119,270	190,185
17	639,285	28,768	37,450	117,217	183,435
18	594,732	26,763	34,663	115,200	176,626
19	552,688	24,871	32,048	113,217	170,136
20	517,936	23,307	29,776	111,269	164,352
21	489,206	22,014	27,930	109,354	159,298
22	464,651	20,909	26,344	107,472	154,725
23	444,296	19,993	24,925	105,622	150,541
24	426,309	19,184	23,705	103,804	146,693
25	410,713	18,482	22,634	102,018	143,134
26	396,462	17,841	21,652	100,262	139,754
27	382,254	17,201	20,686	98,536	136,424
28	368,894	16,600	19,817	96,840	133,257
29	343,581	15,461	18,321	95,173	128,955
30	310,856	13,989	16,298	93,535	123,822
31	272,887	12,280	13,956	91,926	118,161
32	234,141	10,536	11,811	90,344	112,691
33	208,087	9,364	10,394	88,789	108,546
34	186,100	8,375	9,166	87,261	104,801
35	152,573	6,866	7,439	85,759	100,064
36	106,229	4,780	5,201	84,283	94,264
37	79,595	3,582	3,960	82,832	90,374
38	51,067	2,298	2,551	81,407	86,255
39	20,578	926	1,063	80,006	81,994
40	10,906	491	643	78,629	79,763
41	7,173	323	467	77,275	78,065
42	5,197	234	362	75,945	76,541
43	3,929	177	278	74,638	75,093
44	3,204	144	226	73,354	73,723
45	2,529	114	181	72,091	72,386
46	1,877	84	134	70,851	71,069
47	1,438	65	105	69,631	69,800
48	1,179	53	85	68,433	68,571
49	965	43	69	67,255	67,368
50	711	32	52	66,098	66,182

**SINGLE DISCOUNT RATE DEVELOPMENT  
PROJECTION OF CONTRIBUTIONS (CONCLUDED)**

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions
51	\$ 495	\$ 22	\$ 35	\$ 64,960	\$ 65,017
52	404	18	29	63,842	63,889
53	328	15	23	62,743	62,781
54	152	7	11	61,663	61,681
55	0	0	0	60,602	60,602
56	0	0	0	59,559	59,559
57	0	0	0	58,534	58,534
58	0	0	0	57,527	57,527
59	0	0	0	56,537	56,537
60	0	0	0	55,564	55,564
61	0	0	0	54,607	54,607
62	0	0	0	53,667	53,667
63	0	0	0	52,744	52,744
64	0	0	0	51,836	51,836
65	0	0	0	50,944	50,944
66	0	0	0	50,067	50,067
67	0	0	0	49,205	49,205
68	0	0	0	48,359	48,359
69	0	0	0	47,526	47,526
70	0	0	0	46,708	46,708
71	0	0	0	45,904	45,904
72	0	0	0	45,114	45,114
73	0	0	0	44,338	44,338
74	0	0	0	43,575	43,575
75	0	0	0	42,825	42,825
76	0	0	0	42,088	42,088
77	0	0	0	41,363	41,363
78	0	0	0	40,651	40,651
79	0	0	0	39,952	39,952
80	0	0	0	39,264	39,264
81	0	0	0	38,589	38,589
82	0	0	0	37,924	37,924
83	0	0	0	37,272	37,272
84	0	0	0	36,630	36,630
85	0	0	0	36,000	36,000
86	0	0	0	35,380	35,380
87	0	0	0	34,771	34,771
88	0	0	0	34,173	34,173
89	0	0	0	33,585	33,585
90	0	0	0	33,007	33,007
91	0	0	0	32,439	32,439
92	0	0	0	31,880	31,880
93	0	0	0	31,332	31,332
94	0	0	0	30,792	30,792
95	0	0	0	30,262	30,262
96	0	0	0	29,742	29,742
97	0	0	0	29,230	29,230
98	0	0	0	28,727	28,727
99	0	0	0	28,232	28,232
100	0	0	0	27,746	27,746



**SINGLE DISCOUNT RATE DEVELOPMENT  
PROJECTION OF PLAN FIDUCIARY NET POSITION**

Year	Projected Beginning	Projected Total	Projected Benefit	Projected	Projected Ending Plan
	Plan Net Position	Contributions	Payments	Investment Earnings at 7.50%	Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
1	\$ 10,139,726	\$ 338,450	\$ 647,711	\$ 749,092	\$ 10,579,558
2	10,579,558	293,807	692,841	778,774	10,959,298
3	10,959,298	280,015	731,449	805,325	11,313,189
4	11,313,189	269,990	776,388	829,843	11,636,634
5	11,636,634	261,139	831,287	851,754	11,918,241
6	11,918,241	253,995	875,511	870,983	12,167,707
7	12,167,707	245,870	920,924	887,721	12,380,373
8	12,380,373	238,369	967,616	901,676	12,552,802
9	12,552,802	231,723	1,005,997	912,950	12,691,478
10	12,691,478	225,785	1,042,226	921,798	12,796,835
11	12,796,835	221,008	1,083,509	928,004	12,862,338
12	12,862,338	217,487	1,115,704	931,590	12,895,411
13	12,895,411	214,199	1,143,951	932,920	12,898,580
14	12,898,580	205,473	1,167,833	931,957	12,868,178
15	12,868,178	197,399	1,186,859	928,679	12,807,398
16	12,807,398	190,185	1,200,472	923,354	12,720,464
17	12,720,464	183,435	1,212,660	916,137	12,607,376
18	12,607,376	176,626	1,223,848	906,992	12,467,147
19	12,467,147	170,136	1,230,011	896,009	12,303,281
20	12,303,281	164,352	1,231,334	883,458	12,119,757
21	12,119,757	159,298	1,227,434	869,651	11,921,272
22	11,921,272	154,725	1,221,454	854,816	11,709,359
23	11,709,359	150,541	1,227,815	838,534	11,470,619
24	11,470,619	146,693	1,212,948	821,035	11,225,399
25	11,225,399	143,134	1,195,487	803,155	10,976,200
26	10,976,200	139,754	1,174,814	785,102	10,726,243
27	10,726,243	136,424	1,151,229	767,101	10,478,539
28	10,478,539	133,257	1,124,864	749,377	10,236,310
29	10,236,310	128,955	1,113,830	731,458	9,982,894
30	9,982,894	123,822	1,101,905	712,702	9,717,513
31	9,717,513	118,161	1,085,940	693,178	9,442,912
32	9,442,912	112,691	1,065,698	673,127	9,163,032
33	9,163,032	108,546	1,042,783	652,827	8,881,622
34	8,881,622	104,801	1,014,323	632,631	8,604,732
35	8,604,732	100,064	1,006,665	611,972	8,310,102
36	8,310,102	94,264	1,002,128	589,828	7,992,067
37	7,992,067	90,374	974,756	566,840	7,674,525
38	7,674,525	86,255	970,249	543,039	7,333,570
39	7,333,570	81,994	956,918	517,801	6,976,448
40	6,976,448	79,763	920,010	492,294	6,628,494
41	6,628,494	78,065	881,395	467,557	6,292,721
42	6,292,721	76,541	843,191	443,724	5,969,797
43	5,969,797	75,093	805,948	420,823	5,659,765
44	5,659,765	73,723	770,308	398,833	5,362,013
45	5,362,013	72,386	736,099	377,712	5,076,012
46	5,076,012	71,069	703,374	357,418	4,801,125
47	4,801,125	69,800	672,090	337,907	4,536,743
48	4,536,743	68,571	642,404	319,126	4,282,035
49	4,282,035	67,368	614,243	301,016	4,036,176
50	4,036,176	66,182	587,691	283,510	3,798,176

**SINGLE DISCOUNT RATE DEVELOPMENT**  
**PROJECTION OF PLAN FIDUCIARY NET POSITION (CONCLUDED)**

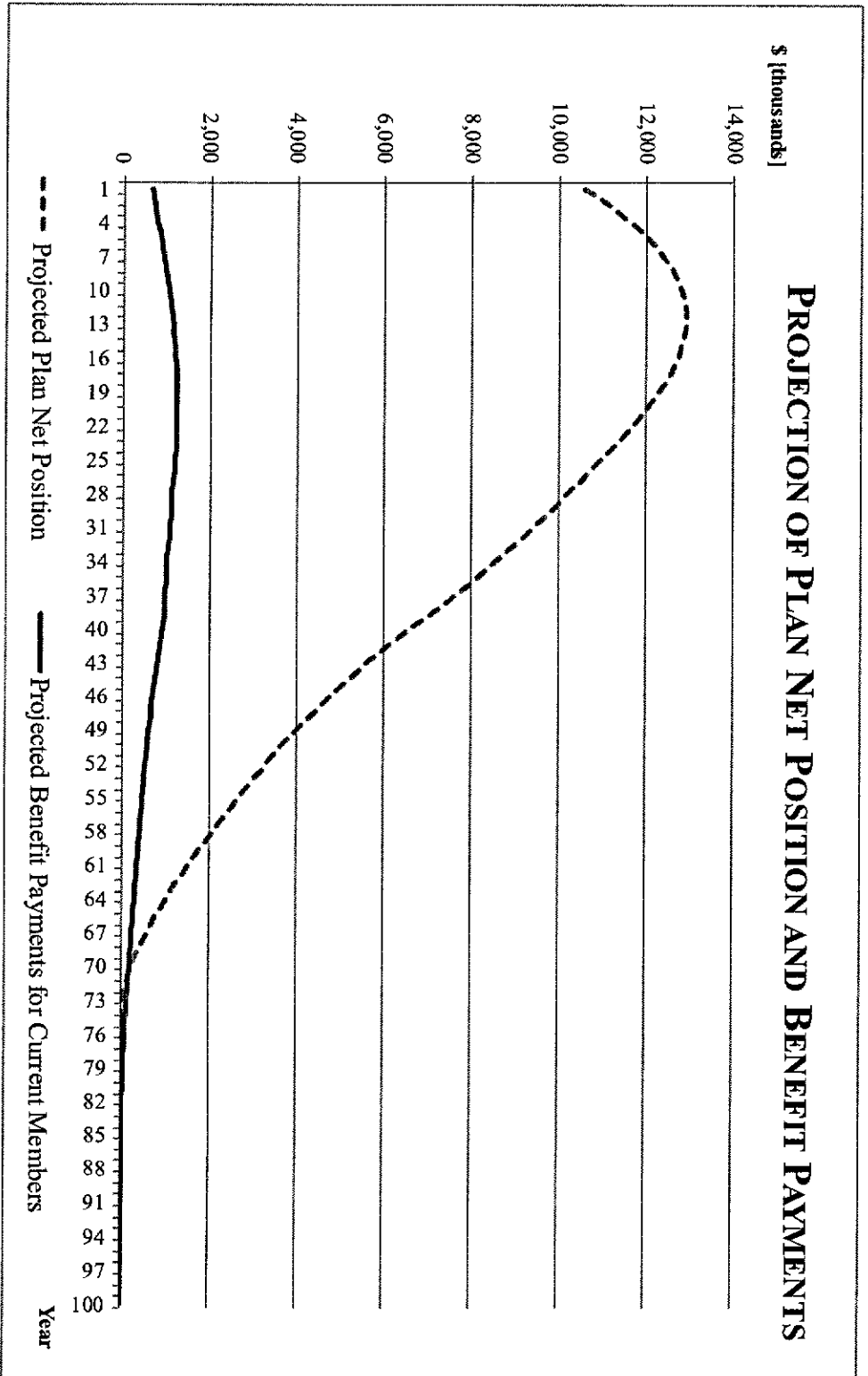
Year	Projected Beginning	Projected Total	Projected Benefit	Projected	Projected Ending Plan
	Plan Net Position	Contributions	Payments	Investment Earnings at 7.50%	Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
51	\$ 3,798,176	\$ 65,017	\$ 562,410	\$ 266,548	\$ 3,567,332
52	3,567,332	63,889	538,321	250,080	3,342,980
53	3,342,980	62,781	515,342	234,059	3,124,479
54	3,124,479	61,681	493,476	218,436	2,911,120
55	2,911,120	60,602	472,257	203,176	2,702,641
56	2,702,641	59,559	451,573	188,263	2,498,891
57	2,498,891	58,534	431,392	173,687	2,299,719
58	2,299,719	57,527	411,591	159,442	2,105,097
59	2,105,097	56,537	392,042	145,528	1,915,120
60	1,915,120	55,564	372,635	131,959	1,730,007
61	1,730,007	54,607	353,281	118,753	1,550,085
62	1,550,085	53,667	333,906	105,937	1,375,784
63	1,375,784	52,744	314,469	93,547	1,207,606
64	1,207,606	51,836	294,938	81,619	1,046,123
65	1,046,123	50,944	275,316	70,197	891,948
66	891,948	50,067	255,647	59,326	745,694
67	745,694	49,205	236,000	49,049	607,949
68	607,949	48,359	216,464	39,406	479,250
69	479,250	47,526	197,146	30,434	360,064
70	360,064	46,708	178,150	22,165	250,788
71	250,788	45,904	159,591	14,623	151,724
72	151,724	45,114	141,592	7,827	63,072
73	63,072	44,338	124,268	1,787	0
74	0	43,575	107,757	0	0
75	0	42,825	92,195	0	0
76	0	42,088	77,705	0	0
77	0	41,363	64,428	0	0
78	0	40,651	52,490	0	0
79	0	39,952	41,952	0	0
80	0	39,264	32,837	0	0
81	0	38,589	25,134	0	0
82	0	37,924	18,785	0	0
83	0	37,272	13,678	0	0
84	0	36,630	9,681	0	0
85	0	36,000	6,648	0	0
86	0	35,380	4,423	0	0
87	0	34,771	2,843	0	0
88	0	34,173	1,758	0	0
89	0	33,585	1,044	0	0
90	0	33,007	593	0	0
91	0	32,439	321	0	0
92	0	31,880	168	0	0
93	0	31,332	85	0	0
94	0	30,792	42	0	0
95	0	30,262	20	0	0
96	0	29,742	9	0	0
97	0	29,230	2	0	0
98	0	28,727	0	0	0
99	0	28,232	0	0	0
100	0	27,746	0	0	0

**SINGLE DISCOUNT RATE DEVELOPMENT  
PRESENT VALUES OF PROJECTED BENEFITS**

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf^((a)-.5)	(h)=((c)/(1+sdr)^((a)-.5)
1	\$ 10,139,726	\$ 647,711	\$ 647,711	\$ 0	\$ 624,708	\$ 0	\$ 624,775
2	10,579,558	692,841	692,841	0	621,614	0	621,816
3	10,959,298	731,449	731,449	0	610,468	0	610,799
4	11,313,189	776,388	776,388	0	602,766	0	603,224
5	11,636,634	831,287	831,287	0	600,361	0	600,947
6	11,918,241	875,511	875,511	0	588,187	0	588,888
7	12,167,707	920,924	920,924	0	575,531	0	576,342
8	12,380,373	967,616	967,616	0	562,522	0	563,437
9	12,552,802	1,005,997	1,005,997	0	544,033	0	545,035
10	12,691,478	1,042,226	1,042,226	0	524,302	0	525,382
11	12,796,835	1,083,509	1,083,509	0	507,042	0	508,197
12	12,862,338	1,115,704	1,115,704	0	485,681	0	486,893
13	12,895,411	1,143,951	1,143,951	0	463,235	0	464,492
14	12,898,580	1,167,833	1,167,833	0	439,913	0	441,201
15	12,868,178	1,186,859	1,186,859	0	415,888	0	417,197
16	12,807,398	1,200,472	1,200,472	0	391,310	0	392,626
17	12,720,464	1,212,660	1,212,660	0	367,705	0	369,022
18	12,607,376	1,223,848	1,223,848	0	345,207	0	346,518
19	12,467,147	1,230,011	1,230,011	0	322,740	0	324,036
20	12,303,281	1,231,334	1,231,334	0	300,546	0	301,819
21	12,119,757	1,227,434	1,227,434	0	278,692	0	279,933
22	11,921,272	1,221,454	1,221,454	0	257,985	0	259,190
23	11,709,359	1,227,815	1,227,815	0	241,236	0	242,415
24	11,470,619	1,212,948	1,212,948	0	221,689	0	222,820
25	11,225,399	1,195,487	1,195,487	0	203,253	0	204,335
26	10,976,200	1,174,814	1,174,814	0	185,803	0	186,833
27	10,726,243	1,151,229	1,151,229	0	169,370	0	170,346
28	10,478,539	1,124,864	1,124,864	0	153,946	0	154,866
29	10,236,310	1,113,830	1,113,830	0	141,801	0	142,679
30	9,982,894	1,101,905	1,101,905	0	130,495	0	131,332
31	9,717,513	1,085,940	1,085,940	0	119,632	0	120,425
32	9,442,912	1,065,698	1,065,698	0	109,211	0	109,959
33	9,163,032	1,042,783	1,042,783	0	99,407	0	100,110
34	8,881,622	1,014,323	1,014,323	0	89,948	0	90,604
35	8,604,732	1,006,665	1,006,665	0	83,041	0	83,664
36	8,310,102	1,002,128	1,002,128	0	76,899	0	77,493
37	7,992,067	974,756	974,756	0	69,580	0	70,133
38	7,674,525	970,249	970,249	0	64,427	0	64,952
39	7,333,570	956,918	956,918	0	59,108	0	59,603
40	6,976,448	920,010	920,010	0	52,864	0	53,318
41	6,628,494	881,395	881,395	0	47,112	0	47,527
42	6,292,721	843,191	843,191	0	41,925	0	42,304
43	5,969,797	805,948	805,948	0	37,278	0	37,622
44	5,659,765	770,308	770,308	0	33,143	0	33,457
45	5,362,013	736,099	736,099	0	29,462	0	29,747
46	5,076,012	703,374	703,374	0	26,188	0	26,447
47	4,801,125	672,090	672,090	0	23,277	0	23,513
48	4,536,743	642,404	642,404	0	20,697	0	20,911
49	4,282,035	614,243	614,243	0	18,409	0	18,603
50	4,036,176	587,691	587,691	0	16,384	0	16,561

### SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (r)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (rf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>a</sup> ((a)-5)	(g)=(e)*v <sup>a</sup> ((a)-5)	(h)=(c)/(1+sdr) <sup>a</sup> ((a)-5)
51	\$ 3,798,176	\$ 562,410	\$ 562,410	\$ 0	\$ 14,586	\$ 0	\$ 14,746
52	3,567,332	538,321	538,321	0	12,987	0	13,133
53	3,342,980	515,342	515,342	0	11,565	0	11,697
54	3,124,479	493,476	493,476	0	10,302	0	10,422
55	2,911,120	472,257	472,257	0	9,171	0	9,280
56	2,702,641	451,573	451,573	0	8,158	0	8,256
57	2,498,891	431,392	431,392	0	7,249	0	7,339
58	2,299,719	411,591	411,591	0	6,434	0	6,515
59	2,105,097	392,042	392,042	0	5,701	0	5,774
60	1,915,120	372,635	372,635	0	5,041	0	5,106
61	1,730,007	353,281	353,281	0	4,445	0	4,504
62	1,550,085	333,906	333,906	0	3,908	0	3,961
63	1,375,784	314,469	314,469	0	3,424	0	3,471
64	1,207,606	294,938	294,938	0	2,987	0	3,029
65	1,046,123	275,316	275,316	0	2,594	0	2,631
66	891,948	255,647	255,647	0	2,241	0	2,273
67	745,694	236,000	236,000	0	1,924	0	1,952
68	607,949	216,464	216,464	0	1,642	0	1,666
69	479,250	197,146	197,146	0	1,391	0	1,412
70	360,064	178,150	178,150	0	1,169	0	1,187
71	250,788	159,591	159,591	0	974	0	989
72	151,724	141,592	141,592	0	804	0	817
73	63,072	124,268	65,395	58,874	345	4,629	667
74	0	107,757	0	107,757	0	8,180	538
75	0	92,195	0	92,195	0	6,757	428
76	0	77,705	0	77,705	0	5,499	336
77	0	64,428	0	64,428	0	4,402	259
78	0	52,490	0	52,490	0	3,463	196
79	0	41,952	0	41,952	0	2,672	146
80	0	32,837	0	32,837	0	2,020	106
81	0	25,134	0	25,134	0	1,493	76
82	0	18,785	0	18,785	0	1,077	53
83	0	13,678	0	13,678	0	757	36
84	0	9,681	0	9,681	0	517	24
85	0	6,648	0	6,648	0	343	15
86	0	4,423	0	4,423	0	220	9
87	0	2,843	0	2,843	0	137	6
88	0	1,758	0	1,758	0	82	3
89	0	1,044	0	1,044	0	47	2
90	0	593	0	593	0	26	1
91	0	321	0	321	0	13	0
92	0	168	0	168	0	7	0
93	0	85	0	85	0	3	0
94	0	42	0	42	0	2	0
95	0	20	0	20	0	1	0
96	0	9	0	9	0	0	0
97	0	2	0	2	0	0	0
98	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
<b>Totals</b>	<b>\$ 13,115,064</b>	<b>\$ 42,347</b>	<b>\$ 13,157,411</b>				



---

**SECTION D**  
GLOSSARY OF TERMS

---

## GLOSSARY OF TERMS

<b><i>Actuarial Accrued Liability (AAL)</i></b>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<b><i>Actuarial Assumptions</i></b>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<b><i>Accrued Service</i></b>	Service credited under the system which was rendered before the date of the actuarial valuation.
<b><i>Actuarial Equivalent</i></b>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<b><i>Actuarial Cost Method</i></b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<b><i>Actuarial Gain (Loss)</i></b>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<b><i>Actuarial Present Value (APV)</i></b>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<b><i>Actuarial Valuation</i></b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

## GLOSSARY OF TERMS (CONTINUED)

<b><i>Amortization Payment</i></b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b><i>Amortization Method</i></b>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year).
<b><i>Cost-of-Living Adjustments</i></b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b><i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i></b>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<b><i>Covered Valuation Payroll</i></b>	The earnings of covered employees for the year ended on the valuation date, which is typically only the pensionable pay and does not include pay above any pay cap. It is not necessarily the same as payroll actually paid because it excludes all pay for people who exited during the year.
<b><i>Deferred Inflows and Outflows</i></b>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<b><i>Discount Rate</i></b>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"> <li>1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and</li> <li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li> </ol>
<b><i>Entry Age Actuarial Cost Method (EAN)</i></b>	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.



## GLOSSARY OF TERMS (CONTINUED)

<b><i>GASB</i></b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b><i>Fiduciary Net Position</i></b>	The fiduciary net position is the value of the assets of the trust.
<b><i>Long-Term Expected Rate of Return</i></b>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<b><i>Money-Weighted Rate of Return</i></b>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 68, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<b><i>Multiple-Employer Defined Benefit Pension Plan</i></b>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<b><i>Municipal Bond Rate</i></b>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<b><i>Net Pension Liability (NPL)</i></b>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<b><i>Non-Employer Contribution Entities</i></b>	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
<b><i>Normal Cost</i></b>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.
<b><i>Other Postemployment Benefits (OPEB)</i></b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
<b><i>Real Rate of Return</i></b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b><i>Service Cost</i></b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

**GLOSSARY OF TERMS (CONCLUDED)**

<b><i>Total Pension Expense</i></b>	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none"><li>1. Service Cost;</li><li>2. Interest on the Total Pension Liability;</li><li>3. Current-Period Benefit Changes;</li><li>4. Employee Contributions (made negative for addition here);</li><li>5. Projected Earnings on Plan Investments (made negative for addition here);</li><li>6. Pension Plan Administrative Expense;</li><li>7. Other Changes in Plan Fiduciary Net Position;</li><li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities; and</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assets.</li></ol>
<b><i>Total Pension Liability (TPL)</i></b>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b><i>Valuation Assets</i></b>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 68, the valuation asset is equal to the market value of assets.