GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

ARLINGTON HEIGHTS PARK DIST REGULAR

GASB STATEMENT NO. 68 EMPLOYER REPORTING
ACCOUNTING SCHEDULES
DECEMBER 31, 2016

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GRS

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April 17, 2017

Arlington Heights Park Dist
Illinois Municipal Retirement Fund

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 fund'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 Arlington Heights Park Dist only in its entirety and only with the permission of Arlington Heights Park Dist.

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 audited.

Please see the actuarial valuation report for the Illinois Municipal Retirement Fund as of December 31, 2016 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 related to Arlington Heights Park Dist. 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
Mark Buis
FSA, EA, MAAA

By Pieterse
Francois Pieterse
ASA, MAAA

SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY
AS OF DECEMBER 31, 2016

Actuarial Valuation Date		December 31, 2016
Measurement Date of the Net Pension Liability		December 31, 2016
Fiscal Year End		April 30, 2017
Membership		
Number of		
- Retirees and Beneficiaries		164
- Inactive, Non-Retired Members		146
- Active Members		122
- Total		432
Covered Valuation Payroll[1]	$	7,767,307
Net Pension Liability		
Total Pension Liability/(Asset)	$	53,410,141
Plan Fiduciary Net Position		42,424,522
Net Pension Liability/(Asset)	$	10,985,619
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		79.43%
Net Pension Liability as a Percentage of Covered Valuation Payroll		141.43%
Development of the Single Discount Rate as of December 31, 2016		
Long-Term Expected Rate of Investment Return		7.50%
Long-Term Municipal Bond Rate[2]		3.78%
Last year ending December 31 in the 2017 to 2116 projection period for which projected benefit payments are fully funded		2116
Resulting Single Discount Rate based on the above development		7.50%
Single Discount Rate calculated using December 31, 2015 Measurement Date		7.47%
Total Pension Expense/(Income)	$	2,283,219

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$ 1,733,560	$ 0
Changes in assumptions	23,480	129,532
Net difference between projected and actual earnings on pension plan investments	1,974,685	0
Total	$ 3,731,725	$ 129,532

(1) Does not necessarily represent Covered Employee Payroll as defined in GASB Statement Nos. 67-68.

(2) Source: "20-Bond GO Index" is the 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. The rate shown is as of December 29, 2016, the most recent date available on or before the measurement date.

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 fund 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, 2016.

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, 2016 Annual Actuarial Valuation report dated March 22, 2017);
- 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, 2016 Annual Actuarial Valuation report dated March 22, 2017, 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 fund 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, 2016 and a measurement date of December 31, 2016.

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 3.78% (based on the weekly rate closest to but not later than the measurement date of the "20-Bond Go Index" described on page 1 and the resulting Single Discount Rate is 7.50%.

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 2116 and a discount rate of 7.5%. 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, 2016

A. Expense/(Income)

1. Service Cost	$	809,218
2. Interest on the Total Pension Liability		3,609,206
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(349,656)
5. Projected Earnings on Plan Investments (made negative for addition here)		(3,002,414)
6. Other Changes in Plan Fiduciary Net Position		(184,143)
7. Recognition of Outflow (Inflow) of Resources due to Liabilities		766,812
8. Recognition of Outflow (Inflow) of Resources due to Assets		634,196
9. Total Pension Expense/(Income)	**$**	**2,283,219**

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD
CALENDAR YEAR ENDED DECEMBER 31, 2016

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	2,343,249
2. Assumption Changes (gains) or losses	$	(187,209)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		3.2458
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	$	721,933
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	$	(57,677)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$	664,256
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	$	1,621,316
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	$	(129,532)
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	$	1,491,784
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	360,491
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	$	72,098
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	288,393

* *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, 2016

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	$ 824,489	$ 57,677	$ 766,812
2. Due to Assets	634,196	0	634,196
3. Total	$ 1,458,685	$ 57,677	$ 1,401,008

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	$ 806,747	$ 0	$ 806,747
2. Assumption changes	17,742	57,677	$ (39,935)
3. Net difference between projected and actual earnings on pension plan investments	634,196	0	634,196
4. Total	$ 1,458,685	$ 57,677	$ 1,401,008

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	$ 1,733,560	$ 0	$ 1,733,560
2. Assumption changes	23,480	129,532	$ (106,052)
3. Net difference between projected and actual earnings on pension plan investments	1,974,685	0	1,974,685
4. Total	$ 3,731,725	$ 129,532	$ 3,602,193

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
2017	$ 1,401,008
2018	1,331,620
2019	797,466
2020	72,099
2021	0
Thereafter	0
Total	$ 3,602,193

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS CURRENT PERIOD

CALENDAR YEAR ENDED DECEMBER 31, 2016

A. Total pension liability		
1. Service Cost	$	809,218
2. Interest on the Total Pension Liability		3,609,206
3. Changes of benefit terms		0
4. Difference between expected and actual experience of the Total Pension Liability		2,343,249
5. Changes of assumptions		(187,209)
6. Benefit payments, including refunds of employee contributions		(2,151,447)
7. Net change in total pension liability	$	4,423,017
8. Total pension liability – beginning		48,987,124
9. Total pension liability – ending	**$**	**53,410,141**
B. Plan fiduciary net position		
1. Contributions – employer	$	1,118,470
2. Contributions – employee		349,656
3. Net investment income		2,641,923
4. Benefit payments, including refunds of employee contributions		(2,151,447)
5. Other (Net Transfer)		184,143
6. Net change in plan fiduciary net position	$	2,142,745
7. Plan fiduciary net position – beginning		40,281,777
8. Plan fiduciary net position – ending	**$**	**42,424,522**
C. Net pension liability/(asset)	**$**	**10,985,619**
D. Plan fiduciary net position as a percentage of the total pension liability		**79.43%**
E. Covered Valuation payroll	**$**	**7,767,307**
F. Net pension liability as a percentage of covered valuation payroll		**141.43%**

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

	1% Decrease 6.50%	Current Single Discount Rate Assumption 7.50%	1% Increase 8.50%
Total Pension Liability	$ 60,143,688	$ 53,410,141	$ 47,871,519
Plan Fiduciary Net Position	42,424,522	42,424,522	42,424,522
Net Pension Liability/(Asset)	$ 17,719,166	$ 10,985,619	$ 5,446,997

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,	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Total Pension Liability										
Service Cost	$ 809,218	$ 789,221								
Interest on the Total Pension Liability	3,609,206	3,429,032								
Benefit Changes	0	0								
Difference between Expected and Actual Experience	2,343,249	281,872								
Assumption Changes	(187,209)	58,964								
Benefit Payments and Refunds	(2,151,447)	(2,040,059)								
Net Change in Total Pension Liability	4,423,017	2,519,030								
Total Pension Liability - Beginning	48,987,124	46,468,094								
Total Pension Liability - Ending (a)	$ 53,410,141	$ 48,987,124								
Plan Fiduciary Net Position										
Employer Contributions	$ 1,118,470	$ 1,105,091								
Employee Contributions	349,656	350,591								
Pension Plan Net Investment Income	2,641,923	199,453								
Benefit Payments and Refunds	(2,151,447)	(2,040,059)								
Other	184,143	483,935								
Net Change in Plan Fiduciary Net Position	2,142,745	99,011								
Plan Fiduciary Net Position - Beginning	40,281,777	40,182,766								
Plan Fiduciary Net Position - Ending (b)	$ 42,424,522	$ 40,281,777								
Net Pension Liability/(Asset) - Ending (a) - (b)	10,985,619	8,705,347								
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	79.43%	82.23 %								
Covered Valuation Payroll	$ 7,767,307	$ 7,574,305								
Net Pension Liability as a Percentage of Covered Valuation Payroll	141.43%	114.93 %								

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
2015	$ 1,105,091	$ 1,105,091	$ 0	$ 7,574,305	14.59%
2016	1,118,492 *	1,118,470	22	7,767,307	14.40%

* *Estimated based on contribution rate of 14.40% and covered valuation payroll of $7,767,307.*
  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 2016 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 2016 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): 27-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 22 years for most employers (two employers were financed over 31 years).
Asset Valuation Method	5-Year smoothed market; 20% corridor
Wage growth	3.50%
Price Inflation	2.75% -- approximate; No explicit price inflation assumption is used in this valuation.
Salary Increases	3.75% to 14.50% 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 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 2012). 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 2012). 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 2012). 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.

* *Based on Valuation Assumptions used in the December 31, 2014 actuarial valuation*

Development of Market Value of Assets

Market Value of Assets as of December 31, 2016

1. Employee Contribution Reserve (MDF Assets from IMRF)	$	6,726,126
2. Employer Contribution Reserve (EAF assets from IMRF)		2,908,380
3. Annuitant Reserve		32,702,911
4. Miscellaneous Adjustment*		87,105
5. Net Market Value	$	42,424,522

* *Includes an adjustment factor of .002057409* 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.*

Schedule of Contributions

Total Contributions		
1. Employer		
a.) Wage Reporting	$	1,118,470
b.) Accelerated payments and Reserve Payments		-
	$	**1,118,470**
2. Member		
a.) Wage Reporting	$	349,522
b.) Member Payments (i.e. ERI, Pension Payments)		134
Sub-total (Amount used for valuation on Schedule of Changes Page 10)	**$**	**349,656**
c.) Voluntary Additional Plan	$	32,289
Total Member Contributions (a+b+c)	**$**	**381,945**
Total Employer and Member Contributions (1+2)	**$**	**1,500,415**

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	7.50%
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 2012). 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 2012). 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 2012). 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, 2016 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 3.78%; and the resulting single discount rate is 7.50%.

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	$ 7,767,307				
1	6,270,711	$ 282,182	$ 446,434	$ 476,826	$ 1,205,442
2	5,984,484	269,302	412,352	662,375	1,344,028
3	5,724,135	257,586	392,133	692,993	1,342,713
4	5,491,138	247,101	376,172	725,455	1,348,728
5	5,264,308	236,894	360,633	759,920	1,357,447
6	5,042,914	226,931	345,466	786,233	1,358,630
7	4,852,143	218,346	331,914	813,751	1,364,012
8	4,679,994	210,600	319,672	842,232	1,372,504
9	4,497,788	202,401	306,331	871,710	1,380,442
10	4,317,528	194,289	293,624	902,220	1,390,133
11	4,159,138	187,161	282,024	933,798	1,402,983
12	3,992,086	179,644	269,902	966,481	1,416,026
13	3,814,808	171,666	257,536	1,000,308	1,429,510
14	3,653,685	164,416	245,931	1,035,318	1,445,665
15	3,486,361	156,886	233,974	1,071,555	1,462,415
16	3,303,512	148,658	220,716	1,109,059	1,478,433
17	3,131,733	140,928	208,304	1,147,876	1,497,108
18	2,954,952	132,973	195,369	1,188,052	1,516,393
19	2,773,611	124,813	182,551	1,229,633	1,536,997
20	2,617,209	117,774	171,475	1,272,671	1,561,920
21	2,479,767	111,589	161,729	1,317,214	1,590,533
22	2,349,344	105,720	152,288	1,363,316	1,621,324
23	2,216,595	99,747	143,021	1,411,032	1,653,800
24	2,090,612	94,078	134,059	1,460,419	1,688,555
25	1,970,433	88,669	125,568	1,511,533	1,725,771
26	1,836,397	82,638	116,112	1,564,437	1,763,187
27	1,683,847	75,773	105,461	(0)	181,234
28	1,515,024	68,176	93,831	0	162,007
29	1,341,944	60,388	82,043	(0)	142,430
30	1,186,823	53,407	71,496	(0)	124,903
31	1,044,122	46,985	61,756	0	108,741
32	880,443	39,620	51,110	0	90,730
33	708,753	31,894	40,791	0	72,685
34	562,899	25,330	32,453	0	57,783
35	443,788	19,970	25,762	(0)	45,733
36	331,875	14,934	19,332	(0)	34,266
37	239,435	10,775	14,138	0	24,912
38	175,573	7,901	10,629	0	18,530
39	128,919	5,801	7,972	0	13,773
40	92,175	4,148	5,846	0	9,994
41	59,800	2,691	3,906	(0)	6,597
42	45,225	2,035	3,161	(0)	5,196
43	35,453	1,595	2,545	0	4,141
44	27,822	1,252	2,020	0	3,272
45	20,331	915	1,476	0	2,391
46	13,828	622	1,006	0	1,629
47	10,619	478	769	(0)	1,247
48	8,297	373	601	(0)	974
49	5,601	252	408	0	660
50	2,814	127	203	0	330

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

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	$ 1,370	$ 62	$ 98	$ 0	$ 160
52	835	38	60	0	98
53	215	10	15	(0)	25
54	0	0	0	0	0
55	0	0	0	0	0
56	0	0	0	0	0
57	0	0	0	0	0
58	0	0	0	0	0
59	0	0	0	0	0
60	0	0	0	0	0
61	0	0	0	0	0
62	0	0	0	0	0
63	0	0	0	0	0
64	0	0	0	0	0
65	0	0	0	0	0
66	0	0	0	0	0
67	0	0	0	0	0
68	0	0	0	0	0
69	0	0	0	0	0
70	0	0	0	0	0
71	0	0	0	0	0
72	0	0	0	0	0
73	0	0	0	0	0
74	0	0	0	0	0
75	0	0	0	0	0
76	0	0	0	0	0
77	0	0	0	0	0
78	0	0	0	0	0
79	0	0	0	0	0
80	0	0	0	0	0
81	0	0	0	0	0
82	0	0	0	0	0
83	0	0	0	0	0
84	0	0	0	0	0
85	0	0	0	0	0
86	0	0	0	0	0
87	0	0	0	0	0
88	0	0	0	0	0
89	0	0	0	0	0
90	0	0	0	0	0
91	0	0	0	0	0
92	0	0	0	0	0
93	0	0	0	0	0
94	0	0	0	0	0
95	0	0	0	0	0
96	0	0	0	0	0
97	0	0	0	0	0
98	0	0	0	0	0
99	0	0	0	0	0
100	0	0	0	0	0

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
1	$ 42,424,522	$ 1,205,442	$ 2,782,444	$ 3,123,771	$ 43,971,291
2	43,971,291	1,344,028	2,878,932	3,241,329	45,677,716
3	45,677,716	1,342,713	3,022,423	3,363,978	47,361,984
4	47,361,984	1,348,728	3,175,588	3,484,880	49,020,003
5	49,020,003	1,357,447	3,337,107	3,603,605	50,643,948
6	50,643,948	1,358,630	3,496,829	3,719,563	52,225,312
7	52,225,312	1,364,012	3,669,921	3,831,990	53,751,393
8	53,751,393	1,372,504	3,856,536	3,939,887	55,207,248
9	55,207,248	1,380,442	4,050,432	4,042,229	56,579,487
10	56,579,487	1,390,133	4,226,639	4,139,016	57,881,997
11	57,881,997	1,402,983	4,379,414	4,231,551	59,137,118
12	59,137,118	1,416,026	4,536,241	4,320,391	60,337,295
13	60,337,295	1,429,510	4,694,494	4,405,074	61,477,384
14	61,477,384	1,445,665	4,858,491	4,485,136	62,549,695
15	62,549,695	1,462,415	5,044,035	4,559,344	63,527,419
16	63,527,419	1,478,433	5,214,920	4,626,971	64,417,904
17	64,417,904	1,497,108	5,368,717	4,688,782	65,235,076
18	65,235,076	1,516,393	5,533,863	4,744,699	65,962,306
19	65,962,306	1,536,997	5,671,239	4,794,942	66,623,005
20	66,623,005	1,561,920	5,784,732	4,841,233	67,241,426
21	67,241,426	1,590,533	5,885,700	4,884,950	67,831,209
22	67,831,209	1,621,324	5,961,010	4,927,544	68,419,068
23	68,419,068	1,653,800	6,033,809	4,970,149	69,009,208
24	69,009,208	1,688,555	6,109,701	5,012,895	69,600,957
25	69,600,957	1,725,771	6,166,523	5,056,554	70,216,759
26	70,216,759	1,763,187	6,208,565	5,102,569	70,873,949
27	70,873,949	181,234	6,263,758	5,091,575	69,883,000
28	69,883,000	162,007	6,315,568	5,014,638	68,744,077
29	68,744,077	142,430	6,340,730	4,927,572	67,473,349
30	67,473,349	124,903	6,332,688	4,831,918	66,097,481
31	66,097,481	108,741	6,309,279	4,728,994	64,625,937
32	64,625,937	90,730	6,305,294	4,618,112	63,029,486
33	63,029,486	72,685	6,300,264	4,497,899	61,299,806
34	61,299,806	57,783	6,273,326	4,368,616	59,452,879
35	59,452,879	45,733	6,206,283	4,232,122	57,524,450
36	57,524,450	34,266	6,140,519	4,089,489	55,507,687
37	55,507,687	24,912	6,046,837	3,941,337	53,427,099
38	53,427,099	18,530	5,928,624	3,789,411	51,306,415
39	51,306,415	13,773	5,785,837	3,635,442	49,169,793
40	49,169,793	9,994	5,640,540	3,480,406	47,019,654
41	47,019,654	6,597	5,483,660	3,324,797	44,867,388
42	44,867,388	5,196	5,307,930	3,169,796	42,734,451
43	42,734,451	4,141	5,130,074	3,016,336	40,624,854
44	40,624,854	3,272	4,950,441	2,864,699	38,542,384
45	38,542,384	2,391	4,773,025	2,715,014	36,486,764
46	36,486,764	1,629	4,593,911	2,567,410	34,461,891
47	34,461,891	1,247	4,412,251	2,422,220	32,473,106
48	32,473,106	974	4,230,692	2,279,736	30,523,124
49	30,523,124	660	4,050,736	2,140,102	28,613,150
50	28,613,150	330	3,871,007	2,003,460	26,745,933

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Single Discount Rate Development
Projection of Plan Fiduciary Net Position (Concluded)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
51	$ 26,745,933	$ 160	$ 3,689,979	$ 1,870,078	$ 24,926,191
52	24,926,191	98	3,509,357	1,740,246	23,157,178
53	23,157,178	25	3,329,603	1,614,186	21,441,787
54	21,441,787	0	3,150,456	1,492,128	19,783,459
55	19,783,459	0	2,972,591	1,374,302	18,185,170
56	18,185,170	0	2,796,443	1,260,917	16,649,644
57	16,649,644	0	2,622,366	1,152,162	15,179,440
58	15,179,440	0	2,450,777	1,048,215	13,776,879
59	13,776,879	0	2,282,117	949,234	12,443,996
60	12,443,996	0	2,116,880	855,352	11,182,468
61	11,182,468	0	1,955,516	766,679	9,993,631
62	9,993,631	0	1,798,359	683,303	8,878,575
63	8,878,575	0	1,645,771	605,292	7,838,097
64	7,838,097	0	1,498,213	532,690	6,872,575
65	6,872,575	0	1,356,128	465,508	5,981,954
66	5,981,954	0	1,219,874	403,728	5,165,809
67	5,165,809	0	1,089,785	347,308	4,423,331
68	4,423,331	0	966,246	296,171	3,753,256
69	3,753,256	0	849,693	250,207	3,153,769
70	3,153,769	0	740,528	209,265	2,622,506
71	2,622,506	0	639,104	173,155	2,156,557
72	2,156,557	0	545,735	141,647	1,752,469
73	1,752,469	0	460,688	114,472	1,406,252
74	1,406,252	0	384,141	91,324	1,113,435
75	1,113,435	0	316,105	71,868	869,198
76	869,198	0	256,462	55,746	668,482
77	668,482	0	204,980	42,588	506,091
78	506,091	0	161,265	32,019	376,844
79	376,844	0	124,769	23,669	275,745
80	275,745	0	94,835	17,189	198,099
81	198,099	0	70,751	12,252	139,600
82	139,600	0	51,761	8,564	96,403
83	96,403	0	37,094	5,864	65,173
84	65,173	0	26,014	3,930	43,089
85	43,089	0	17,834	2,575	27,830
86	27,830	0	11,939	1,648	17,539
87	17,539	0	7,796	1,028	10,771
88	10,771	0	4,957	625	6,439
89	6,439	0	3,063	370	3,746
90	3,746	0	1,839	213	2,120
91	2,120	0	1,075	119	1,165
92	1,165	0	611	65	618
93	618	0	337	34	316
94	316	0	179	17	154
95	154	0	91	8	71
96	71	0	44	4	31
97	31	0	20	2	13
98	13	0	9	1	5
99	5	0	4	0	2
100	2	0	2	0	0

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS

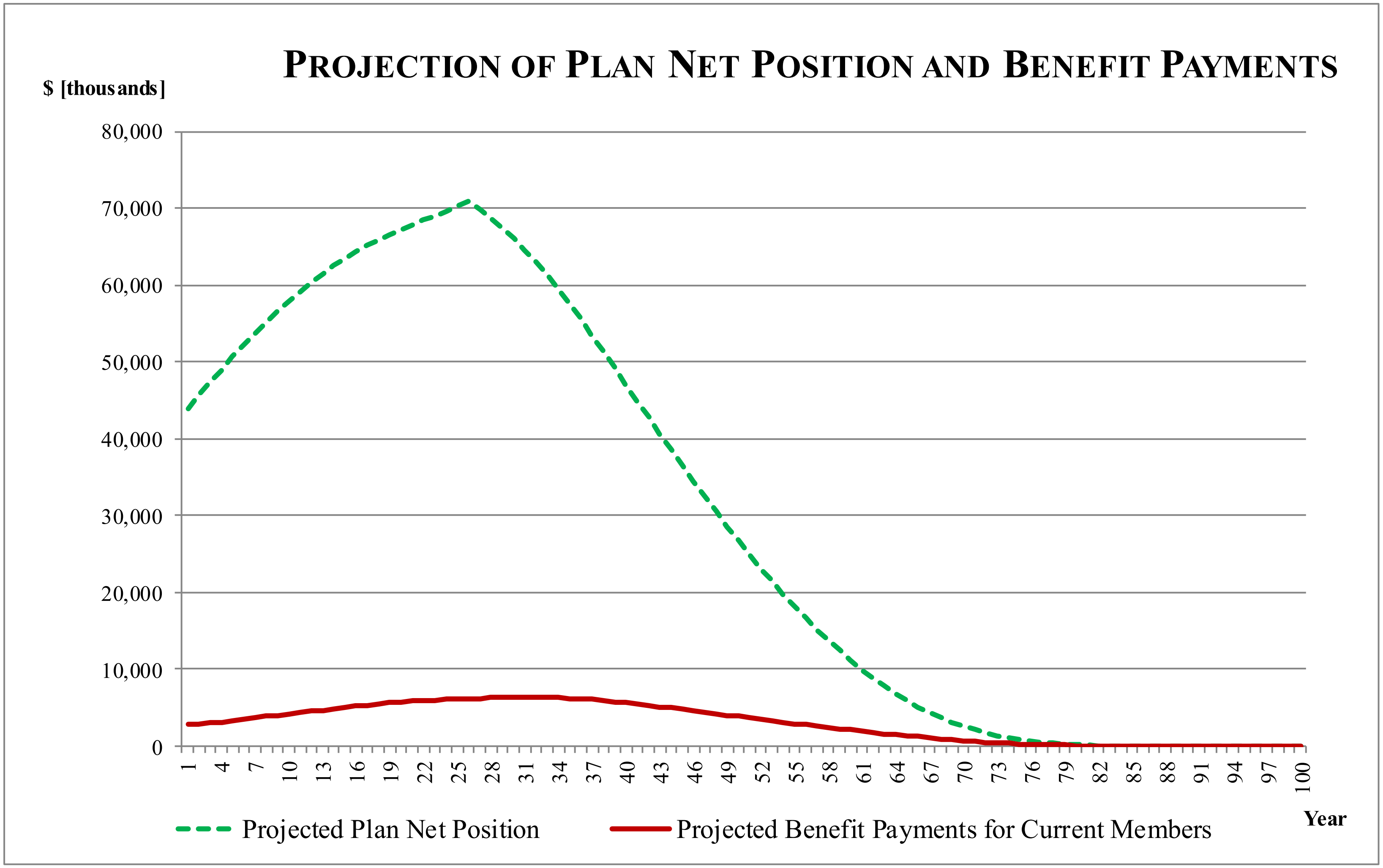
Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value 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	$ 42,424,522	$ 2,782,444	$ 2,782,444	$ 0	$ 2,683,627	$ 0	$ 2,683,627
2	43,971,291	2,878,932	2,878,932	0	2,582,966	0	2,582,966
3	45,677,716	3,022,423	3,022,423	0	2,522,517	0	2,522,517
4	47,361,984	3,175,588	3,175,588	0	2,465,441	0	2,465,441
5	49,020,003	3,337,107	3,337,107	0	2,410,083	0	2,410,083
6	50,643,948	3,496,829	3,496,829	0	2,349,242	0	2,349,242
7	52,225,312	3,669,921	3,669,921	0	2,293,516	0	2,293,516
8	53,751,393	3,856,536	3,856,536	0	2,241,991	0	2,241,991
9	55,207,248	4,050,432	4,050,432	0	2,190,430	0	2,190,430
10	56,579,487	4,226,639	4,226,639	0	2,126,252	0	2,126,252
11	57,881,997	4,379,414	4,379,414	0	2,049,402	0	2,049,402
12	59,137,118	4,536,241	4,536,241	0	1,974,689	0	1,974,689
13	60,337,295	4,694,494	4,694,494	0	1,901,004	0	1,901,004
14	61,477,384	4,858,491	4,858,491	0	1,830,152	0	1,830,152
15	62,549,695	5,044,035	5,044,035	0	1,767,484	0	1,767,484
16	63,527,419	5,214,920	5,214,920	0	1,699,873	0	1,699,873
17	64,417,904	5,368,717	5,368,717	0	1,627,912	0	1,627,912
18	65,235,076	5,533,863	5,533,863	0	1,560,919	0	1,560,919
19	65,962,306	5,671,239	5,671,239	0	1,488,063	0	1,488,063
20	66,623,005	5,784,732	5,784,732	0	1,411,946	0	1,411,946
21	67,241,426	5,885,700	5,885,700	0	1,336,363	0	1,336,363
22	67,831,209	5,961,010	5,961,010	0	1,259,035	0	1,259,035
23	68,419,068	6,033,809	6,033,809	0	1,185,499	0	1,185,499
24	69,009,208	6,109,701	6,109,701	0	1,116,660	0	1,116,660
25	69,600,957	6,166,523	6,166,523	0	1,048,414	0	1,048,414
26	70,216,759	6,208,565	6,208,565	0	981,918	0	981,918
27	70,873,949	6,263,758	6,263,758	0	921,533	0	921,533
28	69,883,000	6,315,568	6,315,568	0	864,330	0	864,330
29	68,744,077	6,340,730	6,340,730	0	807,231	0	807,231
30	67,473,349	6,332,688	6,332,688	0	749,961	0	749,961
31	66,097,481	6,309,279	6,309,279	0	695,059	0	695,059
32	64,625,937	6,305,294	6,305,294	0	646,158	0	646,158
33	63,029,486	6,300,264	6,300,264	0	600,598	0	600,598
34	61,299,806	6,273,326	6,273,326	0	556,307	0	556,307
35	59,452,879	6,206,283	6,206,283	0	511,964	0	511,964
36	57,524,450	6,140,519	6,140,519	0	471,199	0	471,199
37	55,507,687	6,046,837	6,046,837	0	431,638	0	431,638
38	53,427,099	5,928,624	5,928,624	0	393,674	0	393,674
39	51,306,415	5,785,837	5,785,837	0	357,388	0	357,388
40	49,169,793	5,640,540	5,640,540	0	324,105	0	324,105
41	47,019,654	5,483,660	5,483,660	0	293,108	0	293,108
42	44,867,388	5,307,930	5,307,930	0	263,921	0	263,921
43	42,734,451	5,130,074	5,130,074	0	237,282	0	237,282
44	40,624,854	4,950,441	4,950,441	0	212,998	0	212,998
45	38,542,384	4,773,025	4,773,025	0	191,037	0	191,037
46	36,486,764	4,593,911	4,593,911	0	171,040	0	171,040
47	34,461,891	4,412,251	4,412,251	0	152,815	0	152,815
48	32,473,106	4,230,692	4,230,692	0	136,304	0	136,304
49	30,523,124	4,050,736	4,050,736	0	121,401	0	121,401
50	28,613,150	3,871,007	3,871,007	0	107,921	0	107,921

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

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 (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)
51	$ 26,745,933	$ 3,689,979	$ 3,689,979	$ 0	$ 95,697	$ 0	$ 95,697
52	24,926,191	3,509,357	3,509,357	0	84,663	0	84,663
53	23,157,178	3,329,603	3,329,603	0	74,722	0	74,722
54	21,441,787	3,150,456	3,150,456	0	65,769	0	65,769
55	19,783,459	2,972,591	2,972,591	0	57,726	0	57,726
56	18,185,170	2,796,443	2,796,443	0	50,517	0	50,517
57	16,649,644	2,622,366	2,622,366	0	44,067	0	44,067
58	15,179,440	2,450,777	2,450,777	0	38,310	0	38,310
59	13,776,879	2,282,117	2,282,117	0	33,185	0	33,185
60	12,443,996	2,116,880	2,116,880	0	28,635	0	28,635
61	11,182,468	1,955,516	1,955,516	0	24,606	0	24,606
62	9,993,631	1,798,359	1,798,359	0	21,050	0	21,050
63	8,878,575	1,645,771	1,645,771	0	17,920	0	17,920
64	7,838,097	1,498,213	1,498,213	0	15,175	0	15,175
65	6,872,575	1,356,128	1,356,128	0	12,778	0	12,778
66	5,981,954	1,219,874	1,219,874	0	10,692	0	10,692
67	5,165,809	1,089,785	1,089,785	0	8,885	0	8,885
68	4,423,331	966,246	966,246	0	7,329	0	7,329
69	3,753,256	849,693	849,693	0	5,995	0	5,995
70	3,153,769	740,528	740,528	0	4,860	0	4,860
71	2,622,506	639,104	639,104	0	3,902	0	3,902
72	2,156,557	545,735	545,735	0	3,099	0	3,099
73	1,752,469	460,688	460,688	0	2,434	0	2,434
74	1,406,252	384,141	384,141	0	1,888	0	1,888
75	1,113,435	316,105	316,105	0	1,445	0	1,445
76	869,198	256,462	256,462	0	1,091	0	1,091
77	668,482	204,980	204,980	0	811	0	811
78	506,091	161,265	161,265	0	593	0	593
79	376,844	124,769	124,769	0	427	0	427
80	275,745	94,835	94,835	0	302	0	302
81	198,099	70,751	70,751	0	210	0	210
82	139,600	51,761	51,761	0	143	0	143
83	96,403	37,094	37,094	0	95	0	95
84	65,173	26,014	26,014	0	62	0	62
85	43,089	17,834	17,834	0	40	0	40
86	27,830	11,939	11,939	0	25	0	25
87	17,539	7,796	7,796	0	15	0	15
88	10,771	4,957	4,957	0	9	0	9
89	6,439	3,063	3,063	0	5	0	5
90	3,746	1,839	1,839	0	3	0	3
91	2,120	1,075	1,075	0	2	0	2
92	1,165	611	611	0	1	0	1
93	618	337	337	0	0	0	0
94	316	179	179	0	0	0	0
95	154	91	91	0	0	0	0
96	71	44	44	0	0	0	0
97	31	20	20	0	0	0	0
98	13	9	9	0	0	0	0
99	5	4	4	0	0	0	0
100	2	2	2	0	0	0	0
				Totals	$ 59,043,553	$ -	$ 59,043,553

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.


PROJECTION OF PLAN NET POSITION AND BENEFIT PAYMENTS
$ [thousands]
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1
4
7
10
13
16
19
22
25
28
31
34
37
40
43
46
49
52
55
58
61
64
67
70
73
76
79
82
85
88
91
94
97
100
Year
Projected Plan Net Position
Projected Benefit Payments for Current Members

SECTION D

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability (AAL)	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."
Actuarial Assumptions	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.
Accrued Service	Service credited under the fund which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	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.
Actuarial Cost Method	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.
Actuarial Gain (Loss)	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.
Actuarial Present Value (APV)	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.
Actuarial Valuation	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.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	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)

Amortization Payment
The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.

Amortization Method
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.

Cost-of-Living Adjustments
Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)
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.

Covered Valuation Payroll
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.

Deferred Inflows and Outflows
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.

Discount Rate
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:

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
2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Entry Age Actuarial Cost Method (EAN)
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)

GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
Long-Term Expected Rate of Return	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.
Money-Weighted Rate of Return	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.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	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.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contribution Entities	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.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.
Other Postemployment Benefits (OPEB)	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.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	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)

Total Pension Expense

The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost;
2. Interest on the Total Pension Liability;
3. Current-Period Benefit Changes;
4. Employee Contributions (made negative for addition here);
5. Projected Earnings on Plan Investments (made negative for addition here);
6. Pension Plan Administrative Expense;
7. Other Changes in Plan Fiduciary Net Position;
8. Recognition of Outflow (Inflow) of Resources due to Liabilities; and
9. Recognition of Outflow (Inflow) of Resources due to Assets.

Total Pension Liability (TPL)

The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

Unfunded Actuarial Accrued Liability (UAAL)

The UAAL is the difference between actuarial accrued liability and valuation assets.

Valuation Assets

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.