

**ARLINGTON HGTS SD 25 REGULAR**  
**GASB STATEMENT NO. 68 EMPLOYER REPORTING**  
**ACCOUNTING SCHEDULES**  
**DECEMBER 31, 2015**

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April 15, 2016

Arlington Hgts SD 25  
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.

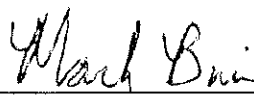
Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 68. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost 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 Arlington Hgts SD 25 only in its entirety and only with the permission of Arlington Hgts SD 25.


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 Arlington Hgts SD 25. 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

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**SECTION A**  
**EXECUTIVE SUMMARY**

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## 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	247
- Inactive, Non-Retired Members	249
- Active Members	266
- Total	762
Covered Valuation Payroll	\$ 7,633,456

**Net Pension Liability**

Total Pension Liability/(Asset)	\$ 42,450,268
Plan Fiduciary Net Position	36,233,337
Net Pension Liability/(Asset)	\$ 6,216,931
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	85.35%
Net Pension Liability as a Percentage of Covered Valuation Payroll	81.44%

**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 2015 projection period for which projected benefit payments are fully funded	2081
Resulting Single Discount Rate based on the above development	7.46%

Single Discount Rate calculated using December 31, 2014 Measurement Date 7.48%

**Total Pension Expense/(Income)** \$ 1,833,848

**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	\$ 301,411	\$ 0
Changes in assumptions	698,961	0
Net difference between projected and actual earnings on pension plan investments	2,327,492	0
Total	\$ 3,327,864	\$ 0

\*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 7.46%.



## 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 2081 and a discount rate of 7.46%. 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.

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**SECTION B**  
FINANCIAL STATEMENTS

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

**A. Expense/(Income)**

1. Service Cost	\$ 869,695
2. Interest on the Total Pension Liability	2,969,300
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(348,858)
5. Projected Earnings on Plan Investments (made negative for addition here)	(2,719,631)
6. Other Changes in Plan Fiduciary Net Position	(358,469)
7. Recognition of Outflow (Inflow) of Resources due to Liabilities	815,261
8. Recognition of Outflow (Inflow) of Resources due to Assets	606,550
9. Total Pension Expense/(Income)	<u>\$ 1,833,848</u>

**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	\$ 265,732
2. Assumption Changes (gains) or losses	\$ 94,426
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	3.0759
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	\$ 86,392
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 30,699
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 117,091
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	\$ 179,340
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ 63,727
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 243,067

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

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 2,539,218
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	\$ 507,844
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 2,031,374

\* 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**

	<u>Outflows of Resources</u>	<u>Inflows of Resources</u>	<u>Net Outflows of Resources</u>
1. Due to Liabilities	\$ 815,261	\$ 0	\$ 815,261
2. Due to Assets	606,550	0	606,550
3. Total	<u>\$ 1,421,811</u>	<u>\$ 0</u>	<u>\$ 1,421,811</u>

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

	<u>Outflows of Resources</u>	<u>Inflows of Resources</u>	<u>Net Outflows of Resources</u>
1. Differences between expected and actual experience	\$ 198,932	\$ 0	\$ 198,932
2. Assumption changes	616,329	0	616,329
3. Net difference between projected and actual earnings on pension plan investments	606,550	0	606,550
4. Total	<u>\$ 1,421,811</u>	<u>\$ 0</u>	<u>\$ 1,421,811</u>

**C. 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>	<u>Net Deferred Outflows of Resources</u>
1. Differences between expected and actual experience	\$ 301,411	\$ 0	\$ 301,411
2. Assumption changes	698,961	0	698,961
3. Net difference between projected and actual earnings on pension plan investments	2,327,492	0	2,327,492
4. Total	<u>\$ 3,327,864</u>	<u>\$ 0</u>	<u>\$ 3,327,864</u>

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

<u>Year Ending December 31</u>	<u>Net Deferred Outflows of Resources</u>
2016	\$ 1,421,811
2017	782,776
2018	615,435
2019	507,842
2020	0
Thereafter	0
Total	<u>\$ 3,327,864</u>

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

**A. Total pension liability**

1. Service Cost	\$ 869,695
2. Interest on the Total Pension Liability	2,969,300
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	265,732
5. Changes of assumptions	94,426
6. Benefit payments, including refunds of employee contributions	(2,021,132)
7. Net change in total pension liability	\$ 2,178,021
8. Total pension liability – beginning	40,272,247
9. Total pension liability – ending	<u><u>\$ 42,450,268</u></u>

**B. Plan fiduciary net position**

1. Contributions – employer	\$ 896,167
2. Contributions – employee	348,858
3. Net investment income	180,413
4. Benefit payments, including refunds of employee contributions	(2,021,132)
5. Other (Net Transfer)	358,469
6. Net change in plan fiduciary net position	\$ (237,225)
7. Plan fiduciary net position – beginning	36,470,562
8. Plan fiduciary net position – ending	<u><u>\$ 36,233,337</u></u>

**C. Net pension liability/(asset)**

	<u><u>\$ 6,216,931</u></u>
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**D. Plan fiduciary net position as a percentage of the total pension liability**

85.35%

**E. Covered Valuation payroll**

	\$ 7,633,456
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**F. Net pension liability as a percentage of covered valuation payroll**

81.44%

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

	1% Decrease 6.46%	Current Single Discount Rate Assumption 7.46%	1% Increase 8.46%
Total Pension Liability	\$ 47,564,998	\$ 42,450,268	\$ 38,198,326
Plan Fiduciary Net Position	36,233,337	36,233,337	36,233,337
Net Pension Liability/(Asset)	\$ 11,331,661	\$ 6,216,931	\$ 1,964,989

# **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	\$ 869,695	\$ 915,435								
Interest on the Total Pension Liability	2,969,300	2,690,242								
Benefit Changes	0	0								
Difference between Expected and Actual Experience	265,732	347,151								
Assumption Changes	94,426	1,806,494								
Benefit Payments and Refunds	(2,021,132)	(1,798,506)								
<b>Net Change in Total Pension Liability</b>	<b>2,178,021</b>	<b>3,960,816</b>								
<b>Total Pension Liability - Beginning</b>	<b>40,272,247</b>	<b>36,311,431</b>								
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 42,450,268</b>	<b>\$ 40,272,247</b>								
<b>Plan Fiduciary Net Position</b>										
Employer Contributions	\$ 896,167	\$ 916,975								
Employee Contributions	348,858	346,070								
Pension Plan Net Investment Income	180,413	2,091,460								
Benefit Payments and Refunds	(2,021,132)	(1,798,506)								
Other	358,469	360,607								
<b>Net Change in Plan Fiduciary Net Position</b>	<b>(237,225)</b>	<b>1,916,606</b>								
<b>Plan Fiduciary Net Position - Beginning</b>	<b>36,470,562</b>	<b>34,553,956</b>								
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 36,233,337</b>	<b>\$ 36,470,562</b>								
<b>Net Pension Liability/(Asset) - Ending (a) - (b)</b>	<b>6,216,931</b>	<b>3,801,685</b>								
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	<b>85.35%</b>	<b>90.56 %</b>								
<b>Covered Valuation Payroll</b>	<b>\$ 7,633,456</b>	<b>\$ 7,545,460</b>								
<b>Net Pension Liability as a Percentage of Covered Valuation Payroll</b>	<b>81.44%</b>	<b>50.38 %</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	\$ 909,982	\$ 916,975	\$ (6,993)	\$ 7,545,460	12.15%
2015	896,168 *	896,167	1	7,633,456	11.74%

\* Estimated based on contribution rate of 11.74% and covered valuation payroll of \$7,633,456.

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)	\$	6,604,269
2. Employer Contribution Reserve (EAF assets from IMRF)		8,876,911
3. Annuitant Reserve		20,746,231
4. Miscellaneous Adjustment*		<u>5,926</u>
5. Net Market Value	\$	36,233,337

\* 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	7.46%
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.

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## SECTION C

### CALCULATION OF THE SINGLE DISCOUNT RATE

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## 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 7.46%.

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	\$ 7,633,456				
1	7,546,673	\$ 339,600	\$ 523,610	\$ 349,341	\$ 1,212,552
2	7,053,257	317,397	478,151	343,756	1,139,304
3	6,628,515	298,283	444,083	363,208	1,105,574
4	6,226,016	280,171	417,736	384,098	1,082,005
5	5,847,460	263,136	392,337	406,567	1,062,040
6	5,494,465	247,251	367,560	430,776	1,045,587
7	5,144,263	231,492	342,598	445,854	1,019,943
8	4,818,091	216,814	319,437	461,458	997,710
9	4,516,685	203,251	298,107	477,609	978,967
10	4,228,895	190,300	277,850	494,326	962,476
11	3,958,997	178,155	258,542	511,627	948,324
12	3,705,325	166,740	240,870	529,534	937,144
13	3,466,040	155,972	224,281	548,068	928,321
14	3,240,338	145,815	208,387	538,635	892,837
15	3,026,568	136,196	193,435	529,365	858,996
16	2,823,584	127,061	179,620	520,254	826,935
17	2,629,072	118,308	166,462	511,300	796,070
18	2,444,607	110,007	153,809	502,500	766,317
19	2,268,020	102,061	141,797	493,852	737,710
20	2,077,090	93,469	128,827	485,352	707,648
21	1,877,154	84,472	115,679	476,999	677,150
22	1,691,920	76,136	103,591	468,790	648,517
23	1,521,013	68,446	92,371	460,721	621,538
24	1,373,694	61,816	82,604	452,792	597,212
25	1,238,146	55,717	73,714	444,999	574,430
26	1,106,927	49,812	65,352	437,340	552,504
27	986,498	44,392	57,751	429,814	531,957
28	879,107	39,560	51,027	422,416	513,003
29	780,814	35,137	44,778	415,146	495,061
30	698,230	31,420	39,417	408,001	478,839
31	632,909	28,481	35,037	400,979	464,497
32	570,725	25,683	30,857	394,078	450,617
33	502,713	22,622	26,629	387,296	436,547
34	432,731	19,473	22,578	380,630	422,681
35	333,922	15,026	17,290	374,079	406,395
36	218,233	9,821	11,343	367,641	388,805
37	151,072	6,798	8,093	361,314	376,204
38	108,791	4,896	5,958	355,095	365,948
39	72,162	3,247	4,016	348,984	356,247
40	57,126	2,571	3,316	342,977	348,864
41	38,615	1,738	2,218	337,075	341,031
42	20,427	919	1,196	331,273	333,388
43	13,078	589	859	325,572	327,020
44	9,015	406	627	319,968	321,001
45	6,231	280	445	314,462	315,187
46	4,309	194	311	309,049	309,555
47	2,687	121	194	303,730	304,045
48	1,500	68	107	298,503	298,677
49	859	39	61	293,366	293,465
50	707	32	50	288,317	288,399

# **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	\$ 582	\$ 26	\$ 42	\$ 283,355	\$ 283,422
52	479	22	34	278,478	278,533
53	223	10	16	273,685	273,711
54	0	0	0	268,975	268,975
55	0	0	0	264,345	264,345
56	0	0	0	259,796	259,796
57	0	0	0	255,325	255,325
58	0	0	0	250,930	250,930
59	0	0	0	246,612	246,612
60	0	0	0	242,367	242,367
61	0	0	0	238,196	238,196
62	0	0	0	234,096	234,096
63	0	0	0	230,067	230,067
64	0	0	0	226,108	226,108
65	0	0	0	222,216	222,216
66	0	0	0	218,392	218,392
67	0	0	0	214,633	214,633
68	0	0	0	210,939	210,939
69	0	0	0	207,309	207,309
70	0	0	0	203,741	203,741
71	0	0	0	200,234	200,234
72	0	0	0	196,788	196,788
73	0	0	0	193,401	193,401
74	0	0	0	190,073	190,073
75	0	0	0	186,801	186,801
76	0	0	0	183,586	183,586
77	0	0	0	180,427	180,427
78	0	0	0	177,321	177,321
79	0	0	0	174,270	174,270
80	0	0	0	171,270	171,270
81	0	0	0	168,323	168,323
82	0	0	0	165,426	165,426
83	0	0	0	162,579	162,579
84	0	0	0	159,780	159,780
85	0	0	0	157,031	157,031
86	0	0	0	154,328	154,328
87	0	0	0	151,672	151,672
88	0	0	0	149,061	149,061
89	0	0	0	146,496	146,496
90	0	0	0	143,975	143,975
91	0	0	0	141,497	141,497
92	0	0	0	139,061	139,061
93	0	0	0	136,668	136,668
94	0	0	0	134,316	134,316
95	0	0	0	132,004	132,004
96	0	0	0	129,732	129,732
97	0	0	0	127,500	127,500
98	0	0	0	125,305	125,305
99	0	0	0	123,149	123,149
100	0	0	0	121,029	121,029



# **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	\$ 36,233,337	\$ 1,212,552	\$ 2,177,716	\$ 2,681,961	\$ 37,950,133
2	37,950,133	1,139,304	2,329,496	2,802,435	39,562,376
3	39,562,376	1,105,574	2,482,517	2,916,476	41,101,909
4	41,101,909	1,082,005	2,673,648	3,024,036	42,534,301
5	42,534,301	1,062,040	2,843,012	3,124,494	43,877,823
6	43,877,823	1,045,587	3,027,017	3,217,876	45,114,269
7	45,114,269	1,019,943	3,211,670	3,302,866	46,225,408
8	46,225,408	997,710	3,368,342	3,379,614	47,234,389
9	47,234,389	978,967	3,517,328	3,449,111	48,145,140
10	48,145,140	962,476	3,683,802	3,510,681	48,934,495
11	48,934,495	948,324	3,825,299	3,564,151	49,621,672
12	49,621,672	937,144	3,961,412	3,610,266	50,207,670
13	50,207,670	928,321	4,089,081	3,649,189	50,696,099
14	50,696,099	892,837	4,209,726	3,680,073	51,059,283
15	51,059,283	858,996	4,324,194	3,701,850	51,295,935
16	51,295,935	826,935	4,430,849	3,714,492	51,406,513
17	51,406,513	796,070	4,523,937	3,718,221	51,396,867
18	51,396,867	766,317	4,608,571	3,713,285	51,267,898
19	51,267,898	737,710	4,683,957	3,699,783	51,021,433
20	51,021,433	707,648	4,780,379	3,676,641	50,625,343
21	50,625,343	677,150	4,867,507	3,642,603	50,077,590
22	50,077,590	648,517	4,930,250	3,598,157	49,394,014
23	49,394,014	621,538	4,979,730	3,544,073	48,579,895
24	48,579,895	597,212	5,005,218	3,481,180	47,653,070
25	47,653,070	574,430	5,010,326	3,410,641	46,627,816
26	46,627,816	552,504	5,004,182	3,333,166	45,509,303
27	45,509,303	531,957	4,982,896	3,249,305	44,307,669
28	44,307,669	513,003	4,954,877	3,159,516	43,025,311
29	43,025,311	495,061	4,912,048	3,064,256	41,672,580
30	41,672,580	478,839	4,841,528	2,964,800	40,274,691
31	40,274,691	464,497	4,757,448	2,862,526	38,844,266
32	38,844,266	450,617	4,668,079	2,758,024	37,384,828
33	37,384,828	436,547	4,576,611	2,651,416	35,896,181
34	35,896,181	422,681	4,486,551	2,542,573	34,374,884
35	34,374,884	406,395	4,418,741	2,430,373	32,792,912
36	32,792,912	388,805	4,347,490	2,313,701	31,147,928
37	31,147,928	376,204	4,224,825	2,194,380	29,493,688
38	29,493,688	365,948	4,096,516	2,074,659	27,837,779
39	27,837,779	356,247	3,954,433	1,955,341	26,194,934
40	26,194,934	348,864	3,793,479	1,837,782	24,588,102
41	24,588,102	341,031	3,642,099	1,722,555	23,009,589
42	23,009,589	333,388	3,487,301	1,609,586	21,465,261
43	21,465,261	327,020	3,322,538	1,499,593	19,969,336
44	19,969,336	321,001	3,159,027	1,393,198	18,524,508
45	18,524,508	315,187	2,997,152	1,290,583	17,133,126
46	17,133,126	309,555	2,838,594	1,191,860	15,795,947
47	15,795,947	304,045	2,683,741	1,097,071	14,513,322
48	14,513,322	298,677	2,532,880	1,006,231	13,285,351
49	13,285,351	293,465	2,385,195	919,380	12,113,001
50	12,113,001	288,399	2,241,579	836,555	10,996,375

# **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	\$ 10,996,375	\$ 283,422	\$ 2,102,518	\$ 757,745	\$ 9,935,024
52	9,935,024	278,533	1,967,962	682,919	8,928,514
53	8,928,514	273,711	1,838,232	612,030	7,976,023
54	7,976,023	268,975	1,712,630	545,043	7,077,411
55	7,077,411	264,345	1,591,295	481,945	6,232,407
56	6,232,407	259,796	1,474,430	422,705	5,440,478
57	5,440,478	255,325	1,362,107	367,282	4,700,977
58	4,700,977	250,930	1,254,454	315,621	4,013,075
59	4,013,075	246,612	1,151,624	267,656	3,375,718
60	3,375,718	242,367	1,053,789	223,301	2,787,598
61	2,787,598	238,196	961,082	182,452	2,247,164
62	2,247,164	234,096	873,546	144,991	1,752,705
63	1,752,705	230,067	791,163	110,792	1,302,402
64	1,302,402	226,108	713,877	79,719	894,352
65	894,352	222,216	641,587	51,634	526,616
66	526,616	218,392	574,151	26,396	197,253
67	197,253	214,633	511,415	3,866	0
68	0	210,939	453,242	0	0
69	0	207,309	399,488	0	0
70	0	203,741	349,971	0	0
71	0	200,234	304,522	0	0
72	0	196,788	263,006	0	0
73	0	193,401	225,284	0	0
74	0	190,073	191,224	0	0
75	0	186,801	160,689	0	0
76	0	183,586	133,550	0	0
77	0	180,427	109,691	0	0
78	0	177,321	88,962	0	0
79	0	174,270	71,169	0	0
80	0	171,270	56,109	0	0
81	0	168,323	43,559	0	0
82	0	165,426	33,269	0	0
83	0	162,579	24,974	0	0
84	0	159,780	18,411	0	0
85	0	157,031	13,320	0	0
86	0	154,328	9,450	0	0
87	0	151,672	6,568	0	0
88	0	149,061	4,466	0	0
89	0	146,496	2,969	0	0
90	0	143,975	1,928	0	0
91	0	141,497	1,222	0	0
92	0	139,061	755	0	0
93	0	136,668	454	0	0
94	0	134,316	264	0	0
95	0	132,004	148	0	0
96	0	129,732	79	0	0
97	0	127,500	40	0	0
98	0	125,305	20	0	0
99	0	123,149	10	0	0
100	0	121,029	4	0	0

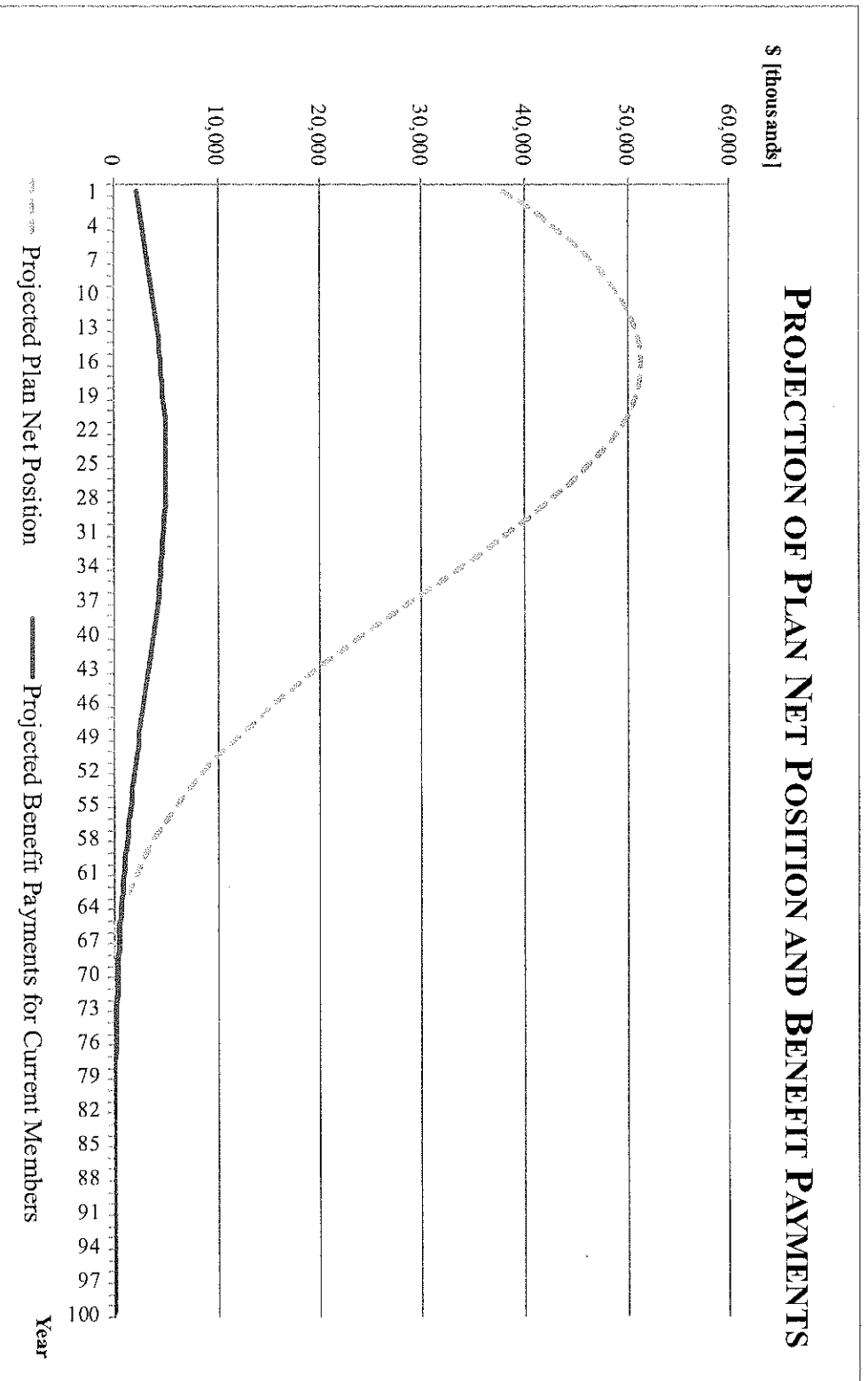
## SINGLE DISCOUNT RATE DEVELOPMENT

### 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 <sup>t</sup> ((a)-.5)	(g)=(e)*vf <sup>t</sup> ((a)-.5)	(h)=(c)/((1+sdr) <sup>t</sup> ((a)-.5)
1	\$ 36,233,337	\$ 2,177,716	\$ 2,177,716	\$ 0	\$ 2,100,376	\$ 0	\$ 2,100,743
2	37,950,133	2,329,496	2,329,496	0	2,090,015	0	2,091,111
3	39,562,376	2,482,517	2,482,517	0	2,071,911	0	2,073,723
4	41,101,909	2,673,648	2,673,648	0	2,075,748	0	2,078,290
5	42,534,301	2,843,012	2,843,012	0	2,053,244	0	2,056,478
6	43,877,823	3,027,017	3,027,017	0	2,033,613	0	2,037,528
7	45,114,269	3,211,670	3,211,670	0	2,007,132	0	2,011,700
8	46,225,408	3,368,342	3,368,342	0	1,958,181	0	1,963,323
9	47,234,389	3,517,328	3,517,328	0	1,902,133	0	1,907,795
10	48,145,140	3,683,802	3,683,802	0	1,853,172	0	1,859,339
11	48,934,495	3,825,299	3,825,299	0	1,790,097	0	1,796,682
12	49,621,672	3,961,412	3,961,412	0	1,724,458	0	1,731,407
13	50,207,670	4,089,081	4,089,081	0	1,655,846	0	1,663,100
14	50,696,099	4,209,726	4,209,726	0	1,585,768	0	1,593,272
15	51,059,283	4,324,194	4,324,194	0	1,515,243	0	1,522,946
16	51,295,935	4,430,849	4,430,849	0	1,444,294	0	1,452,144
17	51,406,513	4,523,937	4,523,937	0	1,371,756	0	1,379,694
18	51,396,867	4,608,571	4,608,571	0	1,299,925	0	1,307,904
19	51,267,898	4,683,957	4,683,957	0	1,229,013	0	1,236,990
20	51,021,433	4,780,379	4,780,379	0	1,166,802	0	1,174,786
21	50,625,343	4,867,507	4,867,507	0	1,105,180	0	1,113,132
22	50,077,590	4,930,250	4,930,250	0	1,041,327	0	1,049,186
23	49,394,014	4,979,730	4,979,730	0	978,398	0	986,126
24	48,579,895	5,005,218	5,005,218	0	914,796	0	922,344
25	47,653,070	5,010,326	5,010,326	0	851,841	0	859,171
26	46,627,816	5,004,182	5,004,182	0	791,439	0	798,528
27	45,509,303	4,982,896	4,982,896	0	733,090	0	739,916
28	44,307,669	4,954,877	4,954,877	0	678,110	0	684,663
29	43,025,311	4,912,048	4,912,048	0	625,347	0	631,611
30	41,672,580	4,841,528	4,841,528	0	573,367	0	579,313
31	40,274,691	4,757,448	4,757,448	0	524,102	0	529,722
32	38,844,266	4,668,079	4,668,079	0	478,378	0	483,677
33	37,384,828	4,576,611	4,576,611	0	436,284	0	441,271
34	35,896,181	4,486,551	4,486,551	0	397,859	0	402,547
35	34,374,884	4,418,741	4,418,741	0	364,508	0	368,932
36	32,792,912	4,347,490	4,347,490	0	333,609	0	337,777
37	31,147,928	4,224,825	4,224,825	0	301,578	0	305,452
38	29,493,688	4,096,516	4,096,516	0	272,018	0	275,608
39	27,837,779	3,954,433	3,954,433	0	244,263	0	247,574
40	26,194,934	3,793,479	3,793,479	0	217,973	0	221,005
41	24,588,102	3,642,099	3,642,099	0	194,674	0	197,451
42	23,009,589	3,487,301	3,487,301	0	173,396	0	175,930
43	21,465,261	3,322,538	3,322,538	0	153,677	0	155,979
44	19,969,336	3,159,027	3,159,027	0	135,921	0	138,004
45	18,524,508	2,997,152	2,997,152	0	119,959	0	121,840
46	17,133,126	2,838,594	2,838,594	0	105,686	0	107,381
47	15,795,947	2,683,741	2,683,741	0	92,950	0	94,473
48	14,513,322	2,532,880	2,532,880	0	81,604	0	82,971
49	13,285,351	2,385,195	2,385,195	0	71,485	0	72,708
50	12,113,001	2,241,579	2,241,579	0	62,494	0	63,585

# **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 <sup>a</sup> ((a)-.5)	(g)=(e)*vf <sup>a</sup> ((a)-.5)	(h)=-((c)/((1+sdr) <sup>a</sup> ((a)-.5))
51	\$ 10,996,375	\$ 2,102,518	\$ 2,102,518	\$ 0	\$ 54,527	\$ 0	\$ 55,499
52	9,935,024	1,967,962	1,967,962	0	47,477	0	48,340
53	8,928,514	1,838,232	1,838,232	0	41,253	0	42,017
54	7,976,023	1,712,630	1,712,630	0	35,753	0	36,428
55	7,077,411	1,591,295	1,591,295	0	30,902	0	31,497
56	6,232,407	1,474,430	1,474,430	0	26,635	0	27,157
57	5,440,478	1,362,107	1,362,107	0	22,889	0	23,346
58	4,700,977	1,254,454	1,254,454	0	19,610	0	20,008
59	4,013,075	1,151,624	1,151,624	0	16,746	0	17,092
60	3,375,718	1,053,789	1,053,789	0	14,254	0	14,554
61	2,787,598	961,082	961,082	0	12,093	0	12,352
62	2,247,164	873,546	873,546	0	10,225	0	10,447
63	1,752,705	791,163	791,163	0	8,615	0	8,805
64	1,302,402	713,877	713,877	0	7,231	0	7,393
65	894,352	641,587	641,587	0	6,045	0	6,183
66	526,616	574,151	574,151	0	5,032	0	5,149
67	197,253	511,415	204,516	306,899	1,667	29,781	4,268
68	0	453,242	0	453,242	0	42,466	3,520
69	0	399,488	0	399,488	0	36,139	2,887
70	0	349,971	0	349,971	0	30,568	2,353
71	0	304,522	0	304,522	0	25,682	1,906
72	0	263,006	0	263,006	0	21,416	1,532
73	0	225,284	0	225,284	0	17,712	1,221
74	0	191,224	0	191,224	0	14,516	964
75	0	160,689	0	160,689	0	11,778	754
76	0	133,550	0	133,550	0	9,451	583
77	0	109,691	0	109,691	0	7,495	446
78	0	88,962	0	88,962	0	5,869	336
79	0	71,169	0	71,169	0	4,533	250
80	0	56,109	0	56,109	0	3,451	184
81	0	43,559	0	43,559	0	2,587	133
82	0	33,269	0	33,269	0	1,908	94
83	0	24,974	0	24,974	0	1,383	66
84	0	18,411	0	18,411	0	984	45
85	0	13,320	0	13,320	0	687	30
86	0	9,450	0	9,450	0	471	20
87	0	6,568	0	6,568	0	316	13
88	0	4,466	0	4,466	0	207	8
89	0	2,969	0	2,969	0	133	5
90	0	1,928	0	1,928	0	83	3
91	0	1,222	0	1,222	0	51	2
92	0	755	0	755	0	31	1
93	0	454	0	454	0	18	1
94	0	264	0	264	0	10	0
95	0	148	0	148	0	5	0
96	0	79	0	79	0	3	0
97	0	40	0	40	0	1	0
98	0	20	0	20	0	1	0
99	0	10	0	10	0	0	0
100	0	4	0	4	0	0	0
<b>Totals</b>	<b>\$</b>	<b>48,344,995</b>	<b>\$</b>	<b>269,735</b>	<b>\$</b>	<b>48,614,730</b>	



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## **SECTION D**

### **GLOSSARY OF TERMS**

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## 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>	<p>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:</p> <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>	<p>The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:</p> <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;</li><li>and</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assets.</li></ol>
<b><i>Total Pension Liability (TPL)</i></b>	<p>The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.</p>
<b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b>	<p>The UAAL is the difference between actuarial accrued liability and valuation assets.</p>
<b><i>Valuation Assets</i></b>	<p>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.</p>