

**ALSIP MERRIONETTE PK LIB DIST REGULAR**  
GASB STATEMENT NO. 68 EMPLOYER REPORTING  
ACCOUNTING SCHEDULES  
DECEMBER 31, 2016

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April 17, 2017

Alsip Merrionette Pk Lib 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 Alsip Merrionette Pk Lib Dist only in its entirety and only with the permission of Alsip Merrionette Pk Lib 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 Alsip Merrionette Pk Lib 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  
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, 2016

Actuarial Valuation Date	December 31, 2016
Measurement Date of the Net Pension Liability	December 31, 2016
Fiscal Year End	June 30, 2017

**Membership**

Number of		
- Retirees and Beneficiaries	26	WP P-2
- Inactive, Non-Retired Members	19	
- Active Members	17	
- Total	62	
Covered Valuation Payroll <sup>(1)</sup>	\$ 812,561	

**Net Pension Liability**

Total Pension Liability/(Asset)	\$ 4,768,625	
Plan Fiduciary Net Position	4,111,616	
Net Pension Liability/(Asset)	\$ 657,009	P-2
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	86.22%	
Net Pension Liability as a Percentage of Covered Valuation Payroll	80.86%	

**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 <sup>(2)</sup>	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 7.48%

**Total Pension Expense/(Income)** \$ 199,158

**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	\$ 35,648	\$ 0
Changes in assumptions	16,376	8,063
Net difference between projected and actual earnings on pension plan investments	202,463	0
Total	\$ 254,487	\$ 8,063

P-2 P-2

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

<sup>(2)</sup> 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.

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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, 2016**

**A. Expense/(Income)**

1. Service Cost	\$ 92,592
2. Interest on the Total Pension Liability	334,517
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(36,565)
5. Projected Earnings on Plan Investments (made negative for addition here)	(288,470)
6. Other Changes in Plan Fiduciary Net Position	(59,082)
7. Recognition of Outflow (Inflow) of Resources due to Liabilities	86,985
8. Recognition of Outflow (Inflow) of Resources due to Assets	69,181
<b>9. Total Pension Expense/(Income)</b>	<b>\$ 199,158</b>

**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	\$ 26,227
2. Assumption Changes (gains) or losses	\$ (11,516)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	3,3349
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	\$ 7,864
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ (3,453)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	<u>\$ 4,411</u>
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	\$ 18,363
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ (8,063)
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	<u>\$ 10,300</u>

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

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 26,388
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	\$ 5,278
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 21,110

\* *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**

	<b>Outflows of Resources</b>	<b>Inflows of Resources</b>	<b>Net Outflows of Resources</b>
1. Due to Liabilities	\$ 90,438	\$ 3,453	\$ 86,985
2. Due to Assets	69,181	0	69,181
<b>3. Total</b>	<b>\$ 159,619</b>	<b>\$ 3,453</b>	<b>\$ 156,166</b>

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

	<b>Outflows of Resources</b>	<b>Inflows of Resources</b>	<b>Net Outflows of Resources</b>
1. Differences between expected and actual experience	\$ 32,436	\$ 0	\$ 32,436
2. Assumption changes	58,002	3,453	54,549
3. Net difference between projected and actual earnings on pension plan investments	69,181	0	69,181
<b>4. Total</b>	<b>\$ 159,619</b>	<b>\$ 3,453</b>	<b>\$ 156,166</b>

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

	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>	<b>Net Deferred Outflows of Resources</b>
1. Differences between expected and actual experience	\$ 35,648	\$ 0	\$ 35,648
2. Assumption changes	16,376	8,063	8,313
3. Net difference between projected and actual earnings on pension plan investments	202,463	0	202,463
<b>4. Total</b>	<b>\$ 254,487</b>	<b>\$ 8,063</b>	<b>\$ 246,424</b>

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

<b>Year Ending December 31</b>	<b>Net Deferred Outflows of Resources</b>
2017	\$ 103,625
2018	77,222
2019	60,301
2020	5,276
2021	0
Thereafter	0
<b>Total</b>	<b>\$ 246,424</b>

**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	\$ 92,592
2. Interest on the Total Pension Liability	334,517
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	26,227
5. Changes of assumptions	(11,516)
6. Benefit payments, including refunds of employee contributions	(198,095)
7. Net change in total pension liability	\$ 243,725
8. Total pension liability – beginning	4,524,900
9. Total pension liability – ending	<u><u>\$ 4,768,625</u></u>

**B. Plan fiduciary net position**

1. Contributions – employer	\$ 108,974
2. Contributions – employee	36,565
3. Net investment income	262,082
4. Benefit payments, including refunds of employee contributions	(198,095)
5. Other (Net Transfer)	59,082
6. Net change in plan fiduciary net position	\$ 268,608
7. Plan fiduciary net position – beginning	3,843,008
8. Plan fiduciary net position – ending	<u><u>\$ 4,111,616</u></u>

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

\$ 657,009

**D. Plan fiduciary net position as a percentage of the total pension liability**

**86.22%**

**E. Covered Valuation payroll**

\$ **812,561**

**F. Net pension liability as a percentage of covered valuation payroll**

**80.86%**

**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	\$ 5,389,435	\$ 4,768,625	\$ 4,257,036
Plan Fiduciary Net Position	4,111,616	4,111,616	4,111,616
Net Pension Liability/(Asset)	\$ 1,277,819	\$ 657,009	\$ 145,420

**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
<b>Total Pension Liability</b>										
Service Cost	\$ 92,592	\$ 88,511	\$ 89,003							
Interest on the Total Pension Liability	334,517	315,641	284,241							
Benefit Changes	0	0	0							
Difference between Expected and Actual Experience	26,227	35,073	45,280							
Assumption Changes	(11,516)	5,578	183,111							
Benefit Payments and Refunds	(198,095)	(179,626)	(174,571)							
<b>Net Change in Total Pension Liability</b>	243,725	265,177	427,064							
<b>Total Pension Liability - Beginning</b>	4,524,900	4,259,723	3,832,659							
<b>Total Pension Liability - Ending (a)</b>	<u>\$ 4,768,625</u>	<u>\$ 4,524,900</u>	<u>\$ 4,259,723</u>							
<b>Plan Fiduciary Net Position</b>										
Employer Contributions	\$ 108,974	\$ 110,794	\$ 100,218							
Employee Contributions	36,565	39,854	34,928							
Pension Plan Net Investment Income	262,082	19,042	218,328							
Benefit Payments and Refunds	(198,095)	(179,626)	(174,571)							
Other	59,082	29,998	45,191							
<b>Net Change in Plan Fiduciary Net Position</b>	268,608	20,062	224,094							
<b>Plan Fiduciary Net Position - Beginning</b>	3,843,008	3,822,946	3,598,852							
<b>Plan Fiduciary Net Position - Ending (b)</b>	<u>\$ 4,111,616</u>	<u>\$ 3,843,008</u>	<u>\$ 3,822,946</u>							
<b>Net Pension Liability/(Asset) - Ending (a) - (b)</b>	657,009	681,892	436,777							
<b>Plan Fiduciary Net Position as a Percentage</b>										
<b>of Total Pension Liability</b>	86.22%	84.93 %	89.75 %							
<b>Covered Valuation Payroll</b>	\$ 812,561	\$ 885,645	\$ 800,174							
<b>Net Pension Liability as a Percentage</b>										
<b>of Covered Valuation Payroll</b>	80.86%	76.99 %	54.59 %							



## MULTIYEAR SCHEDULE OF CONTRIBUTIONS

### Last 10 Calendar Years

<b>Calendar Year Ending December 31,</b>	<b>Actuarially Determined Contribution</b>	<b>Actual Contribution</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Valuation Payroll</b>	<b>Actual Contribution as a % of Covered Valuation Payroll</b>
2014	\$ 95,861	\$ 100,218	\$ (4,357)	\$ 800,174	12.52%
2015	110,794	110,794	0	885,645	12.51%
2016	99,620 *	108,974	(9,354)	812,561	13.41%

\* Estimated based on contribution rate of 12.26% and covered valuation payroll of \$812,561.

*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)	\$ 764,111
2. Employer Contribution Reserve (EAF assets from IMRF)	1,020,590
3. Annuitant Reserve	2,318,473
4. Miscellaneous Adjustment*	8,442
<b>5. Net Market Value</b>	<b>\$ 4,111,616</b>

\* 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	\$ 99,620
b.) Accelerated payments and Reserve Payments	9,354
	<b>\$ 108,974</b>

#### 2. Member

a.) Wage Reporting	\$ 36,565
b.) Member Payments (i.e. ERI, Pension Payments)	-

<b>Sub-total (Amount used for valuation on Schedule of Changes Page 10)</b>	<b>\$ 36,565</b>
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c.) Voluntary Additional Plan	\$ 19,720
<b>Total Member Contributions (a+b+c)</b>	<b>\$ 56,285</b>

<b>Total Employer and Member Contributions (1+2)</b>	<b>\$ 165,259</b>
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## 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.

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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 3.78%; 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	\$ 812,561				
1	772,513	\$ 34,763	\$ 55,244	\$ 32,133	\$ 122,140
2	738,772	33,245	51,507	36,479	121,231
3	703,974	31,679	48,801	38,476	118,956
4	672,367	30,257	46,676	40,618	117,551
5	641,408	28,863	44,527	42,919	116,310
6	611,038	27,497	42,297	44,394	114,188
7	582,668	26,220	40,275	45,948	112,443
8	552,784	24,875	38,100	47,556	110,531
9	521,953	23,488	35,871	49,221	108,579
10	494,587	22,256	33,842	50,943	107,042
11	471,004	21,195	32,088	52,726	106,009
12	448,353	20,176	30,411	54,572	105,158
13	424,432	19,099	28,661	56,482	104,243
14	401,929	18,087	26,982	58,458	103,527
15	384,192	17,289	25,638	60,505	103,431
16	369,410	16,623	24,504	62,622	103,750
17	356,617	16,048	23,514	64,814	104,376
18	346,612	15,598	22,751	67,082	105,431
19	339,706	15,287	22,196	69,430	106,913
20	334,176	15,038	21,735	71,860	108,633
21	325,445	14,645	21,070	74,375	110,090
22	315,393	14,193	20,325	76,979	111,496
23	306,035	13,772	19,600	79,673	113,044
24	296,495	13,342	18,871	82,461	114,674
25	287,662	12,945	18,194	85,348	116,486
26	279,441	12,575	17,535	88,335	118,444
27	266,880	12,010	16,640	(0)	28,650
28	245,754	11,059	15,176	0	26,235
29	226,289	10,183	13,726	(0)	23,909
30	186,599	8,397	11,096	(0)	19,493
31	138,586	6,236	8,310	0	14,546
32	114,774	5,165	7,076	0	12,241
33	98,387	4,427	6,066	0	10,493
34	85,684	3,856	5,232	0	9,087
35	62,925	2,832	3,792	(0)	6,623
36	38,545	1,735	2,399	(0)	4,134
37	28,759	1,294	1,965	0	3,259
38	22,795	1,026	1,621	0	2,647
39	18,172	818	1,312	0	2,130
40	14,608	657	1,058	0	1,715
41	11,890	535	862	(0)	1,397
42	9,806	441	712	(0)	1,153
43	7,730	348	561	0	909
44	5,989	269	434	0	704
45	4,936	222	357	0	580
46	3,938	177	284	0	461
47	3,105	140	226	(0)	365
48	1,912	86	138	(0)	224
49	881	40	64	0	103
50	726	33	53	0	85

*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	\$ 597	\$ 27	\$ 43	\$ 0	\$ 70
52	491	22	35	0	57
53	229	10	17	(0)	27
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	\$ 4,111,616	\$ 122,140	\$ 222,539	\$ 304,674	\$ 4,315,892
2	4,315,892	121,231	238,192	319,385	4,518,316
3	4,518,316	118,956	267,056	333,420	4,703,636
4	4,703,636	117,551	285,501	346,588	4,882,274
5	4,882,274	116,310	303,491	359,278	5,054,371
6	5,054,371	114,188	322,727	371,399	5,217,232
7	5,217,232	112,443	340,739	382,886	5,371,822
8	5,371,822	110,531	358,903	393,741	5,517,192
9	5,517,192	108,579	377,653	403,882	5,651,999
10	5,651,999	107,042	395,054	413,295	5,777,282
11	5,777,282	106,009	411,478	422,048	5,893,862
12	5,893,862	105,158	427,392	430,174	6,001,803
13	6,001,803	104,243	443,708	437,635	6,099,972
14	6,099,972	103,527	459,023	444,408	6,188,884
15	6,188,884	103,431	471,155	450,626	6,271,786
16	6,271,786	103,750	481,521	456,474	6,350,488
17	6,350,488	104,376	490,239	462,078	6,426,703
18	6,426,703	105,431	498,402	467,533	6,501,264
19	6,501,264	106,913	503,369	472,996	6,577,805
20	6,577,805	108,633	506,096	478,700	6,659,041
21	6,659,041	110,090	515,309	484,507	6,738,329
22	6,738,329	111,496	522,818	490,229	6,817,236
23	6,817,236	113,044	531,773	495,874	6,894,381
24	6,894,381	114,674	539,545	501,434	6,970,944
25	6,970,944	116,486	539,373	507,249	7,055,306
26	7,055,306	118,444	537,259	513,726	7,150,218
27	7,150,218	28,650	538,455	517,494	7,157,906
28	7,157,906	26,235	557,559	517,279	7,143,861
29	7,143,861	23,909	573,957	515,536	7,109,349
30	7,109,349	19,493	597,693	511,911	7,043,059
31	7,043,059	14,546	616,966	506,047	6,946,686
32	6,946,686	12,241	622,147	498,543	6,835,323
33	6,835,323	10,493	622,810	490,102	6,713,109
34	6,713,109	9,087	617,792	481,069	6,585,474
35	6,585,474	6,623	628,085	471,027	6,435,039
36	6,435,039	4,134	631,583	459,524	6,267,114
37	6,267,114	3,259	623,357	447,200	6,094,217
38	6,094,217	2,647	613,238	434,583	5,918,209
39	5,918,209	2,130	601,814	421,784	5,740,308
40	5,740,308	1,715	589,837	408,867	5,561,053
41	5,561,053	1,397	577,252	395,875	5,381,073
42	5,381,073	1,153	564,097	382,852	5,200,981
43	5,200,981	909	551,315	369,806	5,020,382
44	5,020,382	704	538,040	356,743	4,839,788
45	4,839,788	580	524,613	343,688	4,659,442
46	4,659,442	461	511,672	330,634	4,478,865
47	4,478,865	365	498,674	317,566	4,298,123
48	4,298,123	224	486,911	304,438	4,115,875
49	4,115,875	103	474,414	291,226	3,932,790
50	3,932,790	85	461,653	277,963	3,749,185

*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	\$ 3,749,185	\$ 70	\$ 449,097	\$ 264,655	\$ 3,564,813
52	3,564,813	57	436,685	251,283	3,379,468
53	3,379,468	27	424,776	237,820	3,192,540
54	3,192,540	0	412,381	224,256	3,004,415
55	3,004,415	0	399,570	210,618	2,815,463
56	2,815,463	0	386,389	196,932	2,626,006
57	2,626,006	0	372,678	183,228	2,436,555
58	2,436,555	0	358,292	169,549	2,247,811
59	2,247,811	0	343,111	155,952	2,060,652
60	2,060,652	0	327,035	142,507	1,876,125
61	1,876,125	0	310,020	129,294	1,695,398
62	1,695,398	0	292,074	116,400	1,519,724
63	1,519,724	0	273,261	103,917	1,350,380
64	1,350,380	0	253,682	91,937	1,188,635
65	1,188,635	0	233,466	80,551	1,035,720
66	1,035,720	0	212,818	69,843	892,744
67	892,744	0	191,998	59,886	760,633
68	760,633	0	171,311	50,739	640,061
69	640,061	0	151,054	42,442	531,450
70	531,450	0	131,475	35,018	434,992
71	434,992	0	112,831	28,470	350,631
72	350,631	0	95,371	22,786	278,046
73	278,046	0	79,312	17,933	216,667
74	216,667	0	64,824	13,863	165,706
75	165,706	0	52,004	10,513	124,215
76	124,215	0	40,887	7,811	91,138
77	91,138	0	31,465	5,677	65,350
78	65,350	0	23,669	4,030	45,710
79	45,710	0	17,370	2,789	31,129
80	31,129	0	12,407	1,878	20,600
81	20,600	0	8,607	1,228	13,220
82	13,220	0	5,792	778	8,207
83	8,207	0	3,769	477	4,914
84	4,914	0	2,364	282	2,832
85	2,832	0	1,424	160	1,568
86	1,568	0	822	87	833
87	833	0	453	46	426
88	426	0	239	23	210
89	210	0	121	11	101
90	101	0	60	5	46
91	46	0	30	2	18
92	18	0	15	1	5
93	5	0	5	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

### 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>a</sup> ((a)-.5)	(g)=(e)*vf <sup>a</sup> ((a)-.5)	(h)=(c)/(1+sdr) <sup>a</sup> ((a)-.5)
1	\$ 4,111,616	\$ 222,539	\$ 222,539	\$ 0	\$ 214,635	\$ 0	\$ 214,635
2	4,315,892	238,192	238,192	0	213,705	0	213,705
3	4,518,316	267,056	267,056	0	222,885	0	222,885
4	4,703,636	285,501	285,501	0	221,656	0	221,656
5	4,882,274	303,491	303,491	0	219,183	0	219,183
6	5,054,371	322,727	322,727	0	216,815	0	216,815
7	5,217,232	340,739	340,739	0	212,944	0	212,944
8	5,371,822	358,903	358,903	0	208,647	0	208,647
9	5,517,192	377,653	377,653	0	204,231	0	204,231
10	5,651,999	395,054	395,054	0	198,736	0	198,736
11	5,777,282	411,478	411,478	0	192,556	0	192,556
12	5,893,862	427,392	427,392	0	186,050	0	186,050
13	6,001,803	443,708	443,708	0	179,677	0	179,677
14	6,099,972	459,023	459,023	0	172,910	0	172,910
15	6,188,884	471,155	471,155	0	165,098	0	165,098
16	6,271,786	481,521	481,521	0	156,958	0	156,958
17	6,350,488	490,239	490,239	0	148,651	0	148,651
18	6,426,703	498,402	498,402	0	140,583	0	140,583
19	6,501,264	503,369	503,369	0	132,078	0	132,078
20	6,577,805	506,096	506,096	0	123,529	0	123,529
21	6,659,041	515,309	515,309	0	117,002	0	117,002
22	6,738,329	522,818	522,818	0	110,425	0	110,425
23	6,817,236	531,773	531,773	0	104,481	0	104,481
24	6,894,381	539,545	539,545	0	98,612	0	98,612
25	6,970,944	539,373	539,373	0	91,703	0	91,703
26	7,055,306	537,259	537,259	0	84,970	0	84,970
27	7,150,218	538,455	538,455	0	79,218	0	79,218
28	7,157,906	557,559	557,559	0	76,306	0	76,306
29	7,143,861	573,957	573,957	0	73,070	0	73,070
30	7,109,349	597,693	597,693	0	70,783	0	70,783
31	7,043,059	616,966	616,966	0	67,968	0	67,968
32	6,946,686	622,147	622,147	0	63,757	0	63,757
33	6,835,323	622,810	622,810	0	59,372	0	59,372
34	6,713,109	617,792	617,792	0	54,785	0	54,785
35	6,585,474	628,085	628,085	0	51,812	0	51,812
36	6,435,039	631,583	631,583	0	48,465	0	48,465
37	6,267,114	623,357	623,357	0	44,497	0	44,497
38	6,094,217	613,238	613,238	0	40,720	0	40,720
39	5,918,209	601,814	601,814	0	37,174	0	37,174
40	5,740,308	589,837	589,837	0	33,892	0	33,892
41	5,561,053	577,252	577,252	0	30,855	0	30,855
42	5,381,073	564,097	564,097	0	28,048	0	28,048
43	5,200,981	551,315	551,315	0	25,500	0	25,500
44	5,020,382	538,040	538,040	0	23,150	0	23,150
45	4,839,788	524,613	524,613	0	20,997	0	20,997
46	4,659,442	511,672	511,672	0	19,051	0	19,051
47	4,478,865	498,674	498,674	0	17,271	0	17,271
48	4,298,123	486,911	486,911	0	15,687	0	15,687
49	4,115,875	474,414	474,414	0	14,218	0	14,218
50	3,932,790	461,653	461,653	0	12,871	0	12,871

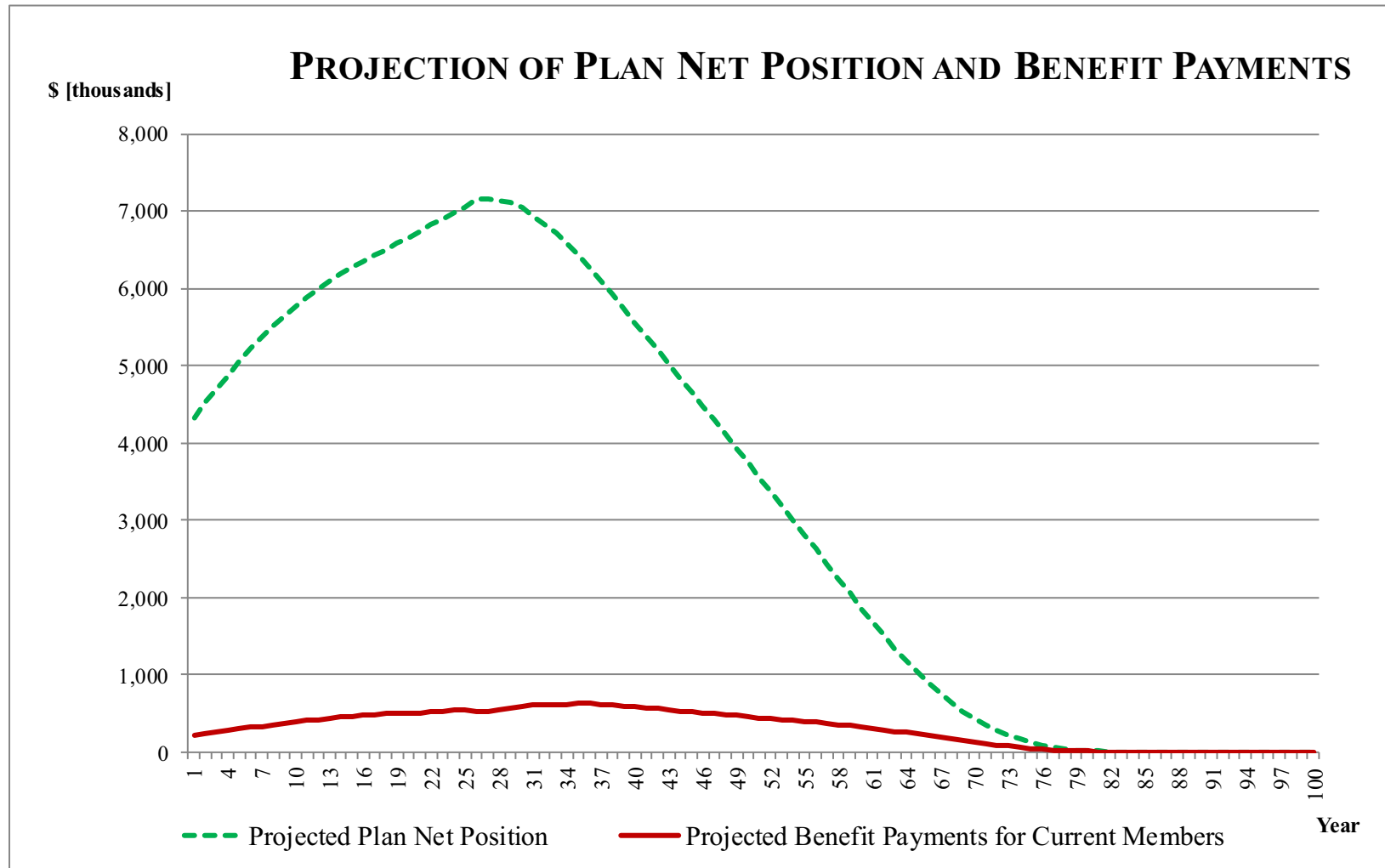
*The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.*

## 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 <sup>-(a)-.5</sup>	(g)=(e)*vf <sup>-(a)-.5</sup>	(h)=(c)/(1+sdr) <sup>-(a)-.5</sup>
51	\$ 3,749,185	\$ 449,097	\$ 449,097	\$ 0	\$ 11,647	\$ 0	\$ 11,647
52	3,564,813	436,685	436,685	0	10,535	0	10,535
53	3,379,468	424,776	424,776	0	9,533	0	9,533
54	3,192,540	412,381	412,381	0	8,609	0	8,609
55	3,004,415	399,570	399,570	0	7,759	0	7,759
56	2,815,463	386,389	386,389	0	6,980	0	6,980
57	2,626,006	372,678	372,678	0	6,263	0	6,263
58	2,436,555	358,292	358,292	0	5,601	0	5,601
59	2,247,811	343,111	343,111	0	4,989	0	4,989
60	2,060,652	327,035	327,035	0	4,424	0	4,424
61	1,876,125	310,020	310,020	0	3,901	0	3,901
62	1,695,398	292,074	292,074	0	3,419	0	3,419
63	1,519,724	273,261	273,261	0	2,975	0	2,975
64	1,350,380	253,682	253,682	0	2,570	0	2,570
65	1,188,635	233,466	233,466	0	2,200	0	2,200
66	1,035,720	212,818	212,818	0	1,865	0	1,865
67	892,744	191,998	191,998	0	1,565	0	1,565
68	760,633	171,311	171,311	0	1,299	0	1,299
69	640,061	151,054	151,054	0	1,066	0	1,066
70	531,450	131,475	131,475	0	863	0	863
71	434,992	112,831	112,831	0	689	0	689
72	350,631	95,371	95,371	0	542	0	542
73	278,046	79,312	79,312	0	419	0	419
74	216,667	64,824	64,824	0	319	0	319
75	165,706	52,004	52,004	0	238	0	238
76	124,215	40,887	40,887	0	174	0	174
77	91,138	31,465	31,465	0	124	0	124
78	65,350	23,669	23,669	0	87	0	87
79	45,710	17,370	17,370	0	59	0	59
80	31,129	12,407	12,407	0	40	0	40
81	20,600	8,607	8,607	0	25	0	25
82	13,220	5,792	5,792	0	16	0	16
83	8,207	3,769	3,769	0	10	0	10
84	4,914	2,364	2,364	0	6	0	6
85	2,832	1,424	1,424	0	3	0	3
86	1,568	822	822	0	2	0	2
87	833	453	453	0	1	0	1
88	426	239	239	0	0	0	0
89	210	121	121	0	0	0	0
90	101	60	60	0	0	0	0
91	46	30	30	0	0	0	0
92	18	15	15	0	0	0	0
93	5	5	5	0	0	0	0
94	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
<b>Totals</b>					\$ 5,449,001	\$ -	\$ 5,449,001

*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.*



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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 fund which was rendered before the date of the actuarial valuation.
<b><i>Actuarial Equivalent</i></b>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<b><i>Actuarial Cost Method</i></b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<b><i>Actuarial Gain (Loss)</i></b>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<b><i>Actuarial Present Value (APV)</i></b>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<b><i>Actuarial Valuation</i></b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

## GLOSSARY OF TERMS (CONTINUED)

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



## GLOSSARY OF TERMS (CONTINUED)

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

## GLOSSARY OF TERMS (CONCLUDED)

***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.