

# Arlington Hgts SD 25 Regular

GASB Statement No. 68 Employer Reporting  
Accounting Schedules  
December 31, 2018



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March 27, 2019

Arlington Hgts SD 25  
Illinois Municipal Retirement Fund

Ladies and Gentlemen:

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

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

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 68. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the Arlington Hgts SD 25 only in its entirety and only with the permission of Arlington Hgts SD 25. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by the Illinois Municipal Retirement Fund (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.

This report complements the actuarial valuation report that was provided to the IMRF and should be considered in conjunction with that report. Please see the actuarial valuation report as of December 31, 2018 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, the information contained in this report is accurate, and fairly represents the GASB 68 information related to Arlington 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,



Mark Buis, FSA, EA, FCA, MAAA



Francois Pieterse, ASA, FCA, MAAA

MB/FP:dj



## **SECTION A**

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### **EXECUTIVE SUMMARY**

## Executive Summary as of December 31, 2018

Actuarial Valuation Date	December 31, 2018
Measurement Date of the Net Pension Liability	December 31, 2018
Fiscal Year End	June 30, 2019

### Membership

Number of	
- Retirees and Beneficiaries	289
- Inactive, Non-Retired Members	266
- Active Members	268
- Total	823
Covered Valuation Payroll <sup>(1)</sup>	\$ 7,804,690

### Net Pension Liability

Total Pension Liability/(Asset)	\$ 48,171,514
Plan Fiduciary Net Position	40,134,493
Net Pension Liability/(Asset)	\$ 8,037,021
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	83.32%
Net Pension Liability as a Percentage of Covered Valuation Payroll	102.98%

### Development of the Single Discount Rate as of December 31, 2018

Long-Term Expected Rate of Investment Return	7.25%
Long-Term Municipal Bond Rate <sup>(2)</sup>	3.71%
Last year ending December 31 in the 2019 to 2118 projection period for which projected benefit payments are fully funded	2118
Resulting Single Discount Rate based on the above development	7.25%

Single Discount Rate calculated using December 31, 2017 Measurement Date 7.50%

Total Pension Expense/(Income) \$ 1,201,636

### 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	\$ 360,170	\$ 781
Changes in assumptions	745,334	470,904
Net difference between projected and actual earnings on pension plan investments	5,127,696	2,385,841
Total	\$ 6,233,200	\$ 2,857,526

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

<sup>(2)</sup> Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of December 31, 2018. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax exempt securities.

## 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, 2018.

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, 2018 Annual Actuarial Valuation report dated February 28, 2019);
- 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, 2018 Annual Actuarial Valuation report dated February 28, 2019, 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, 2018 and a measurement date of December 31, 2018.

## 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 7.25%, the municipal bond rate is 3.71% (based on the daily rate closest to but not later than the measurement date of the "20-Year Municipal GO AA Index" described on page 1), and the resulting Single Discount Rate is 7.25%.

## 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 7.25% 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 2118 and a discount rate of 7.25%. The projections in this report are strictly for the purposes of determining the GASB discount rate and are different from a funding projection for the ongoing plan.

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

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

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

### Limitations of Funded Status Measurements

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

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

## Limitation of Project Scope

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

**SECTION B**

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**FINANCIAL STATEMENTS**

## **Pension Expense/(Income) Under GASB Statement No. 68**

### **Calendar Year Ended December 31, 2018**

#### **A. Expense/(Income)**

1. Service Cost	\$ 777,672
2. Interest on the Total Pension Liability	3,324,644
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(351,229)
5. Projected Earnings on Plan Investments (made negative for addition here)	(3,220,082)
6. Other Changes In Plan Fiduciary Net Position	(543,908)
7. Recognition of Outflow (Inflow) of Resources due to Liabilities	227,157
8. Recognition of Outflow (Inflow) of Resources due to Assets	987,382
9. Total Pension Expense/(Income)	<u>\$ 1,201,636</u>

### **Recognition of Deferred Outflows and Inflows of Resources**

Differences between expected and actual experience and changes in assumptions are recognized in pension expense using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with a retirement benefit through the pension plan (active employees and inactive employees) determined as of the beginning of the measurement period.

At the beginning of the current measurement period, the expected remaining service lives of all active employees in the plan was approximately 2157.25 years. Additionally, the total plan membership (active employees and inactive employees) was 807. As a result, the average of the expected remaining service lives for purposes of recognizing the applicable deferred outflows and inflows of resources established in the current measurement period is 2.6732 years.

Additionally, differences between projected and actual earnings on pension plan investments should be recognized in pension expense using a systematic and rational method over a closed five-year period. For this purpose, the deferred outflows and inflows of resources are recognized in the pension expense as a level dollar amount over the closed period identified above.

# Statement of Outflows and Inflows Arising from Current Reporting Period Calendar Year Ended December 31, 2018

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

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 193,364
2. Assumption Changes (gains) or losses	\$ 1,190,789
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	2.6732
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	\$ 72,334
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 445,455
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 517,789
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	\$ 121,030
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ 745,334
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 866,364

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

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 5,669,074
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	\$ 1,133,815
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 4,535,259

\* 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, 2018

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 762,816	\$ 535,659	\$ 227,157
2. Due to Assets	1,782,663	795,281	987,382
3. Total	\$ 2,545,479	\$ 1,330,940	\$ 1,214,539

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 315,032	\$ 11,582	\$ 303,450
2. Assumption changes	447,784	524,077	\$ (76,293)
3. Net difference between projected and actual earnings on pension plan investments	1,782,663	795,281	987,382
4. Total	\$ 2,545,479	\$ 1,330,940	\$ 1,214,539

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 360,170	\$ 781	\$ 359,389
2. Assumption changes	745,334	470,904	274,430
3. Net difference between projected and actual earnings on pension plan investments	5,127,696	2,385,841	2,741,855
4. Total	\$ 6,233,200	\$ 2,857,526	\$ 3,375,674

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

Year Ending December 31	Net Deferred Outflows of Resources
2019	\$ 1,176,771
2020	726,553
2021	338,536
2022	1,133,814
2023	0
Thereafter	0
Total	\$ 3,375,674

## Schedule of Changes in Net Pension Liability and Related Ratios Current Period Calendar Year Ended December 31, 2018

<b>A. Total pension liability</b>	
1. Service Cost	\$ 777,672
2. Interest on the Total Pension Liability	3,324,644
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	193,364
5. Changes of assumptions	1,190,789
6. Benefit payments, including refunds of employee contributions	(2,509,401)
7. Net change in total pension liability	\$ 2,977,068
8. Total pension liability – beginning	45,194,446
9. Total pension liability – ending	<u>\$ 48,171,514</u>
<b>B. Plan fiduciary net position</b>	
1. Contributions – employer	\$ 912,384
2. Contributions – employee	351,229
3. Net investment income	(2,448,992)
4. Benefit payments, including refunds of employee contributions	(2,509,401)
5. Other (Net Transfer)	543,908
6. Net change in plan fiduciary net position	\$ (3,150,872)
7. Plan fiduciary net position – beginning	43,285,365
8. Plan fiduciary net position – ending	<u>\$ 40,134,493</u>
<b>C. Net pension liability/(asset)</b>	<u>\$ 8,037,021</u>
<b>D. Plan fiduciary net position as a percentage of the total pension liability</b>	
	83.32%
<b>E. Covered Valuation payroll</b>	\$ 7,804,690
<b>F. Net pension liability as a percentage of covered valuation payroll</b>	
	102.98%

### Sensitivity of Net Pension Liability/(Asset) to the Single Discount Rate Assumption

	1% Decrease 6.25%	Current Single Discount Rate Assumption 7.25%	1% Increase 8.25%
Total Pension Liability	\$ 53,533,081	\$ 48,171,514	\$ 43,702,452
Plan Fiduciary Net Position	40,134,493	40,134,493	40,134,493
Net Pension Liability/(Asset)	\$ 13,398,588	\$ 8,037,021	\$ 3,567,959

## 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,	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>Total Pension Liability</b>										
Service Cost	\$ 777,672	\$ 848,202	\$ 866,048	\$ 869,695	\$ 915,435					
Interest on the Total Pension Liability	3,324,644	3,251,677	3,120,202	2,969,300	2,690,242					
Benefit Changes	0	0	0	0	0					
Difference between Expected and Actual Experience	193,364	711,424	(35,527)	265,732	347,151					
Assumption Changes	1,190,789	(1,388,230)	(194,112)	94,426	1,806,494					
Benefit Payments and Refunds	(2,509,401)	(2,320,450)	(2,115,056)	(2,021,132)	(1,798,506)					
<b>Net Change in Total Pension Liability</b>	<b>2,977,068</b>	<b>1,102,623</b>	<b>1,641,555</b>	<b>2,178,021</b>	<b>3,960,816</b>					
<b>Total Pension Liability - Beginning</b>	<b>45,194,446</b>	<b>44,091,823</b>	<b>42,450,268</b>	<b>40,272,247</b>	<b>36,311,431</b>					
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 48,171,514</b>	<b>\$ 45,194,446</b>	<b>\$ 44,091,823</b>	<b>\$ 42,450,268</b>	<b>\$ 40,272,247</b>					
<b>Plan Fiduciary Net Position</b>										
Employer Contributions	\$ 912,384	\$ 919,875	\$ 943,309	\$ 896,167	\$ 916,975					
Employee Contributions	351,229	365,413	348,069	348,858	346,070					
Pension Plan Net Investment Income	(2,448,992)	6,780,945	2,489,530	180,413	2,091,460					
Benefit Payments and Refunds	(2,509,401)	(2,320,450)	(2,115,056)	(2,021,132)	(1,798,506)					
Other	543,908	(743,786)	384,179	358,469	360,607					
<b>Net Change in Plan Fiduciary Net Position</b>	<b>(3,150,872)</b>	<b>5,001,997</b>	<b>2,050,031</b>	<b>(237,225)</b>	<b>1,916,606</b>					
<b>Plan Fiduciary Net Position - Beginning</b>	<b>43,285,365</b>	<b>38,283,368</b>	<b>36,233,337</b>	<b>36,470,562</b>	<b>34,553,956</b>					
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 40,134,493</b>	<b>\$ 43,285,365</b>	<b>\$ 38,283,368</b>	<b>\$ 36,233,337</b>	<b>\$ 36,470,562</b>					
<b>Net Pension Liability/(Asset) - Ending (a) - (b)</b>	<b>8,037,021</b>	<b>1,909,081</b>	<b>5,808,455</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>83.32%</b>	<b>95.78 %</b>	<b>86.83 %</b>	<b>85.35%</b>	<b>90.56 %</b>					
<b>Covered Valuation Payroll</b>	<b>\$ 7,804,690</b>	<b>\$ 7,779,557</b>	<b>\$ 7,734,843</b>	<b>\$ 7,633,456</b>	<b>\$ 7,545,460</b>					
<b>Net Pension Liability as a Percentage of Covered Valuation Payroll</b>	<b>102.98%</b>	<b>24.54 %</b>	<b>75.09 %</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%
2016	931,275	943,309	(12,034)	7,734,843	12.20%
2017	908,652	919,875	(11,223)	7,779,557	11.82%
2018	898,320 *	912,384	(14,064)	7,804,690	11.69%

\* Estimated based on contribution rate of 11.51% and covered valuation payroll of \$7,804,690.

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 2018 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 2018 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): 25-year closed 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 20 years for most employers (three employers were financed over 29 years).
Asset Valuation Method	5-Year smoothed market; 20% corridor
Wage growth	3.50%
Price Inflation	2.75%
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, 2016 actuarial valuation.

## Development of Market Value of Assets

### Market Value of Assets as of December 31, 2018

1. Employee Contribution Reserve (MDF Assets from IMRF)	\$	7,011,149
2. Employer Contribution Reserve (EAF assets from IMRF)	\$	6,398,442
3. Annuity Reserve	\$	26,614,015
4. Miscellaneous Adjustment*	\$	110,887
5. Net Market Value	\$	40,134,493

\* Includes an adjustment factor of 0.0027705476 on Items 1 through 3 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	\$	898,372
b.) Accelerated payments and Reserve Payments		14,012
	\$	912,384

#### 2. Member

a.) Wage Reporting	\$	351,229
b.) Member Payments (I.e. ERI, Pension Payments)		-
Sub-total (Amount used for valuation on Schedule of Changes Page 10)	\$	351,229

c.) Voluntary Additional Plan	\$	76,987
Total Member Contributions (a+b+c)	\$	428,216

Total Employer and Member Contributions (1+2)	\$	1,340,600
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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	2.50%
Salary Increases	3.39% to 14.25%
Investment Rate of Return	7.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2017 valuation pursuant to an experience study of the period 2014-2016.
Mortality	For non-disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2017 (base year 2015). 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-2017 (base year 2015). 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-2017 (base year 2015). 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, 2018 Illinois Municipal Retirement Fund annual actuarial valuation report.

**SECTION C**

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**CALCULATION OF THE SINGLE DISCOUNT RATE**

## Calculation of the Single Discount Rate

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

The *Single Discount Rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating 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 7.25%; the municipal bond rate is 3.71%; and the resulting single discount rate is 7.25%.

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
2018	\$ 7,804,690				
2019	7,634,243	\$ 343,541	\$ 432,920	\$ 415,122	\$ 1,191,582
2020	7,013,814	315,622	425,821	465,079	1,206,522
2021	6,500,560	292,525	389,455	520,255	1,202,235
2022	6,057,265	272,577	362,290	581,269	1,216,136
2023	5,668,114	255,065	337,880	648,836	1,241,781
2024	5,318,748	239,344	315,457	665,057	1,219,857
2025	5,002,203	225,099	295,180	681,683	1,201,962
2026	4,707,747	211,849	275,919	698,725	1,186,493
2027	4,428,465	199,281	257,777	716,193	1,173,251
2028	4,170,251	187,661	241,495	734,098	1,163,254
2029	3,928,254	176,771	225,908	752,451	1,155,130
2030	3,693,356	166,201	211,290	771,262	1,148,753
2031	3,462,929	155,832	196,721	790,543	1,143,096
2032	3,238,641	145,739	183,007	810,307	1,139,053
2033	3,020,853	135,938	169,793	830,565	1,136,297
2034	2,811,761	126,529	157,196	851,329	1,135,055
2035	2,586,544	116,394	143,570	872,612	1,132,576
2036	2,349,001	105,705	129,444	894,427	1,129,576
2037	2,127,683	95,746	116,183	916,788	1,128,717
2038	1,921,251	86,456	104,141	939,708	1,130,306
2039	1,739,144	78,261	93,400	963,200	1,134,861
2040	1,569,821	70,642	83,521	987,280	1,141,442
2041	1,407,661	63,345	74,048	1,011,962	1,149,354
2042	1,260,077	56,704	65,653	1,037,261	1,159,618
2043	1,127,090	50,719	58,160	0	108,879
2044	1,010,958	45,493	51,560	0	97,054
2045	909,067	40,908	45,818	0	86,726
2046	816,996	36,765	40,359	0	77,124
2047	729,164	32,812	35,291	0	68,103
2048	648,465	29,181	30,801	0	59,982
2049	563,949	25,378	26,335	0	51,712
2050	467,451	21,035	21,595	0	42,630
2051	391,502	17,618	18,008	0	35,625
2052	341,157	15,352	15,590	0	30,942
2053	275,204	12,384	12,438	0	24,822
2054	197,240	8,876	8,895	0	17,770
2055	141,734	6,378	6,434	0	12,812
2056	112,282	5,053	5,097	0	10,150
2057	75,585	3,401	3,409	0	6,810
2058	30,115	1,355	1,373	0	2,728
2059	11,788	530	581	0	1,112
2060	5,766	259	326	0	585
2061	3,309	149	205	0	354
2062	1,959	88	129	0	217
2063	1,295	58	87	0	145
2064	1,017	46	69	0	114
2065	804	36	55	0	91
2066	576	26	40	0	66
2067	391	18	27	0	45
2068	308	14	22	0	35

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
2069	\$ 139	\$ 6	\$ 10	\$ 0	16
2070	0	0	0	0	0
2071	0	0	0	0	0
2072	0	0	0	0	0
2073	0	0	0	0	0
2074	0	0	0	0	0
2075	0	0	0	0	0
2076	0	0	0	0	0
2077	0	0	0	0	0
2078	0	0	0	0	0
2079	0	0	0	0	0
2080	0	0	0	0	0
2081	0	0	0	0	0
2082	0	0	0	0	0
2083	0	0	0	0	0
2084	0	0	0	0	0
2085	0	0	0	0	0
2086	0	0	0	0	0
2087	0	0	0	0	0
2088	0	0	0	0	0
2089	0	0	0	0	0
2090	0	0	0	0	0
2091	0	0	0	0	0
2092	0	0	0	0	0
2093	0	0	0	0	0
2094	0	0	0	0	0
2095	0	0	0	0	0
2096	0	0	0	0	0
2097	0	0	0	0	0
2098	0	0	0	0	0
2099	0	0	0	0	0
2100	0	0	0	0	0
2101	0	0	0	0	0
2102	0	0	0	0	0
2103	0	0	0	0	0
2104	0	0	0	0	0
2105	0	0	0	0	0
2106	0	0	0	0	0
2107	0	0	0	0	0
2108	0	0	0	0	0
2109	0	0	0	0	0
2110	0	0	0	0	0
2111	0	0	0	0	0
2112	0	0	0	0	0
2113	0	0	0	0	0
2114	0	0	0	0	0
2115	0	0	0	0	0
2116	0	0	0	0	0
2117	0	0	0	0	0
2118	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 7.25%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
2019	\$ 40,134,493	\$ 1,191,582	\$ 2,791,016	\$ 2,852,786	\$ 41,387,845
2020	41,387,845	1,206,522	2,961,901	2,938,100	42,570,566
2021	42,570,566	1,202,235	3,138,583	3,017,401	43,651,619
2022	43,651,619	1,216,136	3,306,578	3,090,290	44,651,467
2023	44,651,467	1,241,781	3,447,135	3,158,686	45,604,800
2024	45,604,800	1,219,857	3,567,244	3,222,744	46,480,157
2025	46,480,157	1,201,962	3,711,000	3,280,450	47,251,570
2026	47,251,570	1,186,493	3,840,350	3,331,220	47,928,932
2027	47,928,932	1,173,252	3,964,547	3,375,433	48,513,070
2028	48,513,070	1,163,254	4,072,234	3,413,592	49,017,682
2029	49,017,682	1,155,130	4,176,473	3,446,174	49,442,513
2030	49,442,513	1,148,753	4,278,620	3,473,110	49,785,755
2031	49,785,755	1,143,096	4,371,933	3,494,470	50,051,389
2032	50,051,389	1,139,053	4,453,187	3,510,690	50,247,944
2033	50,247,944	1,136,296	4,531,302	3,522,060	50,374,999
2034	50,374,999	1,135,054	4,607,999	3,528,496	50,430,551
2035	50,430,551	1,132,576	4,696,471	3,529,284	50,395,940
2036	50,395,940	1,129,576	4,777,081	3,523,797	50,272,232
2037	50,272,232	1,128,717	4,833,459	3,512,790	50,080,279
2038	50,080,279	1,130,305	4,871,776	3,497,565	49,836,373
2039	49,836,373	1,134,861	4,885,627	3,479,551	49,565,158
2040	49,565,158	1,141,443	4,886,443	3,460,093	49,280,251
2041	49,280,251	1,149,355	4,877,430	3,440,040	48,992,215
2042	48,992,215	1,159,618	4,852,891	3,420,397	48,719,339
2043	48,719,339	108,879	4,829,076	3,364,039	47,363,181
2044	47,363,181	97,054	4,785,274	3,266,856	45,941,817
2045	45,941,817	86,726	4,715,025	3,165,941	44,479,459
2046	44,479,459	77,124	4,634,289	3,062,454	42,984,748
2047	42,984,748	68,103	4,546,654	2,956,887	41,463,084
2048	41,463,084	59,982	4,448,315	2,849,780	39,924,530
2049	39,924,530	51,712	4,367,153	2,740,831	38,349,921
2050	38,349,921	42,630	4,277,337	2,629,547	36,744,761
2051	36,744,761	35,625	4,156,024	2,517,244	35,141,607
2052	35,141,607	30,942	4,029,548	2,405,353	33,548,353
2053	33,548,353	24,822	3,926,819	2,293,283	31,939,639
2054	31,939,639	17,770	3,821,351	2,180,156	30,316,216
2055	30,316,216	12,812	3,694,882	2,066,786	28,700,931
2056	28,700,931	10,150	3,542,683	1,955,004	27,123,402
2057	27,123,402	6,810	3,418,246	1,844,946	25,556,911
2058	25,556,911	2,728	3,291,746	1,735,735	24,003,628
2059	24,003,628	1,112	3,139,805	1,628,476	22,493,411
2060	22,493,411	585	2,982,498	1,524,569	21,036,067
2061	21,036,067	354	2,826,798	1,424,449	19,634,073
2062	19,634,073	217	2,674,851	1,328,211	18,287,650
2063	18,287,650	145	2,526,741	1,235,868	16,996,923
2064	16,996,923	114	2,382,013	1,147,444	15,762,468
2065	15,762,468	91	2,241,152	1,062,962	14,584,368
2066	14,584,368	66	2,104,457	982,417	13,462,395
2067	13,462,395	45	1,971,761	905,799	12,396,478
2068	12,396,478	35	1,843,183	833,100	11,386,429

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 7.25%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
2069	\$ 11,386,429	\$ 16	\$ 1,719,025	\$ 764,292	\$ 10,431,713
2070	10,431,713	0	1,599,085	699,347	9,531,975
2071	9,531,975	0	1,483,580	638,229	8,686,624
2072	8,686,624	0	1,372,773	580,888	7,894,739
2073	7,894,739	0	1,266,859	527,248	7,155,129
2074	7,155,129	0	1,166,036	477,218	6,466,310
2075	6,466,310	0	1,070,494	430,681	5,826,497
2076	5,826,497	0	980,344	387,505	5,233,658
2077	5,233,658	0	895,565	347,544	4,685,638
2078	4,685,638	0	816,057	310,644	4,180,225
2079	4,180,225	0	741,668	276,651	3,715,207
2080	3,715,207	0	672,201	245,412	3,288,418
2081	3,288,418	0	607,427	216,776	2,897,767
2082	2,897,767	0	547,116	190,602	2,541,254
2083	2,541,254	0	491,026	166,753	2,216,981
2084	2,216,981	0	438,941	145,098	1,923,137
2085	1,923,137	0	390,667	125,514	1,657,984
2086	1,657,984	0	346,014	107,880	1,419,850
2087	1,419,850	0	304,827	92,083	1,207,106
2088	1,207,106	0	266,951	78,008	1,018,163
2089	1,018,163	0	232,233	65,546	851,475
2090	851,475	0	200,562	54,589	705,502
2091	705,502	0	171,830	45,029	578,701
2092	578,701	0	145,914	36,759	469,546
2093	469,546	0	122,691	29,672	376,527
2094	376,527	0	102,056	23,663	298,134
2095	298,134	0	83,899	18,627	232,862
2096	232,862	0	68,095	14,457	179,225
2097	179,225	0	54,494	11,053	135,783
2098	135,783	0	42,944	8,315	101,154
2099	101,154	0	33,289	6,148	74,013
2100	74,013	0	25,357	4,463	53,119
2101	53,119	0	18,950	3,176	37,346
2102	37,346	0	13,873	2,213	25,686
2103	25,686	0	9,938	1,508	17,256
2104	17,256	0	6,956	1,003	11,304
2105	11,304	0	4,747	650	7,208
2106	7,208	0	3,151	410	4,467
2107	4,467	0	2,033	251	2,685
2108	2,685	0	1,273	149	1,562
2109	1,562	0	771	86	876
2110	876	0	450	48	474
2111	474	0	253	25	246
2112	246	0	136	13	123
2113	123	0	70	6	59
2114	59	0	35	3	27
2115	27	0	17	1	12
2116	12	0	8	1	5
2117	5	0	4	0	1
2118	1	0	1	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 (w)	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)*w <sup>a</sup> -(a)-.5	(h)=(c)/(1+sdr) <sup>a</sup> -(a)-.5
2019	\$ 40,134,493	\$ 2,791,016	\$ 2,791,016	\$ 0	\$ 2,695,031	\$ 0	\$ 2,695,031
2020	41,387,845	2,961,901	2,961,901	0	2,666,703	0	2,666,703
2021	42,570,566	3,138,583	3,138,583	0	2,634,756	0	2,634,756
2022	43,651,619	3,306,578	3,306,578	0	2,588,142	0	2,588,142
2023	44,651,467	3,447,135	3,447,135	0	2,515,767	0	2,515,767
2024	45,604,800	3,567,244	3,567,244	0	2,427,435	0	2,427,435
2025	46,480,157	3,711,000	3,711,000	0	2,354,553	0	2,354,553
2026	47,251,570	3,840,350	3,840,350	0	2,271,910	0	2,271,910
2027	47,928,932	3,964,547	3,964,547	0	2,186,837	0	2,186,837
2028	48,513,070	4,072,234	4,072,234	0	2,094,394	0	2,094,394
2029	49,017,682	4,176,473	4,176,473	0	2,002,802	0	2,002,802
2030	49,442,513	4,278,620	4,278,620	0	1,913,087	0	1,913,087
2031	49,785,755	4,371,933	4,371,933	0	1,822,667	0	1,822,667
2032	50,051,389	4,453,187	4,453,187	0	1,731,041	0	1,731,041
2033	50,247,944	4,531,302	4,531,302	0	1,642,336	0	1,642,336
2034	50,374,999	4,607,999	4,607,999	0	1,557,235	0	1,557,235
2035	50,430,551	4,696,471	4,696,471	0	1,479,845	0	1,479,845
2036	50,395,940	4,777,081	4,777,081	0	1,403,492	0	1,403,492
2037	50,272,232	4,833,459	4,833,459	0	1,324,061	0	1,324,061
2038	50,080,279	4,871,776	4,871,776	0	1,244,343	0	1,244,343
2039	49,836,373	4,885,627	4,885,627	0	1,163,525	0	1,163,525
2040	49,565,158	4,886,443	4,886,443	0	1,085,053	0	1,085,053
2041	49,280,251	4,877,430	4,877,430	0	1,009,838	0	1,009,838
2042	48,992,215	4,852,891	4,852,891	0	936,837	0	936,837
2043	48,719,339	4,829,076	4,829,076	0	869,221	0	869,221
2044	47,363,181	4,785,274	4,785,274	0	803,111	0	803,111
2045	45,941,817	4,715,025	4,715,025	0	737,829	0	737,829
2046	44,479,459	4,634,289	4,634,289	0	676,172	0	676,172
2047	42,984,748	4,546,654	4,546,654	0	618,542	0	618,542
2048	41,463,084	4,448,315	4,448,315	0	564,255	0	564,255
2049	39,924,530	4,367,153	4,367,153	0	516,512	0	516,512
2050	38,349,921	4,277,337	4,277,337	0	471,692	0	471,692
2051	36,744,761	4,156,024	4,156,024	0	427,332	0	427,332
2052	35,141,607	4,029,548	4,029,548	0	386,320	0	386,320
2053	33,548,353	3,926,819	3,926,819	0	351,022	0	351,022
2054	31,939,639	3,821,351	3,821,351	0	318,502	0	318,502
2055	30,316,216	3,694,882	3,694,882	0	287,144	0	287,144
2056	28,700,931	3,542,683	3,542,683	0	256,704	0	256,704
2057	27,123,402	3,418,246	3,418,246	0	230,944	0	230,944
2058	25,556,911	3,291,746	3,291,746	0	207,364	0	207,364
2059	24,003,628	3,139,805	3,139,805	0	184,422	0	184,422
2060	22,493,411	2,982,498	2,982,498	0	163,340	0	163,340
2061	21,036,067	2,826,798	2,826,798	0	144,348	0	144,348
2062	19,634,073	2,674,851	2,674,851	0	127,355	0	127,355
2063	18,287,650	2,526,741	2,526,741	0	112,171	0	112,171
2064	16,996,923	2,382,013	2,382,013	0	98,598	0	98,598
2065	15,762,468	2,241,152	2,241,152	0	86,496	0	86,496
2066	14,584,368	2,104,457	2,104,457	0	75,730	0	75,730
2067	13,462,395	1,971,761	1,971,761	0	66,158	0	66,158
2068	12,396,478	1,843,183	1,843,183	0	57,664	0	57,664

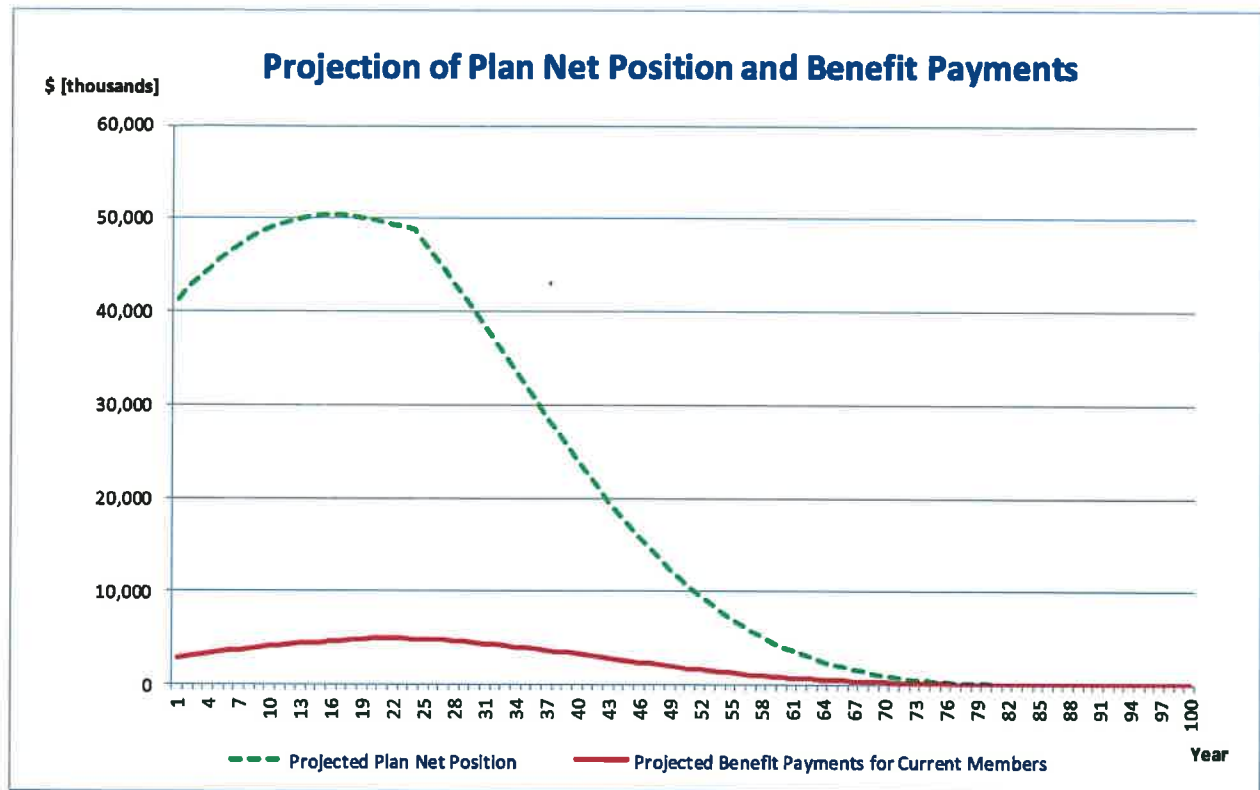
The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

# 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</sup> /(a-.5)	(g)=(e)*vf <sup>a</sup> /(a-.5)	(h)=(c)/(1+sdr) <sup>a</sup> /(a-.5)
2069	\$ 11,386,429	\$ 1,719,025	\$ 1,719,025	\$ 0	\$ 50,144	\$ 0	\$ 50,144
2070	10,431,713	1,599,085	1,599,085	0	43,492	0	43,492
2071	9,531,975	1,483,580	1,483,580	0	37,623	0	37,623
2072	8,686,624	1,372,773	1,372,773	0	32,460	0	32,460
2073	7,894,739	1,266,859	1,266,859	0	27,930	0	27,930
2074	7,155,129	1,166,036	1,166,036	0	23,970	0	23,970
2075	6,466,310	1,070,494	1,070,494	0	20,518	0	20,518
2076	5,826,497	980,344	980,344	0	17,520	0	17,520
2077	5,233,658	895,565	895,565	0	14,923	0	14,923
2078	4,685,638	816,057	816,057	0	12,679	0	12,679
2079	4,180,225	741,668	741,668	0	10,744	0	10,744
2080	3,715,207	672,201	672,201	0	9,080	0	9,080
2081	3,288,418	607,427	607,427	0	7,650	0	7,650
2082	2,897,767	547,116	547,116	0	6,425	0	6,425
2083	2,541,254	491,026	491,026	0	5,376	0	5,376
2084	2,216,981	438,941	438,941	0	4,481	0	4,481
2085	1,923,137	390,667	390,667	0	3,719	0	3,719
2086	1,657,984	346,014	346,014	0	3,071	0	3,071
2087	1,419,850	304,827	304,827	0	2,523	0	2,523
2088	1,207,106	266,951	266,951	0	2,060	0	2,060
2089	1,018,163	232,233	232,233	0	1,671	0	1,671
2090	851,475	200,562	200,562	0	1,345	0	1,345
2091	705,502	171,830	171,830	0	1,075	0	1,075
2092	578,701	145,914	145,914	0	851	0	851
2093	469,546	122,691	122,691	0	667	0	667
2094	376,527	102,056	102,056	0	517	0	517
2095	298,134	83,899	83,899	0	397	0	397
2096	232,862	68,095	68,095	0	300	0	300
2097	179,225	54,494	54,494	0	224	0	224
2098	135,783	42,944	42,944	0	165	0	165
2099	101,154	33,289	33,289	0	119	0	119
2100	74,013	25,357	25,357	0	84	0	84
2101	53,119	18,950	18,950	0	59	0	59
2102	37,346	13,873	13,873	0	40	0	40
2103	25,686	9,938	9,938	0	27	0	27
2104	17,256	6,956	6,956	0	18	0	18
2105	11,304	4,747	4,747	0	11	0	11
2106	7,208	3,151	3,151	0	7	0	7
2107	4,467	2,033	2,033	0	4	0	4
2108	2,685	1,273	1,273	0	2	0	2
2109	1,562	771	771	0	1	0	1
2110	876	450	450	0	1	0	1
2111	474	253	253	0	0	0	0
2112	246	136	136	0	0	0	0
2113	123	70	70	0	0	0	0
2114	59	35	35	0	0	0	0
2115	27	17	17	0	0	0	0
2116	12	8	8	0	0	0	0
2117	5	4	4	0	0	0	0
2118	1	1	1	0	0	0	0
Totals					\$ 53,934,608	\$ -	\$ 53,934,608

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.



*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.*

## **SECTION D**

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### **GLOSSARY OF TERMS**

## Glossary of Terms

***Actuarial Accrued Liability (AAL)***

The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."

***Actuarial Assumptions***

These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.

***Accrued Service***

Service credited under the fund which was rendered before the date of the actuarial valuation.

***Actuarial Equivalent***

A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

***Actuarial Cost Method***

A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.

***Actuarial Gain (Loss)***

The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.

***Actuarial Present Value (APV)***

The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.

***Actuarial Valuation***

The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.

***Actuarial Valuation Date***

The date as of which an actuarial valuation is performed.

***Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)***

A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

## Glossary of Terms (Continued)

<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)

### **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.