

Village of Arlington Heights Regular

GASB Statement No. 68 Employer Reporting

Accounting Schedules

December 31, 2020



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March 26, 2021

Village of Arlington Heights
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 No. 68 may produce significantly different results. This report may be provided to parties other than the Village of Arlington Heights only in its entirety and only with the permission of Village of Arlington Heights. 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, 2020 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 Village of Arlington Heights. 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.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

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:bd



SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2020

Actuarial Valuation Date	December 31, 2020
Measurement Date of the Net Pension Liability	December 31, 2020
Fiscal Year End	April 30, 2021

Membership

Number of	
- Retirees and Beneficiaries	505
- Inactive, Non-Retired Members	215
- Active Members	372
- Total	1,092
Covered Valuation Payroll ⁽¹⁾	\$ 27,713,351

Net Pension Liability

Total Pension Liability/(Asset)	\$ 202,167,229
Plan Fiduciary Net Position	202,106,820
Net Pension Liability/(Asset)	\$ 60,409
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	99.97%
Net Pension Liability as a Percentage of Covered Valuation Payroll	0.22%

Development of the Single Discount Rate as of December 31, 2020

Long-Term Expected Rate of Investment Return	7.25%
Long-Term Municipal Bond Rate ⁽²⁾	2.00%
Last year ending December 31 in the 2021 to 2120 projection period for which projected benefit payments are fully funded	2120
Resulting Single Discount Rate based on the above development	7.25%

Single Discount Rate calculated using December 31, 2019 Measurement Date 7.25%

Total Pension Expense/(Income) \$ (2,213,934)

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	\$ 2,928,188	\$ 0
Changes in assumptions	698,366	1,266,480
Net difference between projected and actual earnings on pension plan investments	8,857,136	24,655,109
Total	\$ 12,483,690	\$ 25,921,589

⁽¹⁾ Does not necessarily represent Covered Employee Payroll as defined in GASB Statement No. 68.

⁽²⁾ 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, 2020. 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, 2020.

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, 2020 Annual Actuarial Valuation report dated March 15, 2021);
- 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 11);
- Significant assumptions and methods used to calculate the total pension liability (page 16);
- Inputs to the single discount rate (page 17);
- Certain information about mortality assumptions and the dates of experience studies (page 14 and page 16);
- 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 14 and 16);
- 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, 2020 Annual Actuarial Valuation report dated March 15, 2021, as well as page 14);
- 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 11);
- 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 11); 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 12);
- 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 12); and
- Comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy (page 13).

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 fiscal year-end date, consistently applied from period to period. 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, 2020 and a measurement date of December 31, 2020.

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 2.00% (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 2120 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 an unrelated third party in an arm's length market value type transaction.
- (2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amount of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon actuarial assumptions. A funded ratio measurement in this report of 100% is not synonymous with no required future contributions. If the funded ratio were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).

Limitation of Project Scope

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

SECTION B

FINANCIAL STATEMENTS

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

Calendar Year Ended December 31, 2020

A. Expense/(Income)

1. Service Cost	\$	2,768,600
2. Interest on the Total Pension Liability		13,898,960
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(1,314,647)
5. Projected Earnings on Plan Investments (made negative for addition here)		(12,950,272)
6. Other Changes in Plan Fiduciary Net Position		(1,298,122)
7. Recognition of Outflow (Inflow) of Resources due to Liabilities		1,566,144
8. Recognition of Outflow (Inflow) of Resources due to Assets		(4,884,597)
9. Total Pension Expense/(Income)	\$	(2,213,934)

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 3,765.36 years. Additionally, the total plan membership (active employees and inactive employees) was 1,080. 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 3.4864 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, 2020

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 2,412,173
2. Assumption Changes (gains) or losses	\$ (1,775,843)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees (in years)	3.4864
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	\$ 691,881
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ (509,363)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 182,518
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ 1,720,292
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ (1,266,480)
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 453,812

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (12,936,438)
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	\$ (2,587,288)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (10,349,150)

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, 2020

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	\$ 3,195,693	\$ 1,629,549	\$ 1,566,144
2. Due to Assets	4,583,893	9,468,490	(4,884,597)
3. Total	\$ 7,779,586	\$ 11,098,039	\$ (3,318,453)

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	\$ 1,745,598	\$ 17,619	\$ 1,727,979
2. Assumption changes	1,450,095	1,611,930	\$ (161,835)
3. Net difference between projected and actual earnings on pension plan investments	4,583,893	9,468,490	(4,884,597)
4. Total	\$ 7,779,586	\$ 11,098,039	\$ (3,318,453)

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	\$ 2,928,188	\$ 0	\$ 2,928,188
2. Assumption changes	698,366	1,266,480	\$ (568,114)
3. Net difference between projected and actual earnings on pension plan investments	8,857,136	24,655,109	(15,797,973)
4. Total	\$ 12,483,690	\$ 25,921,589	\$ (13,437,899)

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
2021	\$ (3,292,452)
2022	(1,347,269)
2023	(6,210,892)
2024	(2,587,286)
2025	0
Thereafter	0
Total	\$ (13,437,899)

Recognition of Deferred Outflows and Inflows of Resources

Reporting Date - December 31, 2020

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2014	\$ 0	1.0000	\$ 0	\$ 0	0.0000
2015	(648,919)	3.7204	0	0	0.0000
2016	1,640,544	3.6877	0	0	0.0000
2017	(92,058)	3.7101	(17,619)	0	0.0000
2018	1,256,791	3.4816	360,981	173,848	0.4816
2019	2,419,520	3.4927	692,736	1,034,048	1.4927
2020	2,412,173	3.4864	691,881	1,720,292	2.4864
Total			\$ 1,727,979	\$ 2,928,188	
Deferred Outflow (Inflow) due to Assumption Changes					
2014	\$ 0	1.0000	\$ 0	\$ 0	0.0000
2015	395,156	3.7204	0	0	0.0000
2016	(611,951)	3.6877	0	0	0.0000
2017	(5,760,640)	3.7101	(1,102,567)	0	0.0000
2018	5,048,651	3.4816	1,450,095	698,366	0.4816
2019	0	3.4927	0	0	1.4927
2020	(1,775,843)	3.4864	(509,363)	(1,266,480)	2.4864
Total			\$ (161,835)	\$ (568,114)	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2016	\$ 776,629	5.0000	\$ 155,325	\$ 0	0.0000
2017	(15,844,113)	5.0000	(3,168,823)	(3,168,821)	1.0000
2018	22,142,840	5.0000	4,428,568	8,857,136	2.0000
2019	(18,561,896)	5.0000	(3,712,379)	(11,137,138)	3.0000
2020	(12,936,438)	5.0000	(2,587,288)	(10,349,150)	4.0000
Total			\$ (4,884,597)	\$ (15,797,973)	

Schedule of Changes in Net Pension Liability and Related Ratios Current Period Calendar Year Ended December 31, 2020

A. Total pension liability			
1. Service Cost	\$	2,768,600	
2. Interest on the Total Pension Liability		13,898,960	
3. Changes of benefit terms		0	
4. Difference between expected and actual experience of the Total Pension Liability		2,412,173	
5. Changes of assumptions		(1,775,843)	
6. Benefit payments, including refunds of employee contributions		(10,924,301)	
7. Net change in total pension liability	\$	6,379,589	
8. Total pension liability – beginning		195,787,640	
9. Total pension liability – ending	\$	<u>202,167,229</u>	
B. Plan fiduciary net position			
1. Contributions – employer	\$	3,502,858	
2. Contributions – employee		1,314,647	
3. Net investment income		25,886,710	
4. Benefit payments, including refunds of employee contributions		(10,924,301)	
5. Other (Net Transfer)		1,298,122	
6. Net change in plan fiduciary net position	\$	21,078,036	
7. Plan fiduciary net position – beginning		181,028,784	
8. Plan fiduciary net position – ending	\$	<u>202,106,820</u>	
C. Net pension liability/(asset)	\$	<u>60,409</u>	
D. Plan fiduciary net position as a percentage of the total pension liability		99.97%	
E. Covered Valuation payroll	\$	27,713,351	
F. Net pension liability as a percentage of covered valuation payroll		0.22%	

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	\$ 225,286,555	\$ 202,167,229	\$ 183,523,604
Plan Fiduciary Net Position	202,106,820	202,106,820	202,106,820
Net Pension Liability/(Asset)	\$ 23,179,735	\$ 60,409	\$ (18,583,216)

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,	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Pension Liability										
Service Cost	\$ 2,768,600	\$ 2,695,223	\$ 2,526,777	\$ 2,700,511	\$ 2,639,543	\$ 2,640,660				
Interest on the Total Pension Liability	13,898,960	13,316,051	12,874,610	12,858,220	12,281,628	11,869,028				
Benefit Changes	0	0	0	0	0	0				
Difference between Expected and Actual Experience	2,412,173	2,419,520	1,256,791	(92,058)	1,640,544	(648,919)				
Assumption Changes	(1,775,843)	0	5,048,651	(5,760,640)	(611,951)	395,156				
Benefit Payments and Refunds	(10,924,301)	(9,930,417)	(9,635,282)	(9,165,978)	(8,734,040)	(7,881,295)				
Net Change in Total Pension Liability	6,379,589	8,500,377	12,071,547	540,055	7,215,724	6,374,630				
Total Pension Liability - Beginning	195,787,640	187,287,263	175,215,716	174,675,661	167,459,937	161,085,307				
Total Pension Liability - Ending (a)	\$ 202,167,229	\$ 195,787,640	\$ 187,287,263	\$ 175,215,716	\$ 174,675,661	\$ 167,459,937				
Plan Fiduciary Net Position										
Employer Contributions	\$ 3,502,858	\$ 2,718,454	\$ 3,355,360	\$ 3,170,250	\$ 3,257,572	\$ 3,168,474				
Employee Contributions	1,314,647	1,290,982	1,222,046	1,158,454	1,145,096	1,182,657				
Pension Plan Net Investment Income	25,886,710	29,736,794	(9,519,120)	26,872,858	9,933,011	723,795				
Benefit Payments and Refunds	(10,924,301)	(9,930,417)	(9,635,282)	(9,165,978)	(8,734,040)	(7,881,295)				
Other	1,298,122	231,905	1,425,713	(2,743,611)	555,713	965,300				
Net Change in Plan Fiduciary Net Position	21,078,036	24,047,718	(13,151,283)	19,291,973	6,157,352	(1,841,069)				
Plan Fiduciary Net Position - Beginning	181,028,784	156,981,066	170,132,349	150,840,376	144,683,024	146,524,093				
Plan Fiduciary Net Position - Ending (b)	\$ 202,106,820	\$ 181,028,784	\$ 156,981,066	\$ 170,132,349	\$ 150,840,376	\$ 144,683,024				
Net Pension Liability/(Asset) - Ending (a) - (b)	60,409	14,758,856	30,306,197	5,083,367	23,835,285	22,776,913				
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	99.97%	92.46 %	83.82 %	97.10 %	86.35%	86.40 %				
Covered Valuation Payroll	\$ 27,713,351	\$ 27,157,382	\$ 26,335,298	\$ 25,690,842	\$ 24,924,034	\$ 24,380,386				
Net Pension Liability as a Percentage of Covered Valuation Payroll	0.22%	54.35 %	115.08 %	19.79 %	95.63%	93.42 %				



Multiyear Schedule of Contributions

Last 10 Calendar Years

<u>Calendar Year Ending December 31,</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Valuation Payroll</u>	<u>Actual Contribution as a % of Covered Valuation Payroll</u>
2015	\$ 3,159,698	\$ 3,168,474	\$ (8,776)	\$ 24,380,386	13.00%
2016	3,257,571	3,257,572	(1)	24,924,034	13.07%
2017	3,170,250	3,170,250	(0)	25,690,842	12.34%
2018	3,349,850	3,355,360	(5,510)	26,335,298	12.74%
2019	2,718,454	2,718,454	0	27,157,382	10.01%
2020	3,502,968 *	3,502,858	110	27,713,351	12.64%

* Estimated based on contribution rate of 12.64% and covered valuation payroll of \$27,713,351.
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 2020 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 calendar year in which contributions are reported.

Methods and Assumptions Used to Determine 2020 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): 23-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 18 years for most employers (three employers were financed over 27 years and four others were financed over 28 years).
Asset Valuation Method	5-Year smoothed market; 20% corridor
Wage growth	3.25%
Price Inflation	2.50%
Salary Increases	3.35% to 14.25% including inflation
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, IMRF specific mortality rates were used with fully generational projection scale MP-2017 (base year 2015). The IMRF specific rates were developed from the RP-2014 Blue Collar Healthy Annuitant Mortality Table with adjustments to match current IMRF experience. For disabled retirees, IMRF specific mortality rates were 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 adjustments that were applied for non-disabled lives. For active members, IMRF specific mortality rates were 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.

* Based on Valuation Assumptions used in the December 31, 2018 actuarial valuation.

Development of Market Value of Assets

Market Value of Assets as of December 31, 2020

1. Employee Contribution Reserve (MDF Assets from IMRF)	\$	29,732,067
2. Employer Contribution Reserve (EAF assets from IMRF)		58,018,771
3. Annuitant Reserve		113,709,007
4. Miscellaneous Adjustment*		646,975
5. Net Market Value	\$	202,106,820

* Includes an adjustment factor of 0.003211435 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	\$	3,502,858
b.) Accelerated payments and Reserve Payments		-
	\$	3,502,858

2. Member

a.) Wage Reporting	\$	1,247,053
b.) Member Payments (i.e. ERI, Pension Payments)		67,594
Sub-total (Amount used for valuation on Schedule of Changes Page 11)	\$	1,314,647
 c.) Voluntary Additional Plan	 \$	 296,736
Total Member Contributions (a+b+c)	\$	1,611,383

Total Employer and Member Contributions (1+2)	\$	5,114,241
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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	2.25%
Salary Increases	2.85% to 13.75%
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 2020 valuation pursuant to an experience study of the period 2017-2019.
Mortality	For non-disabled retirees, the Pub-2010, Amount-Weighted, below-median income, General, Retiree, Male (adjusted 106%) and Female (adjusted 105%) tables, and future mortality improvements projected using scale MP-2020. For disabled retirees, the Pub-2010, Amount-Weighted, below-median income, General, Disabled Retiree, Male and Female (both unadjusted) tables, and future mortality improvements projected using scale MP-2020. For active members, the Pub-2010, Amount-Weighted, below-median income, General, Employee, Male and Female (both unadjusted) tables, and future mortality improvements projected using scale MP-2020.

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, 2020 Illinois Municipal Retirement Fund annual actuarial valuation report.



SECTION C

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

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

The *Single Discount Rate (SDR)* is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating 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 2.00%; 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 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
2020	\$ 27,713,351				
2021	26,756,011	\$ 1,204,020	\$ 1,658,533	\$ 1,167,861	\$ 4,030,414
2022	25,168,459	1,132,581	1,393,693	808,218	3,334,492
2023	23,690,815	1,066,087	1,288,488	398,865	2,753,439
2024	22,327,403	1,004,733	1,212,131	(66,815)	2,150,049
2025	21,082,040	948,692	1,140,360	(373,701)	1,715,351
2026	19,908,828	895,897	1,072,969	(383,044)	1,585,823
2027	18,811,284	846,508	1,008,248	(392,620)	1,462,136
2028	17,793,248	800,696	950,171	(402,435)	1,348,433
2029	16,781,591	755,172	891,179	(412,496)	1,233,855
2030	15,803,638	711,164	834,566	(422,809)	1,122,921
2031	14,881,418	669,664	781,459	(433,379)	1,017,744
2032	13,990,795	629,586	729,167	(444,213)	914,539
2033	13,156,992	592,065	681,815	(455,319)	818,561
2034	12,338,584	555,236	635,751	(466,702)	724,285
2035	11,500,143	517,507	588,010	(478,369)	627,147
2036	10,660,365	479,716	540,863	(490,328)	530,251
2037	9,848,527	443,184	494,813	(494,813)	443,184
2038	9,109,807	409,941	452,304	(452,304)	409,941
2039	8,439,315	379,769	414,016	(414,016)	379,769
2040	7,797,966	350,908	378,705	(378,705)	350,908
2041	7,179,657	323,085	344,425	(344,425)	323,085
2042	6,589,440	296,525	311,558	(311,558)	296,525
2043	6,000,110	270,005	280,141	0	550,146
2044	5,422,464	244,011	249,960	0	493,971
2045	4,907,314	220,829	222,338	0	443,167
2046	4,419,072	198,858	196,728	0	395,586
2047	3,899,777	175,490	170,916	0	346,406
2048	3,388,930	152,502	146,186	0	298,687
2049	2,908,770	130,895	123,751	0	254,646
2050	2,462,952	110,833	103,812	0	214,644
2051	2,054,226	92,440	85,773	0	178,213
2052	1,616,288	72,733	66,849	0	139,582
2053	1,223,791	55,071	50,495	0	105,565
2054	888,118	39,965	36,732	0	76,698
2055	594,442	26,750	24,703	0	51,453
2056	377,317	16,979	15,904	0	32,883
2057	220,562	9,925	9,558	0	19,483
2058	141,380	6,362	6,475	0	12,837
2059	95,995	4,320	4,577	0	8,896
2060	57,302	2,579	2,788	0	5,367
2061	34,247	1,541	1,768	0	3,309
2062	19,906	896	1,087	0	1,982
2063	13,048	587	759	0	1,346
2064	8,987	404	540	0	945
2065	5,861	264	358	0	621
2066	3,513	158	215	0	373
2067	2,232	100	135	0	236
2068	1,205	54	73	0	127
2069	300	13	18	0	31
2070	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 Contributions (Concluded)

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions
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
2119	0	0	0	0	0
2120	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		Projected Total		Projected Benefit		Projected Investment Earnings		Projected Ending Plan Net	
	Plan Net Position	Contributions	Payments	at 7.25%	Position					
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)					
2021	\$ 202,106,820	\$ 4,030,414	\$ 11,554,439	\$ 14,384,771	\$ 208,967,565					
2022	208,967,565	3,334,492	12,120,797	14,837,218	215,018,478					
2023	215,018,478	2,753,439	12,671,020	15,235,617	220,336,514					
2024	220,336,514	2,150,049	13,229,387	15,579,798	224,836,975					
2025	224,836,975	1,715,351	13,768,447	15,871,401	228,655,280					
2026	228,655,280	1,585,823	14,344,078	16,123,113	232,020,138					
2027	232,020,138	1,462,136	14,912,211	16,342,425	234,912,488					
2028	234,912,488	1,348,432	15,474,326	16,528,051	237,314,645					
2029	237,314,645	1,233,855	16,048,003	16,677,695	239,178,191					
2030	239,178,191	1,122,921	16,589,341	16,789,571	240,501,342					
2031	240,501,342	1,017,744	17,042,845	16,865,601	241,341,842					
2032	241,341,842	914,539	17,459,501	16,908,022	241,704,903					
2033	241,704,903	818,561	17,826,862	16,917,842	241,614,444					
2034	241,614,444	724,285	18,222,981	16,893,818	241,009,566					
2035	241,009,566	627,147	18,646,713	16,831,413	239,821,412					
2036	239,821,412	530,251	19,018,833	16,728,568	238,061,398					
2037	238,061,398	443,184	19,356,404	16,585,843	235,734,020					
2038	235,734,020	409,941	19,562,332	16,408,590	232,990,219					
2039	232,990,219	379,769	19,719,062	16,203,007	229,853,934					
2040	229,853,934	350,908	19,859,503	15,969,597	226,314,936					
2041	226,314,936	323,085	19,936,044	15,709,302	222,411,279					
2042	222,411,279	296,525	19,955,392	15,424,652	218,177,064					
2043	218,177,064	550,146	19,945,897	15,127,043	213,908,356					
2044	213,908,356	493,971	19,884,719	14,817,740	209,335,348					
2045	209,335,348	443,167	19,752,039	14,489,113	204,515,588					
2046	204,515,588	395,586	19,594,301	14,143,603	199,460,477					
2047	199,460,477	346,406	19,443,768	13,780,718	194,143,832					
2048	194,143,832	298,687	19,222,859	13,401,429	188,621,089					
2049	188,621,089	254,646	19,003,350	13,007,280	182,879,664					
2050	182,879,664	214,644	18,775,982	12,597,700	176,916,026					
2051	176,916,026	178,213	18,545,268	12,172,255	170,721,226					
2052	170,721,226	139,582	18,353,773	11,728,577	164,235,612					
2053	164,235,612	105,565	18,044,342	11,268,179	157,565,015					
2054	157,565,015	76,698	17,719,304	10,795,109	150,717,517					
2055	150,717,517	51,453	17,336,500	10,311,400	143,743,870					
2056	143,743,870	32,883	16,899,416	9,820,716	136,698,053					
2057	136,698,053	19,483	16,381,882	9,327,850	129,663,503					
2058	129,663,503	12,837	15,763,728	8,839,624	122,752,237					
2059	122,752,237	8,896	15,146,132	8,360,413	115,975,415					
2060	115,975,415	5,367	14,524,060	7,891,123	109,347,845					
2061	109,347,845	3,309	13,889,898	7,433,137	102,894,394					
2062	102,894,394	1,982	13,247,590	6,988,091	96,636,878					
2063	96,636,878	1,346	12,602,300	6,557,381	90,593,305					
2064	90,593,305	945	11,963,193	6,141,970	84,773,026					
2065	84,773,026	621	11,332,708	5,742,444	79,183,383					
2066	79,183,383	373	10,710,456	5,359,347	73,832,647					
2067	73,832,647	236	10,096,828	4,993,269	68,729,324					
2068	68,729,324	127	9,493,835	4,644,750	63,880,366					
2069	63,880,366	31	8,901,325	4,314,300	59,293,373					
2070	59,293,373	0	8,319,500	4,002,464	54,976,337					

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)					
2071	\$ 54,976,337	\$ 0	\$ 7,749,856	\$ 3,709,767	\$ 50,936,248					
2072	50,936,248	0	7,193,578	3,436,673	47,179,343					
2073	47,179,343	0	6,651,837	3,183,592	43,711,098					
2074	43,711,098	0	6,125,969	2,950,874	40,536,003					
2075	40,536,003	0	5,617,279	2,738,797	37,657,521					
2076	37,657,521	0	5,127,211	2,547,561	35,077,871					
2077	35,077,871	0	4,657,154	2,377,278	32,797,995					
2078	32,797,995	0	4,208,320	2,227,972	30,817,647					
2079	30,817,647	0	3,781,846	2,099,586	29,135,387					
2080	29,135,387	0	3,378,720	1,991,980	27,748,647					
2081	27,748,647	0	2,999,825	1,904,936	26,653,758					
2082	26,653,758	0	2,645,896	1,838,162	25,846,023					
2083	25,846,023	0	2,317,417	1,791,300	25,319,906					
2084	25,319,906	0	2,014,629	1,763,941	25,069,217					
2085	25,069,217	0	1,737,523	1,755,635	25,087,329					
2086	25,087,329	0	1,485,835	1,765,912	25,367,406					
2087	25,367,406	0	1,259,053	1,794,295	25,902,648					
2088	25,902,648	0	1,056,438	1,840,316	26,686,526					
2089	26,686,526	0	877,126	1,903,534	27,712,934					
2090	27,712,934	0	720,085	1,983,541	28,976,390					
2091	28,976,390	0	584,089	2,079,985	30,472,286					
2092	30,472,286	0	467,752	2,192,581	32,197,116					
2093	32,197,116	0	369,512	2,321,130	34,148,734					
2094	34,148,734	0	287,699	2,465,537	36,326,571					
2095	36,326,571	0	220,569	2,625,821	38,731,822					
2096	38,731,822	0	166,343	2,802,133	41,367,612					
2097	41,367,612	0	123,267	2,994,762	44,239,106					
2098	44,239,106	0	89,657	3,204,142	47,353,591					
2099	47,353,591	0	63,929	3,430,858	50,720,520					
2100	50,720,520	0	44,634	3,675,648	54,351,534					
2101	54,351,534	0	30,477	3,939,401	58,260,458					
2102	58,260,458	0	20,327	4,223,159	62,463,291					
2103	62,463,291	0	13,227	4,528,117	66,978,181					
2104	66,978,181	0	8,387	4,855,619	71,825,414					
2105	71,825,414	0	5,176	5,207,158	77,027,395					
2106	77,027,395	0	3,107	5,584,376	82,608,664					
2107	82,608,664	0	1,811	5,989,064	88,595,916					
2108	88,595,916	0	1,025	6,423,167	95,018,059					
2109	95,018,059	0	563	6,888,789	101,906,286					
2110	101,906,286	0	300	7,388,195	109,294,180					
2111	109,294,180	0	156	7,923,823	117,217,847					
2112	117,217,847	0	79	8,498,291	125,716,059					
2113	125,716,059	0	39	9,114,413	134,830,434					
2114	134,830,434	0	19	9,775,206	144,605,621					
2115	144,605,621	0	9	10,483,907	155,089,519					
2116	155,089,519	0	4	11,243,990	166,333,506					
2117	166,333,506	0	2	12,059,179	178,392,683					
2118	178,392,683	0	1	12,933,469	191,326,152					
2119	191,326,152	0	0	13,871,146	205,197,298					
2120	205,197,298	0	0	14,876,804	220,074,102					

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



Single Discount Rate Development

Present Values of Projected Benefits

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{^(a)-.5}	(g)=(e)*vf ^{^(a)-.5}	(h)=(c)/(1+sdr) ^{^(a)-.5}
2021	\$ 202,106,820	\$ 11,554,439	\$ 11,554,439	\$ 0	\$ 11,157,072	\$ 0	\$ 11,157,072
2022	208,967,565	12,120,797	12,120,797	0	10,912,775	0	10,912,775
2023	215,018,478	12,671,020	12,671,020	0	10,636,979	0	10,636,979
2024	220,336,514	13,229,387	13,229,387	0	10,354,977	0	10,354,977
2025	224,836,975	13,768,447	13,768,447	0	10,048,404	0	10,048,404
2026	228,655,280	14,344,078	14,344,078	0	9,760,847	0	9,760,847
2027	232,020,138	14,912,211	14,912,211	0	9,461,491	0	9,461,491
2028	234,912,488	15,474,326	15,474,326	0	9,154,444	0	9,154,444
2029	237,314,645	16,048,003	16,048,003	0	8,852,052	0	8,852,052
2030	239,178,191	16,589,341	16,589,341	0	8,532,077	0	8,532,077
2031	240,501,342	17,042,845	17,042,845	0	8,172,792	0	8,172,792
2032	241,341,842	17,459,501	17,459,501	0	7,806,617	0	7,806,617
2033	241,704,903	17,826,862	17,826,862	0	7,432,051	0	7,432,051
2034	241,614,444	18,222,981	18,222,981	0	7,083,630	0	7,083,630
2035	241,009,566	18,646,713	18,646,713	0	6,758,362	0	6,758,362
2036	239,821,412	19,018,833	19,018,833	0	6,427,258	0	6,427,258
2037	238,061,398	19,356,404	19,356,404	0	6,099,148	0	6,099,148
2038	235,734,020	19,562,332	19,562,332	0	5,747,353	0	5,747,353
2039	232,990,219	19,719,062	19,719,062	0	5,401,771	0	5,401,771
2040	229,853,934	19,859,503	19,859,503	0	5,072,488	0	5,072,488
2041	226,314,936	19,936,044	19,936,044	0	4,747,821	0	4,747,821
2042	222,411,279	19,955,392	19,955,392	0	4,431,169	0	4,431,169
2043	218,177,064	19,945,897	19,945,897	0	4,129,660	0	4,129,660
2044	213,908,356	19,884,719	19,884,719	0	3,838,689	0	3,838,689
2045	209,335,348	19,752,039	19,752,039	0	3,555,315	0	3,555,315
2046	204,515,588	19,594,301	19,594,301	0	3,288,506	0	3,288,506
2047	199,460,477	19,443,768	19,443,768	0	3,042,650	0	3,042,650
2048	194,143,832	19,222,859	19,222,859	0	2,804,737	0	2,804,737
2049	188,621,089	19,003,350	19,003,350	0	2,585,277	0	2,585,277
2050	182,879,664	18,775,982	18,775,982	0	2,381,674	0	2,381,674
2051	176,916,026	18,545,268	18,545,268	0	2,193,388	0	2,193,388
2052	170,721,226	18,353,773	18,353,773	0	2,023,999	0	2,023,999
2053	164,235,612	18,044,342	18,044,342	0	1,855,362	0	1,855,362
2054	157,565,015	17,719,304	17,719,304	0	1,698,780	0	1,698,780
2055	150,717,517	17,336,500	17,336,500	0	1,549,725	0	1,549,725
2056	143,743,870	16,899,416	16,899,416	0	1,408,535	0	1,408,535
2057	136,698,053	16,381,882	16,381,882	0	1,273,099	0	1,273,099
2058	129,663,503	15,763,728	15,763,728	0	1,142,247	0	1,142,247
2059	122,752,237	15,146,132	15,146,132	0	1,023,306	0	1,023,306
2060	115,975,415	14,524,060	14,524,060	0	914,944	0	914,944
2061	109,347,845	13,889,898	13,889,898	0	815,846	0	815,846
2062	102,894,394	13,247,590	13,247,590	0	725,519	0	725,519
2063	96,636,878	12,602,300	12,602,300	0	643,524	0	643,524
2064	90,593,305	11,963,193	11,963,193	0	569,593	0	569,593
2065	84,773,026	11,332,708	11,332,708	0	503,099	0	503,099
2066	79,183,383	10,710,456	10,710,456	0	443,334	0	443,334
2067	73,832,647	10,096,828	10,096,828	0	389,682	0	389,682
2068	68,729,324	9,493,835	9,493,835	0	341,641	0	341,641
2069	63,880,366	8,901,325	8,901,325	0	298,666	0	298,666
2070	59,293,373	8,319,500	8,319,500	0	260,274	0	260,274

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



Single Discount Rate Development

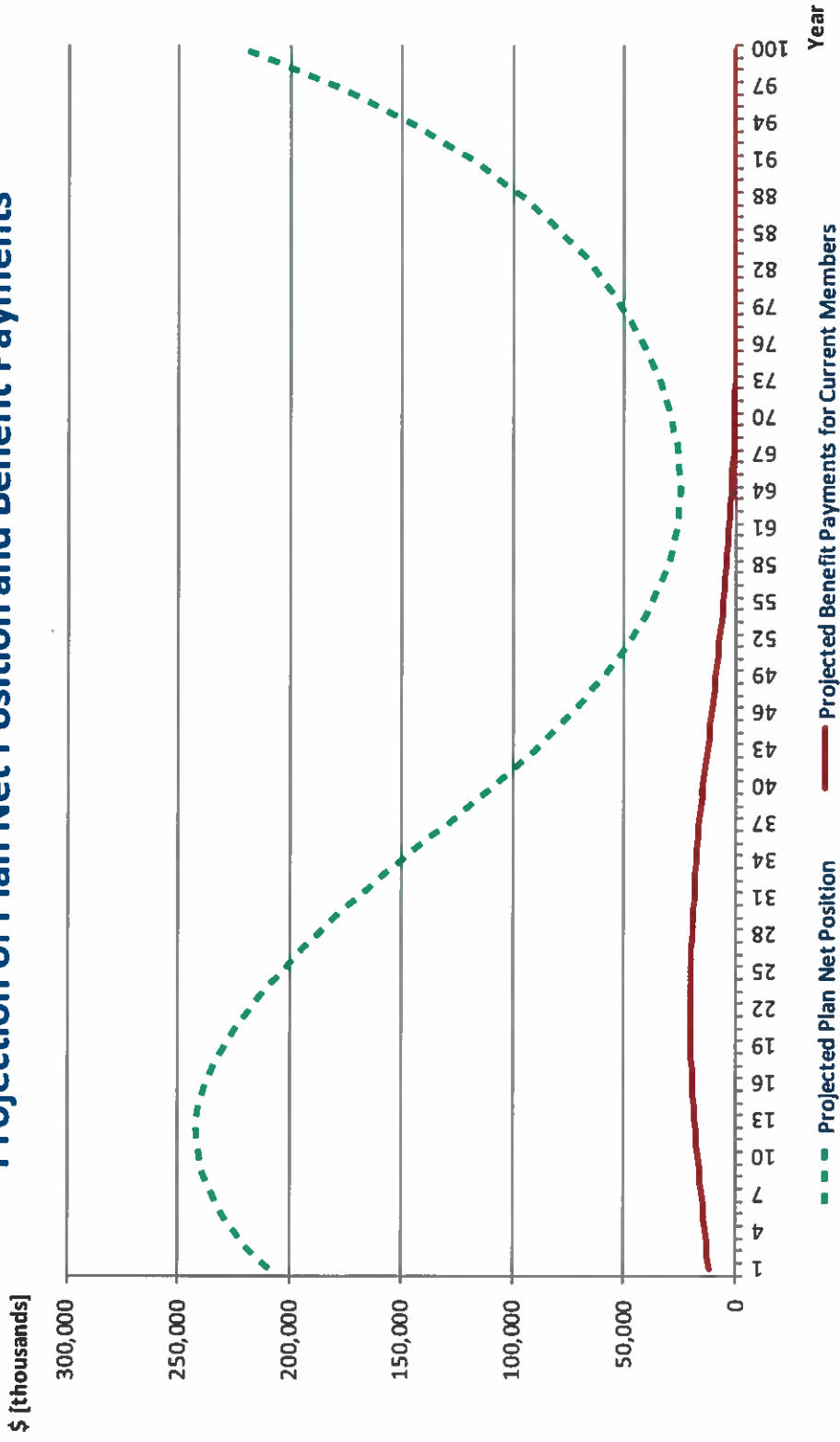
Present Values of Projected Benefits (Concluded)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/((1+sdr) ^a ((a)-.5))
2071	\$ 54,976,337	\$ 7,749,856	\$ 7,749,856	\$ 0	\$ 226,063	\$ 0	\$ 226,063
2072	50,936,248	7,193,578	7,193,578	0	195,652	0	195,652
2073	47,179,343	6,651,837	6,651,837	0	168,688	0	168,688
2074	43,711,098	6,125,969	6,125,969	0	144,850	0	144,850
2075	40,536,003	5,617,279	5,617,279	0	123,843	0	123,843
2076	37,657,521	5,127,211	5,127,211	0	105,398	0	105,398
2077	35,077,871	4,657,154	4,657,154	0	89,263	0	89,263
2078	32,797,995	4,208,320	4,208,320	0	75,208	0	75,208
2079	30,817,647	3,781,846	3,781,846	0	63,018	0	63,018
2080	29,135,387	3,378,720	3,378,720	0	52,494	0	52,494
2081	27,748,647	2,999,825	2,999,825	0	43,457	0	43,457
2082	26,653,758	2,645,896	2,645,896	0	35,739	0	35,739
2083	25,846,023	2,317,417	2,317,417	0	29,186	0	29,186
2084	25,319,906	2,014,629	2,014,629	0	23,657	0	23,657
2085	25,069,217	1,737,523	1,737,523	0	19,024	0	19,024
2086	25,087,329	1,485,835	1,485,835	0	15,169	0	15,169
2087	25,367,406	1,259,053	1,259,053	0	11,985	0	11,985
2088	25,902,648	1,056,438	1,056,438	0	9,376	0	9,376
2089	26,686,526	877,126	877,126	0	7,259	0	7,259
2090	27,712,934	720,085	720,085	0	5,556	0	5,556
2091	28,976,390	584,089	584,089	0	4,202	0	4,202
2092	30,472,286	467,752	467,752	0	3,138	0	3,138
2093	32,197,116	369,512	369,512	0	2,311	0	2,311
2094	34,148,734	287,699	287,699	0	1,678	0	1,678
2095	36,326,571	220,569	220,569	0	1,199	0	1,199
2096	38,731,822	166,343	166,343	0	843	0	843
2097	41,367,612	123,267	123,267	0	583	0	583
2098	44,239,106	89,657	89,657	0	395	0	395
2099	47,353,591	63,929	63,929	0	263	0	263
2100	50,720,520	44,634	44,634	0	171	0	171
2101	54,351,534	30,477	30,477	0	109	0	109
2102	58,260,458	20,327	20,327	0	68	0	68
2103	62,463,291	13,227	13,227	0	41	0	41
2104	66,978,181	8,387	8,387	0	24	0	24
2105	71,825,414	5,176	5,176	0	14	0	14
2106	77,027,395	3,107	3,107	0	8	0	8
2107	82,608,664	1,811	1,811	0	4	0	4
2108	88,595,916	1,025	1,025	0	2	0	2
2109	95,018,059	563	563	0	1	0	1
2110	101,906,286	300	300	0	1	0	1
2111	109,294,180	156	156	0	0	0	0
2112	117,217,847	79	79	0	0	0	0
2113	125,716,059	39	39	0	0	0	0
2114	134,830,434	19	19	0	0	0	0
2115	144,605,621	9	9	0	0	0	0
2116	155,089,519	4	4	0	0	0	0
2117	166,333,506	2	2	0	0	0	0
2118	178,392,683	1	1	0	0	0	0
2119	191,326,152	0	0	0	0	0	0
2120	205,197,298	0	0	0	0	0	0
Totals					\$ 221,212,589	\$ -	\$ 221,212,589

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



Projection of Plan Net Position and Benefit Payments



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

GLOSSARY OF TERMS

Glossary of Terms

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

<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Amortization Method</i>	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).
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	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.
<i>Covered Valuation Payroll</i>	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.
<i>Deferred Inflows and Outflows</i>	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.
<i>Discount Rate</i>	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">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; and2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.
<i>Entry Age Actuarial Cost Method (EAN)</i>	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 age(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)

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