

# Alsip Elementary SD 126 Regular

GASB Statement No. 68 Employer Reporting

Accounting Schedules

December 31, 2019



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March 26, 2020

Alsip Elementary SD 126  
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 Alsip Elementary SD 126 only in its entirety and only with the permission of Alsip Elementary SD 126. 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 by us.

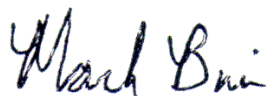
This report complements the actuarial valuation report that was provided to the IMRF and should be considered in conjunction with that report. Please see the actuarial valuation report as of December 31, 2019 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

Alsip Elementary SD 126  
Illinois Municipal Retirement Fund  
March 26, 2020  
Page 2

To the best of our knowledge, the information contained in this report is accurate, and fairly represents the GASB 68 information related to Alsip Elementary SD 126. 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:sc



## **SECTION A**

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### **EXECUTIVE SUMMARY**

# Executive Summary as of December 31, 2019

Actuarial Valuation Date	December 31, 2019
Measurement Date of the Net Pension Liability	December 31, 2019
Fiscal Year End	June 30, 2020

## Membership

Number of	
- Retirees and Beneficiaries	263
- Inactive, Non-Retired Members	140
- Active Members	88
- Total	491
Covered Valuation Payroll <sup>(1)</sup>	\$ 2,363,151

## Net Pension Liability

Total Pension Liability/(Asset)	\$ 17,218,979
Plan Fiduciary Net Position	18,670,120
Net Pension Liability/(Asset)	\$ (1,451,141)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	108.43%
Net Pension Liability as a Percentage of Covered Valuation Payroll	(61.41)%

## Development of the Single Discount Rate as of December 31, 2019

Long-Term Expected Rate of Investment Return	7.25%
Long-Term Municipal Bond Rate <sup>(2)</sup>	2.75%
Last year ending December 31 in the 2020 to 2119 projection period for which projected benefit payments are fully funded	2119
Resulting Single Discount Rate based on the above development	7.25%
Single Discount Rate calculated using December 31, 2018 Measurement Date	7.25%

Total Pension Expense/(Income)	\$ 412,155
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## 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	\$ 104,595	\$ 0
Changes in assumptions	0	0
Net difference between projected and actual earnings on pension plan investments	1,562,163	2,437,221
Total	\$ 1,666,758	\$ 2,437,221

<sup>(1)</sup> Does not necessarily represent Covered Employee Payroll as defined in GASB Statement No. 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, 2019. 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, 2019.

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, 2019 Annual Actuarial Valuation report dated March 13, 2020);
- 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 pages A-3, B-5 and Section D of the December 31, 2019 Annual Actuarial Valuation report dated March 13, 2020, 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 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, 2019 and a measurement date of December 31, 2019.

## 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 2.75% (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 the 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 2119 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**

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**FINANCIAL STATEMENTS**

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

## Calendar Year Ended December 31, 2019

### A. Expense/(Income)

1. Service Cost	\$	235,485
2. Interest on the Total Pension Liability		1,177,730
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(106,342)
5. Projected Earnings on Plan Investments (made negative for addition here)		(1,149,954)
6. Other Changes in Plan Fiduciary Net Position		(56,387)
7. Recognition of Outflow (Inflow) of Resources due to Liabilities		362,589
8. Recognition of Outflow (Inflow) of Resources due to Assets		(50,966)
<b>9. Total Pension Expense/(Income)</b>	<b>\$</b>	<b>412,155</b>

### 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 787.54 years. Additionally, the total plan membership (active employees and inactive employees) was 492. 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 1.6007 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, 2019

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

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$	278,716
2. Assumption Changes (gains) or losses	\$	0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		1.6007
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	\$	174,121
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$	0
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$	174,121
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	\$	104,595
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$	0
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$	104,595

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

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(2,143,805)
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	\$	(428,761)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(1,715,044)

\* 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, 2019

## 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	\$ 362,589	\$ 0	\$ 362,589
2. Due to Assets	738,884	789,850	(50,966)
<b>3. Total</b>	<b>\$ 1,101,473</b>	<b>\$ 789,850</b>	<b>\$ 311,623</b>

## 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	\$ 210,631	\$ 0	\$ 210,631
2. Assumption changes	151,958	0	151,958
3. Net difference between projected and actual earnings on pension plan investments	738,884	789,850	(50,966)
<b>4. Total</b>	<b>\$ 1,101,473</b>	<b>\$ 789,850</b>	<b>\$ 311,623</b>

## 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	\$ 104,595	\$ 0	\$ 104,595
2. Assumption changes	0	0	0
3. Net difference between projected and actual earnings on pension plan investments	1,562,163	2,437,221	(875,058)
<b>4. Total</b>	<b>\$ 1,666,758</b>	<b>\$ 2,437,221</b>	<b>\$ (770,463)</b>

## 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
2020	\$ (148,688)
2021	(277,050)
2022	84,036
2023	(428,761)
2024	0
Thereafter	0
<b>Total</b>	<b>\$ (770,463)</b>

# Recognition of Deferred Outflows and Inflows of Resources

## Reporting Date - December 31, 2019

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
<b>Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities</b>					
2014	\$ (9,337)	1.6617	\$ 0	\$ 0	0.0000
2015	75,801	1.6057	0	0	0.0000
2016	(100,251)	1.5500	0	0	0.0000
2017	196,809	1.6570	0	0	0.0000
2018	94,610	1.6284	36,510	0	0.0000
2019	278,716	1.6007	174,121	104,595	0.6007
<b>Total</b>			<b>\$ 210,631</b>	<b>\$ 104,595</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2014	\$ 619,422	1.6617	\$ 0	\$ 0	0.0000
2015	32,898	1.6057	0	0	0.0000
2016	(49,397)	1.5500	0	0	0.0000
2017	(524,082)	1.6570	0	0	0.0000
2018	393,775	1.6284	151,958	0	0.0000
2019	0	1.6007	0	0	0.6007
<b>Total</b>			<b>\$ 151,958</b>	<b>\$ 0</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2015	\$ 1,011,584	5.0000	\$ 202,316	\$ 0	0.0000
2016	118,844	5.0000	23,769	23,768	1.0000
2017	(1,805,444)	5.0000	(361,089)	(722,177)	2.0000
2018	2,563,993	5.0000	512,799	1,538,395	3.0000
2019	(2,143,805)	5.0000	(428,761)	(1,715,044)	4.0000
<b>Total</b>			<b>\$ (50,966)</b>	<b>\$ (875,058)</b>	



## Schedule of Changes in Net Pension Liability and Related Ratios Current Period Calendar Year Ended December 31, 2019

<b>A. Total pension liability</b>	
1. Service Cost	\$ 235,485
2. Interest on the Total Pension Liability	1,177,730
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	278,716
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(1,199,517)
7. Net change in total pension liability	\$ 492,414
8. Total pension liability – beginning	16,726,565
9. Total pension liability – ending	<u><u>\$ 17,218,979</u></u>
<b>B. Plan fiduciary net position</b>	
1. Contributions – employer	\$ 66,641
2. Contributions – employee	106,342
3. Net investment income	3,293,759
4. Benefit payments, including refunds of employee contributions	(1,199,517)
5. Other (Net Transfer)	56,387
6. Net change in plan fiduciary net position	\$ 2,323,612
7. Plan fiduciary net position – beginning	16,346,508
8. Plan fiduciary net position – ending	<u><u>\$ 18,670,120</u></u>
<b>C. Net pension liability/(asset)</b>	<u><u>\$ (1,451,141)</u></u>
<b>D. Plan fiduciary net position as a percentage of the total pension liability</b>	<b>108.43%</b>
<b>E. Covered Valuation payroll</b>	<b>\$ 2,363,151</b>
<b>F. Net pension liability as a percentage of covered valuation payroll</b>	<b>(61.41)%</b>

### 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	\$ 19,052,760	\$ 17,218,979	\$ 15,682,336
Plan Fiduciary Net Position	18,670,120	18,670,120	18,670,120
Net Pension Liability/(Asset)	\$ 382,640	\$ (1,451,141)	\$ (2,987,784)



# 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,	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
<b>Total Pension Liability</b>										
Service Cost	\$ 235,485	\$ 238,042	\$ 262,282	\$ 265,102	\$ 243,747	\$ 245,612				
Interest on the Total Pension Liability	1,177,730	1,166,783	1,170,875	1,150,341	1,117,228	1,048,075				
Benefit Changes	0	0	0	0	0	0				
Difference between Expected and Actual Experience	278,716	94,610	196,809	(100,251)	75,801	(9,337)				
Assumption Changes	0	393,775	(524,082)	(49,397)	32,898	619,422				
Benefit Payments and Refunds	(1,199,517)	(1,209,456)	(1,087,184)	(1,017,226)	(977,052)	(944,746)				
<b>Net Change in Total Pension Liability</b>	<b>492,414</b>	<b>683,754</b>	<b>18,700</b>	<b>248,569</b>	<b>492,622</b>	<b>959,026</b>				
<b>Total Pension Liability - Beginning</b>	<b>16,726,565</b>	<b>16,042,811</b>	<b>16,024,111</b>	<b>15,775,542</b>	<b>15,282,920</b>	<b>14,323,894</b>				
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 17,218,979</b>	<b>\$ 16,726,565</b>	<b>\$ 16,042,811</b>	<b>\$ 16,024,111</b>	<b>\$ 15,775,542</b>	<b>\$ 15,282,920</b>				
<b>Plan Fiduciary Net Position</b>										
Employer Contributions	\$ 66,641	\$ 140,054	\$ 261,145	\$ 1,762,661	\$ 272,182	\$ 253,324				
Employee Contributions	106,342	107,274	107,627	101,156	101,091	91,631				
Pension Plan Net Investment Income	3,293,759	(1,223,638)	2,984,542	989,570	71,843	853,732				
Benefit Payments and Refunds	(1,199,517)	(1,209,456)	(1,087,184)	(1,017,226)	(977,052)	(944,746)				
Other	56,387	359,607	(347,952)	125,546	154,278	121,005				
<b>Net Change in Plan Fiduciary Net Position</b>	<b>2,323,612</b>	<b>(1,826,159)</b>	<b>1,918,178</b>	<b>1,961,707</b>	<b>(377,658)</b>	<b>374,946</b>				
<b>Plan Fiduciary Net Position - Beginning</b>	<b>16,346,508</b>	<b>18,172,667</b>	<b>16,254,489</b>	<b>14,292,782</b>	<b>14,670,440</b>	<b>14,295,494</b>				
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 18,670,120</b>	<b>\$ 16,346,508</b>	<b>\$ 18,172,667</b>	<b>\$ 16,254,489</b>	<b>\$ 14,292,782</b>	<b>\$ 14,670,440</b>				
<b>Net Pension Liability/(Asset) - Ending (a) - (b)</b>	<b>(1,451,141)</b>	<b>380,057</b>	<b>(2,129,856)</b>	<b>(230,378)</b>	<b>1,482,760</b>	<b>612,480</b>				
<b>Plan Fiduciary Net Position as a Percentage</b>										
<b>of Total Pension Liability</b>	108.43%	97.73 %	113.28 %	101.44%	90.60 %	95.99 %				
<b>Covered Valuation Payroll</b>	\$ 2,363,151	\$ 2,212,542	\$ 2,272,309	\$ 2,246,879	\$ 2,240,192	\$ 2,066,746				
<b>Net Pension Liability as a Percentage</b>										
<b>of Covered Valuation Payroll</b>	(61.41)%	17.18 %	(93.73)%	(10.25)%	66.19 %	29.63 %				



# 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	\$ 281,284	\$ 253,324	\$ 27,960	\$ 2,066,746	12.26%
2015	272,183	272,182	1	2,240,192	12.15%
2016	262,660	1,762,661	(1,500,001)	2,246,879	78.45%
2017	247,227	261,145	(13,918)	2,272,309	11.49%
2018	140,054	140,054	0	2,212,542	6.33%
2019	66,641 *	66,641	0	2,363,151	2.82%

\* Estimated based on contribution rate of 2.82% and covered valuation payroll of \$2,363,151.  
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 2019 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 2019 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): 24-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 19 years for most employers (three employers were financed over 28 years and four others were financed over 29 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	7.50%
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 Healthy 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 adjustments 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.

\* Based on Valuation Assumptions used in the December 31, 2017 actuarial valuation.

# Development of Market Value of Assets

## Market Value of Assets as of December 31, 2019

1. Employee Contribution Reserve (MDF Assets from IMRF)	\$	1,756,577
2. Employer Contribution Reserve (EAF assets from IMRF)	\$	5,485,942
3. Annuitant Reserve	\$	11,415,345
4. Miscellaneous Adjustment*	\$	12,256
<b>5. Net Market Value</b>	<b>\$</b>	<b>18,670,120</b>

\* Includes an adjustment factor of 0.0006568629 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	\$	66,641
b.) Accelerated payments and Reserve Payments		-
	<b>\$</b>	<b>66,641</b>

#### 2. Member

a.) Wage Reporting	\$	106,342
b.) Member Payments (i.e. ERI, Pension Payments)		-
<b>Sub-total (Amount used for valuation on Schedule of Changes Page 10)</b>	<b>\$</b>	<b>106,342</b>

c.) Voluntary Additional Plan	\$	6,070
<b>Total Member Contributions (a+b+c)</b>	<b>\$</b>	<b>112,412</b>

<b>Total Employer and Member Contributions (1+2)</b>	<b>\$</b>	<b>179,053</b>
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# Summary of Actuarial Methods and Assumptions Used in the Calculation of the Total Pension Liability

## Methods and Assumptions Used to Determine Total Pension Liability:

Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	Market Value of Assets
Price Inflation	2.50%
Salary Increases	3.35% 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 Healthy 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 adjustments 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.
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A detailed description of the actuarial assumptions and methods can be found in the December 31, 2019 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 2.75%; 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
2019	\$ 2,363,151				
2020	2,449,970	\$ 110,249	\$ 145,502	\$ (38,523)	\$ 217,228
2021	2,255,890	101,515	129,723	(56,262)	174,976
2022	2,101,339	94,560	119,167	(76,162)	137,566
2023	1,971,339	88,710	111,404	(98,496)	101,618
2024	1,861,930	83,787	104,667	(104,667)	83,787
2025	1,761,900	79,285	98,344	(98,344)	79,286
2026	1,666,711	75,002	92,204	(92,204)	75,002
2027	1,578,347	71,026	86,376	(86,376)	71,026
2028	1,497,973	67,409	80,937	(80,937)	67,409
2029	1,420,530	63,924	75,907	(75,907)	63,924
2030	1,345,982	60,569	71,122	(71,122)	60,569
2031	1,280,322	57,614	67,017	(67,017)	57,615
2032	1,215,749	54,709	63,034	(63,034)	54,709
2033	1,150,819	51,787	59,211	(59,211)	51,787
2034	1,086,377	48,887	55,464	(55,464)	48,887
2035	1,022,142	45,996	51,677	(51,677)	45,997
2036	964,235	43,391	48,271	(48,271)	43,391
2037	908,254	40,871	45,018	(45,018)	40,872
2038	854,606	38,457	41,935	(41,935)	38,457
2039	804,762	36,214	39,170	(39,170)	36,214
2040	757,957	34,108	36,441	(36,441)	34,108
2041	716,021	32,221	33,927	(33,927)	32,221
2042	670,793	30,186	31,318	(31,318)	30,186
2043	619,965	27,898	28,514	0	56,413
2044	568,409	25,578	25,805	0	51,383
2045	522,082	23,494	23,391	0	46,884
2046	477,677	21,495	21,164	0	42,660
2047	422,537	19,014	18,470	0	37,484
2048	356,027	16,021	15,456	0	31,478
2049	284,356	12,796	12,260	0	25,056
2050	216,149	9,727	9,319	0	19,046
2051	166,678	7,501	7,170	0	14,670
2052	127,027	5,716	5,452	0	11,168
2053	94,707	4,262	4,065	0	8,326
2054	73,804	3,321	3,167	0	6,489
2055	55,879	2,515	2,393	0	4,907
2056	42,354	1,906	1,805	0	3,711
2057	30,715	1,382	1,315	0	2,697
2058	16,782	755	719	0	1,474
2059	5,210	234	228	0	462
2060	1,717	77	82	0	159
2061	809	36	42	0	78
2062	514	23	30	0	54
2063	375	17	24	0	41
2064	168	8	11	0	19
2065	1	0	0	0	0
2066	0	0	0	0	0
2067	0	0	0	0	0
2068	0	0	0	0	0
2069	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
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
2119	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		Projected Ending Plan	
	Plan Net Position		Contributions		Payments		Investment Earnings at 7.25%		Net Position	
	(a)		(b)		(c)		(d)		(e)=(a)+(b)-(c)+(d)	
2020	\$	18,670,120	\$	217,228	\$	1,230,592	\$	1,317,492	\$	18,974,248
2021		18,974,248		174,976		1,260,134		1,336,984		19,226,074
2022		19,226,074		137,566		1,279,791		1,353,209		19,437,058
2023		19,437,058		101,618		1,301,697		1,366,445		19,603,424
2024		19,603,424		83,787		1,325,692		1,377,017		19,738,536
2025		19,738,536		79,285		1,338,475		1,386,197		19,865,544
2026		19,865,544		75,002		1,370,554		1,394,110		19,964,101
2027		19,964,101		71,026		1,405,549		1,399,867		20,029,446
2028		20,029,446		67,409		1,434,155		1,403,457		20,066,157
2029		20,066,157		63,924		1,457,767		1,405,154		20,077,467
2030		20,077,467		60,569		1,476,899		1,405,173		20,066,311
2031		20,066,311		57,614		1,486,398		1,403,920		20,041,448
2032		20,041,448		54,709		1,496,686		1,401,648		20,001,119
2033		20,001,119		51,787		1,504,446		1,398,344		19,946,803
2034		19,946,803		48,887		1,514,321		1,393,951		19,875,320
2035		19,875,320		45,996		1,523,336		1,388,344		19,786,324
2036		19,786,324		43,391		1,523,842		1,381,781		19,687,653
2037		19,687,653		40,871		1,523,902		1,374,536		19,579,159
2038		19,579,159		38,457		1,520,385		1,366,709		19,463,940
2039		19,463,940		36,214		1,514,376		1,358,490		19,344,268
2040		19,344,268		34,108		1,504,459		1,350,092		19,224,009
2041		19,224,009		32,221		1,490,661		1,341,797		19,107,366
2042		19,107,366		30,186		1,483,382		1,333,527		18,987,698
2043		18,987,698		56,413		1,481,541		1,325,851		18,888,421
2044		18,888,421		51,383		1,471,463		1,318,833		18,787,174
2045		18,787,174		46,884		1,451,977		1,312,027		18,694,107
2046		18,694,107		42,660		1,437,292		1,305,652		18,605,126
2047		18,605,126		37,484		1,432,071		1,299,202		18,509,741
2048		18,509,741		31,478		1,431,600		1,292,090		18,401,708
2049		18,401,708		25,056		1,429,161		1,284,116		18,281,719
2050		18,281,719		19,046		1,414,545		1,275,723		18,161,943
2051		18,161,943		14,670		1,389,738		1,267,767		18,054,642
2052		18,054,642		11,168		1,364,756		1,260,752		17,961,807
2053		17,961,807		8,326		1,328,513		1,255,212		17,896,832
2054		17,896,832		6,489		1,289,961		1,251,808		17,865,168
2055		17,865,168		4,907		1,250,880		1,250,848		17,870,043
2056		17,870,043		3,711		1,210,465		1,252,599		17,915,887
2057		17,915,887		2,697		1,169,469		1,257,346		18,006,462
2058		18,006,462		1,474		1,135,941		1,265,064		18,137,059
2059		18,137,059		462		1,095,972		1,275,919		18,317,468
2060		18,317,468		159		1,046,011		1,290,768		18,562,384
2061		18,562,384		78		996,019		1,310,302		18,876,745
2062		18,876,745		54		947,108		1,334,834		19,264,524
2063		19,264,524		41		899,705		1,364,636		19,729,496
2064		19,729,496		19		853,998		1,399,973		20,275,490
2065		20,275,490		0		809,411		1,441,145		20,907,225
2066		20,907,225		0		766,043		1,488,491		21,629,673
2067		21,629,673		0		723,914		1,542,369		22,448,127
2068		22,448,127		0		682,922		1,603,166		23,368,372
2069		23,368,372		0		642,963		1,671,307		24,396,716

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)
2070	\$ 24,396,716	\$ 0	\$ 603,955	\$ 1,747,252	\$ 25,540,013
2071	25,540,013	0	565,846	1,831,498	26,805,665
2072	26,805,665	0	528,623	1,924,583	28,201,625
2073	28,201,625	0	492,294	2,027,084	29,736,415
2074	29,736,415	0	456,899	2,139,617	31,419,134
2075	31,419,134	0	422,500	2,262,840	33,259,473
2076	33,259,473	0	389,155	2,397,452	35,267,770
2077	35,267,770	0	356,926	2,544,201	37,455,044
2078	37,455,044	0	325,878	2,703,884	39,833,051
2079	39,833,051	0	296,095	2,877,351	42,414,306
2080	42,414,306	0	267,664	3,065,504	45,212,146
2081	45,212,146	0	240,654	3,269,310	48,240,802
2082	48,240,802	0	215,133	3,489,796	51,515,465
2083	51,515,465	0	191,156	3,728,063	55,052,371
2084	55,052,371	0	168,783	3,985,286	58,868,874
2085	58,868,874	0	148,071	4,262,720	62,983,522
2086	62,983,522	0	129,045	4,561,709	67,416,187
2087	67,416,187	0	111,710	4,883,695	72,188,172
2088	72,188,172	0	96,054	5,230,221	77,322,340
2089	77,322,340	0	82,034	5,602,948	82,843,254
2090	82,843,254	0	69,577	6,003,658	88,777,335
2091	88,777,335	0	58,586	6,434,270	95,153,019
2092	95,153,019	0	48,947	6,896,851	102,000,922
2093	102,000,922	0	40,537	7,393,623	109,354,009
2094	109,354,009	0	33,239	7,926,982	117,247,751
2095	117,247,751	0	26,947	8,499,502	125,720,306
2096	125,720,306	0	21,564	9,113,954	134,812,696
2097	134,812,696	0	17,006	9,773,315	144,569,005
2098	144,569,005	0	13,191	10,480,783	155,036,596
2099	155,036,596	0	10,043	11,239,796	166,266,349
2100	166,266,349	0	7,488	12,054,044	178,312,905
2101	178,312,905	0	5,457	12,927,491	191,234,939
2102	191,234,939	0	3,878	13,864,395	205,095,456
2103	205,095,456	0	2,680	14,869,325	219,962,101
2104	219,962,101	0	1,797	15,947,188	235,907,492
2105	235,907,492	0	1,166	17,103,252	253,009,577
2106	253,009,577	0	731	18,343,168	271,352,014
2107	271,352,014	0	441	19,673,005	291,024,579
2108	291,024,579	0	255	21,099,273	312,123,597
2109	312,123,597	0	141	22,628,956	334,752,411
2110	334,752,411	0	75	24,269,547	359,021,883
2111	359,021,883	0	39	26,029,085	385,050,930
2112	385,050,930	0	19	27,916,192	412,967,103
2113	412,967,103	0	9	29,940,115	442,907,208
2114	442,907,208	0	4	32,110,772	475,017,976
2115	475,017,976	0	2	34,438,803	509,456,777
2116	509,456,777	0	1	36,935,616	546,392,393
2117	546,392,393	0	0	39,613,449	586,005,842
2118	586,005,842	0	0	42,485,424	628,491,265
2119	628,491,265	0	0	45,565,617	674,056,882

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



# Single Discount Rate Development

## Present Values of Projected Benefits

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>(a)-.5</sup>	(g)=(e)*vf <sup>(a)-.5</sup>	(h)=(c)/(1+sdr) <sup>(a)-.5</sup>
2020	\$ 18,670,120	\$ 1,230,592	\$ 1,230,592	\$ 0	\$ 1,188,271	\$ 0	\$ 1,188,271
2021	18,974,248	1,260,134	1,260,134	0	1,134,542	0	1,134,542
2022	19,226,074	1,279,791	1,279,791	0	1,074,350	0	1,074,350
2023	19,437,058	1,301,697	1,301,697	0	1,018,871	0	1,018,871
2024	19,603,424	1,325,692	1,325,692	0	967,509	0	967,509
2025	19,738,536	1,338,475	1,338,475	0	910,804	0	910,804
2026	19,865,544	1,370,554	1,370,554	0	869,588	0	869,588
2027	19,964,101	1,405,549	1,405,549	0	831,507	0	831,507
2028	20,029,446	1,434,155	1,434,155	0	791,077	0	791,077
2029	20,066,157	1,457,767	1,457,767	0	749,745	0	749,745
2030	20,077,467	1,476,899	1,476,899	0	708,238	0	708,238
2031	20,066,311	1,486,398	1,486,398	0	664,609	0	664,609
2032	20,041,448	1,496,686	1,496,686	0	623,971	0	623,971
2033	20,001,119	1,504,446	1,504,446	0	584,808	0	584,808
2034	19,946,803	1,514,321	1,514,321	0	548,854	0	548,854
2035	19,875,320	1,523,336	1,523,336	0	514,799	0	514,799
2036	19,786,324	1,523,842	1,523,842	0	480,158	0	480,158
2037	19,687,653	1,523,902	1,523,902	0	447,718	0	447,718
2038	19,579,159	1,520,385	1,520,385	0	416,489	0	416,489
2039	19,463,940	1,514,376	1,514,376	0	386,800	0	386,800
2040	19,344,268	1,504,459	1,504,459	0	358,291	0	358,291
2041	19,224,009	1,490,661	1,490,661	0	331,007	0	331,007
2042	19,107,366	1,483,382	1,483,382	0	307,124	0	307,124
2043	18,987,698	1,481,541	1,481,541	0	286,007	0	286,007
2044	18,888,421	1,471,463	1,471,463	0	264,860	0	264,860
2045	18,787,174	1,451,977	1,451,977	0	243,685	0	243,685
2046	18,694,107	1,437,292	1,437,292	0	224,914	0	224,914
2047	18,605,126	1,432,071	1,432,071	0	208,948	0	208,948
2048	18,509,741	1,431,600	1,431,600	0	194,760	0	194,760
2049	18,401,708	1,429,161	1,429,161	0	181,285	0	181,285
2050	18,281,719	1,414,545	1,414,545	0	167,301	0	167,301
2051	18,161,943	1,389,738	1,389,738	0	153,256	0	153,256
2052	18,054,642	1,364,756	1,364,756	0	140,327	0	140,327
2053	17,961,807	1,328,513	1,328,513	0	127,367	0	127,367
2054	17,896,832	1,289,961	1,289,961	0	115,311	0	115,311
2055	17,865,168	1,250,880	1,250,880	0	104,259	0	104,259
2056	17,870,043	1,210,465	1,210,465	0	94,070	0	94,070
2057	17,915,887	1,169,469	1,169,469	0	84,740	0	84,740
2058	18,006,462	1,135,941	1,135,941	0	76,747	0	76,747
2059	18,137,059	1,095,972	1,095,972	0	69,041	0	69,041
2060	18,317,468	1,046,011	1,046,011	0	61,439	0	61,439
2061	18,562,384	996,019	996,019	0	54,548	0	54,548
2062	18,876,745	947,108	947,108	0	48,363	0	48,363
2063	19,264,524	899,705	899,705	0	42,837	0	42,837
2064	19,729,496	853,998	853,998	0	37,912	0	37,912
2065	20,275,490	809,411	809,411	0	33,504	0	33,504
2066	20,907,225	766,043	766,043	0	29,565	0	29,565
2067	21,629,673	723,914	723,914	0	26,050	0	26,050
2068	22,448,127	682,922	682,922	0	22,914	0	22,914
2069	23,368,372	642,963	642,963	0	20,115	0	20,115

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.



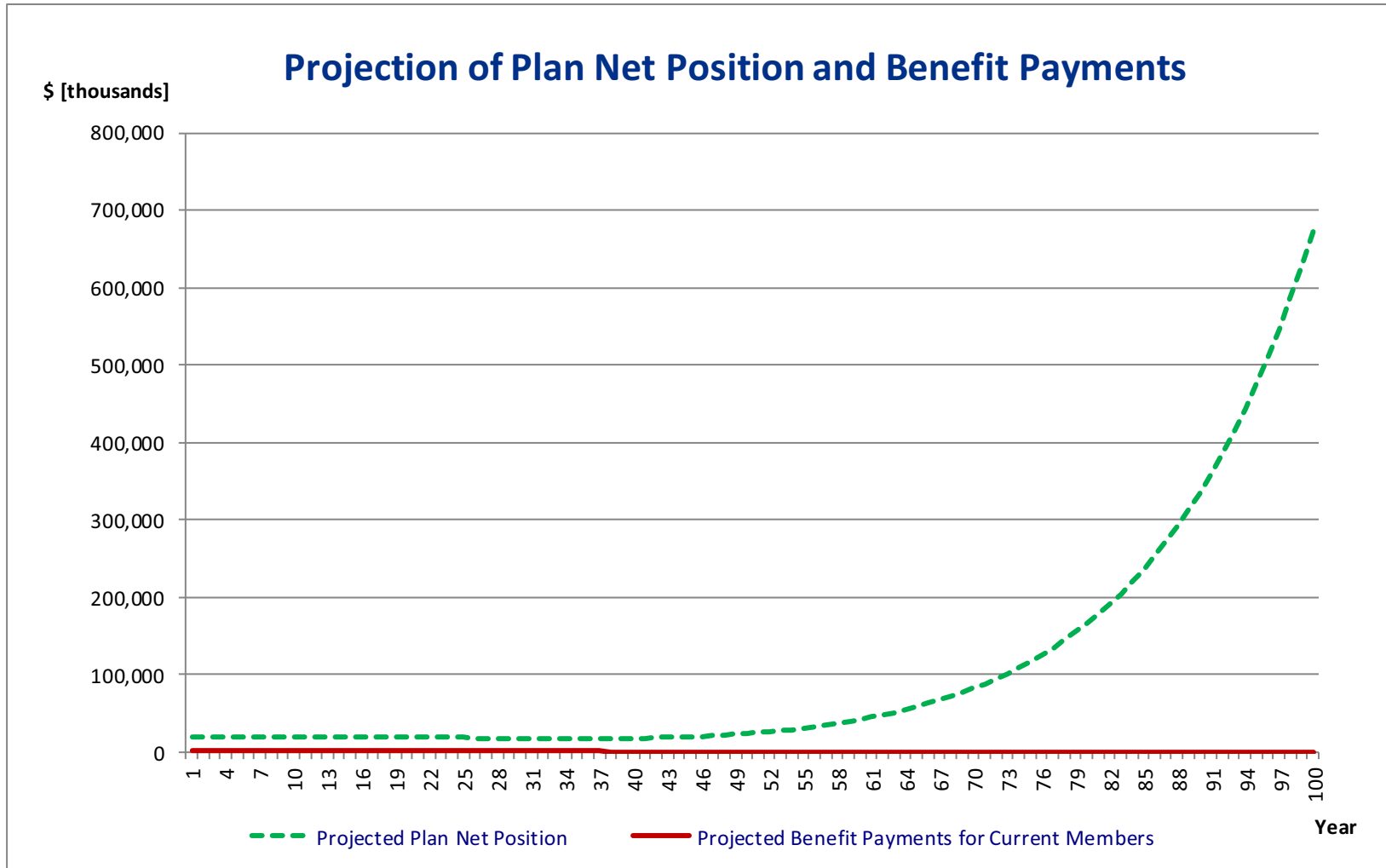
# Single Discount Rate Development

## 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)
2070	\$ 24,396,716	\$ 603,955	\$ 603,955	\$ 0	\$ 17,617	\$ 0	\$ 17,617
2071	25,540,013	565,846	565,846	0	15,390	0	15,390
2072	26,805,665	528,623	528,623	0	13,406	0	13,406
2073	28,201,625	492,294	492,294	0	11,640	0	11,640
2074	29,736,415	456,899	456,899	0	10,073	0	10,073
2075	31,419,134	422,500	422,500	0	8,685	0	8,685
2076	33,259,473	389,155	389,155	0	7,459	0	7,459
2077	35,267,770	356,926	356,926	0	6,379	0	6,379
2078	37,455,044	325,878	325,878	0	5,430	0	5,430
2079	39,833,051	296,095	296,095	0	4,600	0	4,600
2080	42,414,306	267,664	267,664	0	3,878	0	3,878
2081	45,212,146	240,654	240,654	0	3,251	0	3,251
2082	48,240,802	215,133	215,133	0	2,709	0	2,709
2083	51,515,465	191,156	191,156	0	2,245	0	2,245
2084	55,052,371	168,783	168,783	0	1,848	0	1,848
2085	58,868,874	148,071	148,071	0	1,512	0	1,512
2086	62,983,522	129,045	129,045	0	1,228	0	1,228
2087	67,416,187	111,710	111,710	0	991	0	991
2088	72,188,172	96,054	96,054	0	795	0	795
2089	77,322,340	82,034	82,034	0	633	0	633
2090	82,843,254	69,577	69,577	0	501	0	501
2091	88,777,335	58,586	58,586	0	393	0	393
2092	95,153,019	48,947	48,947	0	306	0	306
2093	102,000,922	40,537	40,537	0	236	0	236
2094	109,354,009	33,239	33,239	0	181	0	181
2095	117,247,751	26,947	26,947	0	137	0	137
2096	125,720,306	21,564	21,564	0	102	0	102
2097	134,812,696	17,006	17,006	0	75	0	75
2098	144,569,005	13,191	13,191	0	54	0	54
2099	155,036,596	10,043	10,043	0	38	0	38
2100	166,266,349	7,488	7,488	0	27	0	27
2101	178,312,905	5,457	5,457	0	18	0	18
2102	191,234,939	3,878	3,878	0	12	0	12
2103	205,095,456	2,680	2,680	0	8	0	8
2104	219,962,101	1,797	1,797	0	5	0	5
2105	235,907,492	1,166	1,166	0	3	0	3
2106	253,009,577	731	731	0	2	0	2
2107	271,352,014	441	441	0	1	0	1
2108	291,024,579	255	255	0	1	0	1
2109	312,123,597	141	141	0	0	0	0
2110	334,752,411	75	75	0	0	0	0
2111	359,021,883	39	39	0	0	0	0
2112	385,050,930	19	19	0	0	0	0
2113	412,967,103	9	9	0	0	0	0
2114	442,907,208	4	4	0	0	0	0
2115	475,017,976	2	2	0	0	0	0
2116	509,456,777	1	1	0	0	0	0
2117	546,392,393	0	0	0	0	0	0
2118	586,005,842	0	0	0	0	0	0
2119	628,491,265	0	0	0	0	0	0
<b>Totals</b>					\$ 19,145,123	\$ -	\$ 19,145,123

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





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## **SECTION D**

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### **GLOSSARY OF TERMS**



# Glossary of Terms

<b><i>Actuarial Accrued Liability (AAL)</i></b>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<b><i>Actuarial Assumptions</i></b>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<b><i>Accrued Service</i></b>	Service credited under the fund which was rendered before the date of the actuarial valuation.
<b><i>Actuarial Equivalent</i></b>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<b><i>Actuarial Cost Method</i></b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<b><i>Actuarial Gain (Loss)</i></b>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<b><i>Actuarial Present Value (APV)</i></b>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<b><i>Actuarial Valuation</i></b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

## Glossary of Terms (Continued)

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

## Glossary of Terms (Continued)

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

## Glossary of Terms (Concluded)

### ***Total Pension Expense***

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

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

### ***Total Pension Liability (TPL)***

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

### ***Unfunded Actuarial Accrued Liability (UAAL)***

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

### ***Valuation Assets***

The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 68, the valuation asset is equal to the market value of assets.