

Alsip Elementary SD 126 Regular

GASB Statement No. 68 Employer Reporting

Accounting Schedules

December 31, 2017



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April 6, 2018

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 Nos. 67 and 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 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 Illinois Municipal Retirement Fund and should be considered in conjunction with that report. Please see the actuarial valuation report as of December 31, 2017 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

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

A handwritten signature in black ink that reads "Mark Buis".

Mark Buis, FSA, EA, FCA, MAAA

A handwritten signature in black ink that reads "Francois Pieterse".

Francois Pieterse, ASA, FCA, MAAA

SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2017

Actuarial Valuation Date	December 31, 2017
Measurement Date of the Net Pension Liability	December 31, 2017
Fiscal Year End	June 30, 2018

Membership

Number of	
- Retirees and Beneficiaries	254
- Inactive, Non-Retired Members	151
- Active Members	85
- Total	490
Covered Valuation Payroll ⁽¹⁾	\$ 2,272,309

Net Pension Liability

Total Pension Liability/(Asset)	\$ 16,042,811
Plan Fiduciary Net Position	18,172,667
Net Pension Liability/(Asset)	\$ (2,129,856)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	113.28%
Net Pension Liability as a Percentage of Covered Valuation Payroll	(93.73)%

Development of the Single Discount Rate as of December 31, 2017

Long-Term Expected Rate of Investment Return	7.50%
Long-Term Municipal Bond Rate ⁽²⁾	3.31%
Last year ending December 31 in the 2018 to 2117 projection period for which projected benefit payments are fully funded	2117
Resulting Single Discount Rate based on the above development	7.50%

Single Discount Rate calculated using December 31, 2016 Measurement Date 7.50%

Total Pension Expense/(Income) \$ 148,865

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	\$ 78,035	\$ 0
Changes in assumptions	0	207,798
Net difference between projected and actual earnings on pension plan investments	516,035	1,444,355
Total	\$ 594,070	\$ 1,652,153

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

⁽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 29, 2017. 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, 2017.

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, 2017 Annual Actuarial Valuation report dated March 22, 2018);
- the number and classes of employees covered by the benefit terms (page 1);
- for the current year, sources of changes in the net pension liability (page 10);
- significant assumptions and methods used to calculate the total pension liability (page 15);
- inputs to the single discount rate (page 16);
- certain information about mortality assumptions and the dates of experience studies (page 13 and page 15);
- the date of the valuation used to determine the total pension liability (page 1);
- information about changes of assumptions or other inputs and benefit terms (pages 13 and 15);
- the basis for determining contributions to the plan, including a description of the plan's funding policy, as well as member and employer contribution requirements (please see page A-3, B-5 and Section D of the December 31, 2017 Annual Actuarial Valuation report dated March 22, 2018, as well as page 13);
- the total pension liability, fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability (page 10);
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes (page 10); and
- a description of the fund that administers the pension plan (to be provided by IMRF).

Required Supplementary Information

The financial statements of employers also include required supplementary information showing the 10-year fiscal history of:

- sources of changes in the net pension liability (page 11);
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll (page 11); and
- comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy (page 12).

These tables may be built prospectively as the information becomes available.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For the employer's financial reporting purposes, the net pension liability and pension expense should be measured as of the employer's "measurement date" which may not be earlier than the employer's prior fiscal year-end date. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of December 31, 2017 and a measurement date of December 31, 2017.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a single discount rate that reflects: (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the plan's projected fiduciary net position is not sufficient to pay benefits).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.31% (based on the daily rate closest to but not later than the measurement date of the "20-Bond Go Index" described on page 1 and the resulting Single Discount Rate is 7.50%.

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial value of assets), it is expected that:

- (1) The employer normal cost as a percentage of pay will decrease to the level of Tier 2 normal cost as time passes as the majority of the active population will consist of Tier 2 members.
- (2) The unfunded liability will increase in dollar amount for several years before it begins to decrease.
- (3) The funded status of the plan will increase gradually towards a 100% funded ratio.

This funding policy results in a crossover date in 2117 and a discount rate of 7.50%. The projections in this report are strictly for the purposes of determining the GASB discount rate and are different from a funding projection for the ongoing plan.

Limitations of Assets as a Percent of Total Pension Liability Measurements

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

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

Limitations of Funded Status Measurements

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

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

Limitation of Project Scope

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

SECTION B

FINANCIAL STATEMENTS

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

Calendar Year Ended December 31, 2017

A. Expense/(Income)

1. Service Cost	\$	262,282
2. Interest on the Total Pension Liability		1,170,875
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(107,627)
5. Projected Earnings on Plan Investments (made negative for addition here)		(1,179,098)
6. Other Changes in Plan Fiduciary Net Position		347,952
7. Recognition of Outflow (Inflow) of Resources due to Liabilities		(250,611)
8. Recognition of Outflow (Inflow) of Resources due to Assets		(94,908)
9. Total Pension Expense/(Income)	\$	148,865

Statement of Outflows and Inflows Arising from Current Reporting Period Calendar Year Ended December 31, 2017

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 196,809
2. Assumption Changes (gains) or losses	\$ (524,082)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	1.6570
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	\$ 118,774
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ (316,284)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ (197,510)
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	\$ 78,035
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ (207,798)
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ (129,763)

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (1,805,444)
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	\$ (361,089)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (1,444,355)

* 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, 2017

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	\$ 118,774	\$ 369,385	\$ (250,611)
2. Due to Assets	266,181	361,089	(94,908)
3. Total	\$ 384,955	\$ 730,474	\$ (345,519)

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	\$ 118,774	\$ 35,573	\$ 83,201
2. Assumption changes	0	333,812	\$ (333,812)
3. Net difference between projected and actual earnings on pension plan investments	266,181	361,089	(94,908)
4. Total	\$ 384,955	\$ 730,474	\$ (345,519)

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	\$ 78,035	\$ 0	\$ 78,035
2. Assumption changes	0	207,798	\$ (207,798)
3. Net difference between projected and actual earnings on pension plan investments	516,035	1,444,355	(928,320)
4. Total	\$ 594,070	\$ 1,652,153	\$ (1,058,083)

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
2018	\$ (224,670)
2019	(135,004)
2020	(337,321)
2021	(361,088)
2022	0
Thereafter	0
Total	\$ (1,058,083)

Schedule of Changes in Net Pension Liability and Related Ratios

Current Period

Calendar Year Ended December 31, 2017

A. Total pension liability	
1. Service Cost	\$ 262,282
2. Interest on the Total Pension Liability	1,170,875
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	196,809
5. Changes of assumptions	(524,082)
6. Benefit payments, including refunds of employee contributions	(1,087,184)
7. Net change in total pension liability	\$ 18,700
8. Total pension liability – beginning	16,024,111
9. Total pension liability – ending	<u><u>\$ 16,042,811</u></u>
B. Plan fiduciary net position	
1. Contributions – employer	\$ 261,145
2. Contributions – employee	107,627
3. Net investment income	2,984,542
4. Benefit payments, including refunds of employee contributions	(1,087,184)
5. Other (Net Transfer)	(347,952)
6. Net change in plan fiduciary net position	\$ 1,918,178
7. Plan fiduciary net position – beginning	16,254,489
8. Plan fiduciary net position – ending	<u><u>\$ 18,172,667</u></u>
C. Net pension liability/(asset)	<u><u>\$ (2,129,856)</u></u>
D. Plan fiduciary net position as a percentage of the total pension liability	113.28%
E. Covered Valuation payroll	\$ 2,272,309
F. Net pension liability as a percentage of covered valuation payroll	(93.73)%

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

	1% Decrease	Current Single Discount Rate Assumption	1% Increase
	<u>6.50%</u>	<u>7.50%</u>	<u>8.50%</u>
Total Pension Liability	\$ 17,738,599	\$ 16,042,811	\$ 14,625,428
Plan Fiduciary Net Position	18,172,667	18,172,667	18,172,667
Net Pension Liability/(Asset)	\$ (434,068)	\$ (2,129,856)	\$ (3,547,239)

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,	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total Pension Liability										
Service Cost	\$ 262,282	\$ 265,102	\$ 243,747	\$ 245,612						
Interest on the Total Pension Liability	1,170,875	1,150,341	1,117,228	1,048,075						
Benefit Changes	0	0	0	0						
Difference between Expected and Actual Experience	196,809	(100,251)	75,801	(9,337)						
Assumption Changes	(524,082)	(49,397)	32,898	619,422						
Benefit Payments and Refunds	(1,087,184)	(1,017,226)	(977,052)	(944,746)						
Net Change in Total Pension Liability	18,700	248,569	492,622	959,026						
Total Pension Liability - Beginning	16,024,111	15,775,542	15,282,920	14,323,894						
Total Pension Liability - Ending (a)	\$ 16,042,811	\$ 16,024,111	\$ 15,775,542	\$ 15,282,920						
Plan Fiduciary Net Position										
Employer Contributions	\$ 261,145	\$ 1,762,661	\$ 272,182	\$ 253,324						
Employee Contributions	107,627	101,156	101,091	91,631						
Pension Plan Net Investment Income	2,984,542	989,570	71,843	853,732						
Benefit Payments and Refunds	(1,087,184)	(1,017,226)	(977,052)	(944,746)						
Other	(347,952)	125,546	154,278	121,005						
Net Change in Plan Fiduciary Net Position	1,918,178	1,961,707	(377,658)	374,946						
Plan Fiduciary Net Position - Beginning	16,254,489	14,292,782	14,670,440	14,295,494						
Plan Fiduciary Net Position - Ending (b)	\$ 18,172,667	\$ 16,254,489	\$ 14,292,782	\$ 14,670,440						
Net Pension Liability/(Asset) - Ending (a) - (b)	(2,129,856)	(230,378)	1,482,760	612,480						
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	113.28%	101.44%	90.60%	95.99%						
Covered Valuation Payroll	\$ 2,272,309	\$ 2,246,879	\$ 2,240,192	\$ 2,066,746						
Net Pension Liability as a Percentage of Covered Valuation Payroll	(93.73)%	(10.25)%	66.19%	29.63%						

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>
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%

* Estimated based on contribution rate of 10.88% and covered valuation payroll of \$2,272,309.

Notes to Schedule of Contributions

Summary of Actuarial Methods and Assumptions Used in the Calculation of the 2017 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 2017 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): 26-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 21 years for most employers (two employers were financed over 30 years).
Asset Valuation Method	5-Year smoothed market; 20% corridor
Wage growth	3.50%
Price Inflation	2.75% -- approximate; No explicit price inflation assumption is used in this valuation.
Salary Increases	3.75% to 14.50% including inflation
Investment Rate of Return	7.50%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2014 valuation pursuant to an experience study of the period 2011-2013.
Mortality	For non-disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2014 (base year 2012). The IMRF specific rates were developed from the RP-2014 Blue Collar Health Annuitant Mortality Table with adjustments to match current IMRF experience. For disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2014 (base year 2012). The IMRF specific rates were developed from the RP-2014 Disabled Retirees Mortality Table applying the same adjustment that were applied for non-disabled lives. For active members, an IMRF specific mortality table was used with fully generational projection scale MP-2014 (base year 2012). The IMRF specific rates were developed from the RP-2014 Employee Mortality Table with adjustments to match current IMRF experience.

Other Information:

Notes There were no benefit changes during the year.

* Based on Valuation Assumptions used in the December 31, 2015 actuarial valuation

Development of Market Value of Assets

Market Value of Assets as of December 31, 2017

1. Employee Contribution Reserve (MDF Assets from IMRF)	\$	1,618,290
2. Employer Contribution Reserve (EAF assets from IMRF)	\$	5,666,847
3. Annuitant Reserve	\$	10,889,022
4. Miscellaneous Adjustment*	\$	(1,492)
5. Net Market Value	\$	18,172,667

* Includes an adjustment factor of (0.0000820765) 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	\$	247,227
b.) Accelerated payments and Reserve Payments		13,918
	\$	261,145

2. Member

a.) Wage Reporting	\$	102,254
b.) Member Payments (i.e. ERI, Pension Payments)		5,373
Sub-total (Amount used for valuation on Schedule of Changes Page 10)	\$	107,627

c.) Voluntary Additional Plan	\$	5,412
Total Member Contributions (a+b+c)	\$	113,039

Total Employer and Member Contributions (1+2)	\$	374,184
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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 (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.31%; and the resulting single discount rate is 7.50%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

Expected Contributions are developed based on the following:

- Member Contributions for current members
- Normal Cost contributions for current members
- Unfunded Liability contributions for current and future members.

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

Single Discount Rate Development Projection of Contributions

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions
2017	\$ 2,272,309				
2018	2,216,858	\$ 99,759	\$ 146,217	\$ (75,978)	\$ 169,997
2019	2,044,772	92,015	111,978	(96,403)	107,590
2020	1,899,902	85,496	103,298	(103,298)	85,496
2021	1,775,310	79,889	96,698	(96,698)	79,889
2022	1,666,770	75,005	90,623	(90,623)	75,004
2023	1,568,905	70,601	84,994	(84,994)	70,600
2024	1,481,031	66,646	79,797	(79,797)	66,646
2025	1,395,304	62,789	74,630	(74,630)	62,789
2026	1,313,715	59,117	69,750	(69,750)	59,117
2027	1,239,330	55,770	65,192	(65,192)	55,770
2028	1,169,321	52,619	60,935	(60,935)	52,620
2029	1,106,222	49,780	57,104	(57,104)	49,780
2030	1,048,344	47,176	53,602	(53,602)	47,175
2031	996,638	44,849	50,567	(50,567)	44,848
2032	946,873	42,609	47,670	(47,670)	42,609
2033	894,784	40,265	44,696	(44,696)	40,265
2034	843,158	37,942	41,786	(41,786)	37,942
2035	791,422	35,614	38,911	(38,911)	35,614
2036	743,158	33,442	36,246	(36,246)	33,442
2037	695,365	31,291	33,642	(33,642)	31,292
2038	647,391	29,133	31,067	(31,067)	29,132
2039	600,469	27,021	28,579	(28,579)	27,021
2040	555,694	25,006	26,175	(26,175)	25,007
2041	513,421	23,104	23,882	(23,882)	23,104
2042	469,463	21,126	21,514	(21,514)	21,126
2043	423,414	19,054	19,113	(19,113)	19,054
2044	377,476	16,986	16,854	(16,854)	16,986
2045	336,646	15,149	14,833	(14,833)	15,149
2046	297,232	13,375	12,892	(12,892)	13,375
2047	253,487	11,407	10,820	(10,820)	11,407
2048	206,067	9,273	8,715	(8,715)	9,273
2049	157,488	7,087	6,645	(6,645)	7,087
2050	110,142	4,956	4,647	(4,647)	4,957
2051	75,593	3,402	3,227	(3,227)	3,401
2052	49,999	2,250	2,164	(2,164)	2,250
2053	25,940	1,167	1,148	(1,148)	1,167
2054	13,254	596	646	(646)	597
2055	8,371	377	462	(462)	376
2056	6,095	274	355	(355)	274
2057	4,545	205	275	(275)	204
2058	3,436	155	208	(208)	154
2059	2,377	107	143	(143)	107
2060	1,476	66	90	(90)	67
2061	1,123	51	69	(69)	51
2062	885	40	54	(54)	40
2063	518	23	32	(32)	24
2064	125	6	7	(7)	6
2065	0	0	0	0	0
2066	0	0	0	0	0
2067	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
2068	\$ 0	\$ 0	\$ 0	\$ 0	0
2069	0	0	0	0	0
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

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 7.50%		Net Position	
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)					
2018	\$ 18,172,667	\$ 169,997	\$ 1,132,021	\$ 1,327,526	\$ 18,538,170					
2019	18,538,170	107,589	1,173,095	1,351,129	18,823,792					
2020	18,823,792	85,496	1,194,513	1,370,948	19,085,723					
2021	19,085,723	79,889	1,224,800	1,389,271	19,330,083					
2022	19,330,083	75,005	1,254,421	1,406,328	19,556,994					
2023	19,556,994	70,601	1,279,737	1,422,252	19,770,110					
2024	19,770,110	66,646	1,302,706	1,437,244	19,971,295					
2025	19,971,295	62,789	1,328,511	1,451,241	20,156,813					
2026	20,156,813	59,117	1,359,366	1,463,883	20,320,447					
2027	20,320,447	55,770	1,392,913	1,474,797	20,458,102					
2028	20,458,102	52,619	1,420,241	1,483,999	20,574,479					
2029	20,574,479	49,780	1,438,109	1,491,965	20,678,115					
2030	20,678,115	47,176	1,454,656	1,499,032	20,769,666					
2031	20,769,666	44,849	1,461,368	1,505,566	20,858,713					
2032	20,858,713	42,609	1,467,839	1,511,924	20,945,407					
2033	20,945,407	40,265	1,472,216	1,518,178	21,031,635					
2034	21,031,635	37,942	1,478,999	1,524,310	21,114,887					
2035	21,114,887	35,614	1,484,970	1,530,248	21,195,779					
2036	21,195,779	33,442	1,482,700	1,536,319	21,282,840					
2037	21,282,840	31,291	1,479,836	1,542,875	21,377,170					
2038	21,377,170	29,133	1,477,188	1,549,967	21,479,082					
2039	21,479,082	27,021	1,473,102	1,557,683	21,590,684					
2040	21,590,684	25,006	1,463,034	1,566,350	21,719,007					
2041	21,719,007	23,104	1,450,737	1,576,357	21,867,730					
2042	21,867,730	21,126	1,441,651	1,587,773	22,034,979					
2043	22,034,979	19,054	1,434,491	1,600,504	22,220,046					
2044	22,220,046	16,986	1,420,740	1,614,814	22,431,106					
2045	22,431,106	15,149	1,398,927	1,631,379	22,678,707					
2046	22,678,707	13,375	1,379,674	1,650,593	22,963,002					
2047	22,963,002	11,407	1,365,097	1,672,379	23,281,691					
2048	23,281,691	9,273	1,352,814	1,696,655	23,634,804					
2049	23,634,804	7,087	1,339,887	1,723,534	24,025,538					
2050	24,025,538	4,956	1,319,312	1,753,518	24,464,701					
2051	24,464,701	3,402	1,286,023	1,787,624	24,969,704					
2052	24,969,704	2,250	1,251,359	1,826,733	25,547,328					
2053	25,547,328	1,167	1,214,896	1,871,358	26,204,957					
2054	26,204,957	596	1,171,430	1,922,259	26,956,382					
2055	26,956,382	377	1,120,948	1,980,467	27,816,278					
2056	27,816,278	274	1,069,692	2,046,843	28,793,703					
2057	28,793,703	205	1,018,738	2,122,023	29,897,192					
2058	29,897,192	155	968,261	2,206,642	31,135,727					
2059	31,135,727	107	919,217	2,301,336	32,517,954					
2060	32,517,954	66	870,873	2,406,782	34,053,928					
2061	34,053,928	51	823,439	2,523,726	35,754,266					
2062	35,754,266	40	777,353	2,652,948	37,629,900					
2063	37,629,900	23	733,015	2,795,252	39,692,161					
2064	39,692,161	6	690,143	2,951,500	41,953,524					
2065	41,953,524	0	648,496	3,122,635	44,427,663					
2066	44,427,663	0	608,246	3,309,678	47,129,095					
2067	47,129,095	0	569,393	3,513,716	50,073,418					

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	Projected Total	Projected Benefit	Projected	Projected Ending Plan
	Plan Net Position	Contributions	Payments	Investment Earnings at 7.50%	Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
2068	\$ 50,073,418	\$ 0	\$ 531,836	\$ 3,735,923	\$ 53,277,505
2069	53,277,505	0	495,471	3,977,569	56,759,603
2070	56,759,603	0	460,212	4,240,024	60,539,415
2071	60,539,415	0	426,006	4,524,770	64,638,179
2072	64,638,179	0	392,832	4,833,399	69,078,746
2073	69,078,746	0	360,699	5,167,624	73,885,671
2074	73,885,671	0	329,645	5,529,287	79,085,314
2075	79,085,314	0	299,730	5,920,362	84,705,945
2076	84,705,945	0	271,013	6,342,967	90,777,898
2077	90,777,898	0	243,560	6,799,374	97,333,712
2078	97,333,712	0	217,445	7,292,022	104,408,289
2079	104,408,289	0	192,739	7,823,525	112,039,074
2080	112,039,074	0	169,506	8,396,689	120,266,258
2081	120,266,258	0	147,795	9,014,527	129,132,990
2082	129,132,990	0	127,661	9,680,274	138,685,603
2083	138,685,603	0	109,144	10,397,401	148,973,861
2084	148,973,861	0	92,274	11,169,642	160,051,228
2085	160,051,228	0	77,071	12,001,004	171,975,162
2086	171,975,162	0	63,533	12,895,798	184,807,426
2087	184,807,426	0	51,648	13,858,655	198,614,433
2088	198,614,433	0	41,369	14,894,559	213,467,624
2089	213,467,624	0	32,617	16,008,871	229,443,878
2090	229,443,878	0	25,290	17,207,360	246,625,948
2091	246,625,948	0	19,267	18,496,237	265,102,917
2092	265,102,917	0	14,412	19,882,188	284,970,693
2093	284,970,693	0	10,574	21,372,413	306,332,532
2094	306,332,532	0	7,601	22,974,660	329,299,592
2095	329,299,592	0	5,348	24,697,272	353,991,516
2096	353,991,516	0	3,682	26,549,228	380,537,062
2097	380,537,062	0	2,477	28,540,188	409,074,773
2098	409,074,773	0	1,625	30,680,548	439,753,696
2099	439,753,696	0	1,039	32,981,489	472,734,146
2100	472,734,146	0	646	35,455,037	508,188,538
2101	508,188,538	0	390	38,114,126	546,302,274
2102	546,302,274	0	229	40,972,662	587,274,707
2103	587,274,707	0	130	44,045,598	631,320,175
2104	631,320,175	0	71	47,349,011	678,669,115
2105	678,669,115	0	37	50,900,182	729,569,260
2106	729,569,260	0	19	54,717,694	784,286,935
2107	784,286,935	0	9	58,821,520	843,108,446
2108	843,108,446	0	4	63,233,133	906,341,575
2109	906,341,575	0	2	67,975,618	974,317,191
2110	974,317,191	0	1	73,073,789	1,047,390,979
2111	1,047,390,979	0	0	78,554,323	1,125,945,302
2112	1,125,945,302	0	0	84,445,898	1,210,391,200
2113	1,210,391,200	0	0	90,779,340	1,301,170,540
2114	1,301,170,540	0	0	97,587,790	1,398,758,330
2115	1,398,758,330	0	0	104,906,875	1,503,665,205
2116	1,503,665,205	0	0	112,774,890	1,616,440,096
2117	1,616,440,096	0	0	121,233,007	1,737,673,103

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}
2018	\$ 18,172,667	\$ 1,132,021	\$ 1,132,021	\$ 0	\$ 1,091,818	\$ 0	\$ 1,091,818
2019	18,538,170	1,173,095	1,173,095	0	1,052,496	0	1,052,496
2020	18,823,792	1,194,513	1,194,513	0	996,942	0	996,942
2021	19,085,723	1,224,800	1,224,800	0	950,902	0	950,902
2022	19,330,083	1,254,421	1,254,421	0	905,952	0	905,952
2023	19,556,994	1,279,737	1,279,737	0	859,754	0	859,754
2024	19,770,110	1,302,706	1,302,706	0	814,125	0	814,125
2025	19,971,295	1,328,511	1,328,511	0	772,328	0	772,328
2026	20,156,813	1,359,366	1,359,366	0	735,131	0	735,131
2027	20,320,447	1,392,913	1,392,913	0	700,718	0	700,718
2028	20,458,102	1,420,241	1,420,241	0	664,620	0	664,620
2029	20,574,479	1,438,109	1,438,109	0	626,029	0	626,029
2030	20,678,115	1,454,656	1,454,656	0	589,053	0	589,053
2031	20,769,666	1,461,368	1,461,368	0	550,485	0	550,485
2032	20,858,713	1,467,839	1,467,839	0	514,346	0	514,346
2033	20,945,407	1,472,216	1,472,216	0	479,888	0	479,888
2034	21,031,635	1,478,999	1,478,999	0	448,465	0	448,465
2035	21,114,887	1,484,970	1,484,970	0	418,861	0	418,861
2036	21,195,779	1,482,700	1,482,700	0	389,042	0	389,042
2037	21,282,840	1,479,836	1,479,836	0	361,201	0	361,201
2038	21,377,170	1,477,188	1,477,188	0	335,399	0	335,399
2039	21,479,082	1,473,102	1,473,102	0	311,137	0	311,137
2040	21,590,684	1,463,034	1,463,034	0	287,451	0	287,451
2041	21,719,007	1,450,737	1,450,737	0	265,149	0	265,149
2042	21,867,730	1,441,651	1,441,651	0	245,105	0	245,105
2043	22,034,979	1,434,491	1,434,491	0	226,873	0	226,873
2044	22,220,046	1,420,740	1,420,740	0	209,021	0	209,021
2045	22,431,106	1,398,927	1,398,927	0	191,453	0	191,453
2046	22,678,707	1,379,674	1,379,674	0	175,645	0	175,645
2047	22,963,002	1,365,097	1,365,097	0	161,664	0	161,664
2048	23,281,691	1,352,814	1,352,814	0	149,032	0	149,032
2049	23,634,804	1,339,887	1,339,887	0	137,310	0	137,310
2050	24,025,538	1,319,312	1,319,312	0	125,769	0	125,769
2051	24,464,701	1,286,023	1,286,023	0	114,042	0	114,042
2052	24,969,704	1,251,359	1,251,359	0	103,226	0	103,226
2053	25,547,328	1,214,896	1,214,896	0	93,226	0	93,226
2054	26,204,957	1,171,430	1,171,430	0	83,619	0	83,619
2055	26,956,382	1,120,948	1,120,948	0	74,433	0	74,433
2056	27,816,278	1,069,692	1,069,692	0	66,074	0	66,074
2057	28,793,703	1,018,738	1,018,738	0	58,537	0	58,537
2058	29,897,192	968,261	968,261	0	51,755	0	51,755
2059	31,135,727	919,217	919,217	0	45,705	0	45,705
2060	32,517,954	870,873	870,873	0	40,281	0	40,281
2061	34,053,928	823,439	823,439	0	35,429	0	35,429
2062	35,754,266	777,353	777,353	0	31,113	0	31,113
2063	37,629,900	733,015	733,015	0	27,292	0	27,292
2064	39,692,161	690,143	690,143	0	23,903	0	23,903
2065	41,953,524	648,496	648,496	0	20,893	0	20,893
2066	44,427,663	608,246	608,246	0	18,229	0	18,229
2067	47,129,095	569,393	569,393	0	15,874	0	15,874

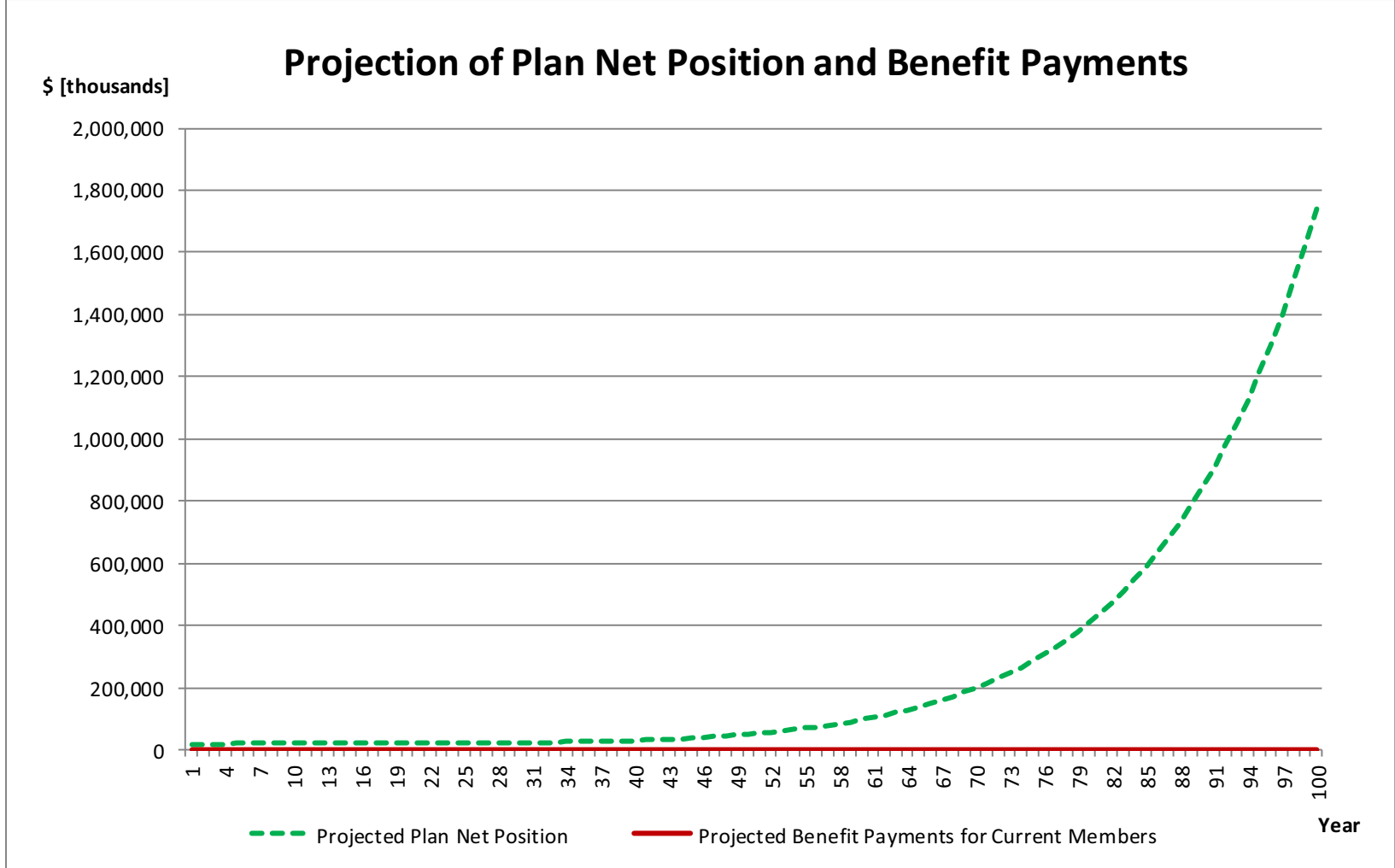
The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

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)	$(f)=(d)*v^{((a)-.5)}$	$(g)=(e)*vf^{((a)-.5)}$	$(h)=(c)/(1+s\ dr)^{(a-.5)}$
2068	\$ 50,073,418	\$ 531,836	\$ 531,836	\$ 0	\$ 13,793	\$ 0	\$ 13,793
2069	53,277,505	495,471	495,471	0	11,953	0	11,953
2070	56,759,603	460,212	460,212	0	10,328	0	10,328
2071	60,539,415	426,006	426,006	0	8,893	0	8,893
2072	64,638,179	392,832	392,832	0	7,629	0	7,629
2073	69,078,746	360,699	360,699	0	6,516	0	6,516
2074	73,885,671	329,645	329,645	0	5,539	0	5,539
2075	79,085,314	299,730	299,730	0	4,685	0	4,685
2076	84,705,945	271,013	271,013	0	3,941	0	3,941
2077	90,777,898	243,560	243,560	0	3,295	0	3,295
2078	97,333,712	217,445	217,445	0	2,736	0	2,736
2079	104,408,289	192,739	192,739	0	2,256	0	2,256
2080	112,039,074	169,506	169,506	0	1,846	0	1,846
2081	120,266,258	147,795	147,795	0	1,497	0	1,497
2082	129,132,990	127,661	127,661	0	1,203	0	1,203
2083	138,685,603	109,144	109,144	0	957	0	957
2084	148,973,861	92,274	92,274	0	752	0	752
2085	160,051,228	77,071	77,071	0	585	0	585
2086	171,975,162	63,533	63,533	0	448	0	448
2087	184,807,426	51,648	51,648	0	339	0	339
2088	198,614,433	41,369	41,369	0	253	0	253
2089	213,467,624	32,617	32,617	0	185	0	185
2090	229,443,878	25,290	25,290	0	134	0	134
2091	246,625,948	19,267	19,267	0	95	0	95
2092	265,102,917	14,412	14,412	0	66	0	66
2093	284,970,693	10,574	10,574	0	45	0	45
2094	306,332,532	7,601	7,601	0	30	0	30
2095	329,299,592	5,348	5,348	0	20	0	20
2096	353,991,516	3,682	3,682	0	13	0	13
2097	380,537,062	2,477	2,477	0	8	0	8
2098	409,074,773	1,625	1,625	0	5	0	5
2099	439,753,696	1,039	1,039	0	3	0	3
2100	472,734,146	646	646	0	2	0	2
2101	508,188,538	390	390	0	1	0	1
2102	546,302,274	229	229	0	1	0	1
2103	587,274,707	130	130	0	0	0	0
2104	631,320,175	71	71	0	0	0	0
2105	678,669,115	37	37	0	0	0	0
2106	729,569,260	19	19	0	0	0	0
2107	784,286,935	9	9	0	0	0	0
2108	843,108,446	4	4	0	0	0	0
2109	906,341,575	2	2	0	0	0	0
2110	974,317,191	1	1	0	0	0	0
2111	1,047,390,979	0	0	0	0	0	0
2112	1,125,945,302	0	0	0	0	0	0
2113	1,210,391,200	0	0	0	0	0	0
2114	1,301,170,540	0	0	0	0	0	0
2115	1,398,758,330	0	0	0	0	0	0
2116	1,503,665,205	0	0	0	0	0	0
2117	1,616,440,096	0	0	0	0	0	0
Totals					\$ 17,736,844	\$ -	\$ 17,736,844

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



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SECTION D

GLOSSARY OF TERMS

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 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)

<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.