

City of Irving Supplemental Benefit Plan

GASB Statement Nos. 67 and 68 Accounting and
Financial Reporting for Pensions
December 31, 2018





June 24, 2019

Board of Trustees
Supplemental Benefit Plan
City of Irving
825 W. Irving Blvd.
Irving, TX 75060

Subject: GASB 67/68 Reporting and Disclosure Information for the City of Irving Supplemental Benefit Plan for Plan Year Ending December 31, 2018 and the City of Irving Fiscal Year Ending September 30, 2019

Dear Board of Trustees,

This report provides information required by the City of Irving Supplemental Benefit Plan (SBP or Plan) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67, "Financial Reporting for Pension Plans." Additionally, this report provides information required by the City of Irving (the City) in connection with the GASB Statement No. 68, "Accounting and Financial Reporting for Pensions." It is our understanding this information will be used by the City in financial reporting for fiscal year ending September 30, 2019. The information provided herein was prepared for the purpose of assisting the SBP and the City in the compliance with the financial reporting and disclosure requirements of GASB Statements Nos. 67 and 68.

The calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statement Nos. 67 and 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 City only in its entirety and only with the permission of the City.

The total pension liability, net pension liability, and related information shown in this report are based on an actuarial valuation performed as of January 1, 2019.

As required under GASB Statement No. 68, the City will report the Plan's Net Pension Liability (NPL) as of the end of the Plan's fiscal year. In other words, there will be no adjustment to the NPL to reflect the difference between the Plan's fiscal year end December 31, 2018 (at which the NPL was determined) and the City's fiscal year end September 30, 2019.

However, paragraph 57 of GASB Statement No. 68 indicates that contributions to the pension plan subsequent to the measurement date of the Net Pension Liability and prior to the end of the employer's reporting period should be reported by the employer as a deferred outflow of resources related to pensions. The information contained in this report does not incorporate any contributions made by the City subsequent to December 31, 2018 and on or before September 30, 2019.

Certain tables included in the Required Supplementary Information should include a 10-year history of information. As provided for in GASB Statement Nos. 67 and 68, this historical information is only presented for the years in which the information was measured in conformity with the requirements of GASB Statement Nos. 67 and 68. The historical information in this report will begin with the information presented for the plan year ending December 31, 2014.

The schedule of contributions shown in this report is for the SBP and is based on the SBP's fiscal year which is the calendar year. The City should show in its Financial Statements similar information but based on the City's fiscal year. If the City requires assistance in preparing this information we would be happy to assist.

This report complements the actuarial valuation report of the City of Irving Supplemental Benefit Plan as of January 1, 2019, provided for plan funding purposes. Please see the actuarial valuation report, dated June 24, 2019, for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

There were no other significant events or changes in benefit provisions that required an adjustment to the liabilities. It is our opinion that the recommended assumptions are internally consistent, reasonable, and comply with the requirements under GASB Statement Nos. 67 and 68.

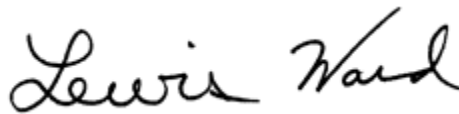
This report is based upon information, furnished to us by the City, which include benefit provisions, membership information, and financial data. We did not audit this data and information, but we did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided to us by the City.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the City of Irving Supplemental Benefit Plan Supplemental Benefit Plan. 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. Mr. Siblik is a member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,



Daniel J. Siblik ASA, EA, MAAA, Consultant
Consultant



Lewis Ward
Consultant

Table of Contents

	<u>Page</u>
Section A	Executive Summary
	Executive Summary..... 1
	Discussion..... 2
Section B	Financial Statements
	Statement of Pension Expense 7
	Statement of Outflows and Inflows Arising from Current Period 8
	Statement of Outflows and Inflows Arising from Current and Prior Periods 9
	Schedule of Changes in Net Pension Liability and Related Ratios Current Period 10
	Schedule of Changes in Net Pension Liability and Related Ratios Multiyear 11
	Schedule of Contributions Multiyear 12
	Notes to Schedule of Contributions..... 13
	Sensitivity of Net Pension Liability to the Single Discount Rate Assumption 14
Section C	Calculation of the Single Discount Rate
	Calculation of the Single Discount Rate 16
	Projection of Contributions..... 17
	Projection of Plan Fiduciary Net Position 18
	Present Values of Projected Benefits..... 20
Section D	Glossary of Terms..... 23

SECTION A

EXECUTIVE SUMMARY

Executive Summary

as of December 31, 2018

	2019
Actuarial Valuation Date	January 1, 2019
Measurement Date of the Net Pension Liability	December 31, 2018
Employer's Fiscal Year Ending Date (Reporting Date)	September 30, 2019

Membership

Number of	
- Retirees and Beneficiaries	400
- Inactive, Nonretired Members (includes nonvested members entitled to refund)	286
- Active Members	1,485
- Total	2,171
Covered Payroll	\$ 105,124,301

Net Pension Liability

Total Pension Liability	\$ 85,874,241
Plan Fiduciary Net Position	58,112,359
Net Pension Liability	\$ 27,761,882
Plan Fiduciary Net Position as a Percentage	
of Total Pension Liability	67.67%
Net Pension Liability as a Percentage	
of Covered Payroll	26.41%

Development of the Single Discount Rate

Single Discount Rate	6.75%
Long-Term Expected Rate of Investment Return	6.75%
Long-Term Municipal Bond Rate*	3.71%
Last year ending December 31 in the 2019 to 2118 projection period	
for which projected benefit payments are fully funded	2118

Total Pension Expense \$ 4,966,869

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	\$ 270,246	\$ 2,127,293
Changes in assumptions	2,251,530	0
Net difference between projected and actual earnings		
on pension plan investments	6,801,228	1,826,454
Total	\$ 9,323,004	\$ 3,953,747

**Source: This is the rate for Fixed Income Market Data/Yield Curve/Data 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." 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. The rate is issued on a daily basis. The rates posted are for the last business day of the specified month.*

Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to 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, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. 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 states, "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 the SBP subsequent to the measurement date of December 31, 2018.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the 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.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position and the net pension liability;
- 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;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- the composition of the pension plan's Board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.

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;
- 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; and
- a comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

All three tables are being built prospectively as the information becomes available.

Actuarially Determined Contribution

This report presents the Actuarially Determined Contribution (ADC) for the plan year ending December 31, 2018. Consistent with past practice, this contribution is the amount necessary to fund the normal cost and to amortize the UAAL as a level percentage of payroll over 30 years.

As noted, the ADC is currently calculated based on a 30-year open amortization period. This means that the ADC will always be calculated with the same 30-year period and the UAAL would never completely disappear. Even though the contributions to the SBP are not based on this ADC, the Board may want to consider monitoring a funding policy that includes an ultimate goal of eliminating the UAAL by a certain date. This type of funding policy will allow the Board to better assess the level of contributions received from the City.

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 6.75% on the actuarial value of assets), then the following outcomes are expected:

1. The employer normal cost as a percentage of pay is expected to remain level as a percentage of payroll.
2. The unfunded liability is expected to be paid off in approximately 23 years, which is the number of years dictated by the current fixed contribution rate from the City.
3. The funded status of the plan is expected to reach a 100% funded ratio in approximately 23 years, which is the number of years dictated by the current fixed contribution rate from the City.

This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 2118. 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.

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 pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. 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 January 1, 2019 and a measurement date of December 31, 2018.

Single Discount Rate

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 3.71% (based on the rate on the last business day of the specific month of the Fidelity Index's "20-year Municipal GO AA Index"; and the resulting Single Discount Rate is 6.75%.

Effective Date and Transition

GASB Statement Nos. 67 and 68 are effective for fiscal years beginning after June 15, 2013 and June 15, 2014, respectively.

SECTION B

FINANCIAL STATEMENTS

Statement of Pension Expense Under GASB Statement No. 68 For Plan Fiscal Year Ended December 31, 2018 And Employer Reporting Period Ending September 30, 2019

1. Service Cost	\$ 3,364,800
2. Interest on the Total Pension Liability	5,608,564
3. Current-Period Benefit Changes	0
4. Employee Contributions	(2,596,875)
5. Projected Earnings on Plan Investments	(4,045,400)
6. Pension Plan Administrative Expense	150,832
7. Other Changes in Plan Fiduciary Net Position	0
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	404,756
9. Recognition of Outflow (Inflow) of Resources due to Assets	2,080,192
10. Total Pension Expense	\$ 4,966,869

Statement of Outflows and Inflows Arising from Current Reporting Period

For Plan Fiscal Year Ended December 31, 2018 And Employer Reporting Period Ending September 30, 2019

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (2,492,833)
2. Assumption Changes (gains) or losses	\$ 0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	6.8196
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	\$ (365,540)
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	<u>\$ (365,540)</u>
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the Difference between expected and actual experience of the Total Pension Liability	\$ (2,127,293)
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	<u>\$ (2,127,293)</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 6,333,726
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ 1,266,746
3. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 5,066,980

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods For Plan Fiscal Year Ended December 31, 2018 And Employer Reporting Period Ending September 30, 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	\$ 770,296	\$ 365,540	\$ 404,756
2. due to Assets	2,689,010	608,818	2,080,192
3. Total	\$ 3,459,306	\$ 974,358	\$ 2,484,948

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	\$ 60,995	\$ 365,540	\$ (304,545)
2. Assumption Changes	709,301	0	709,301
3. Net Difference between projected and actual earnings on pension plan investments	2,689,010	608,818	2,080,192
4. Total	\$ 3,459,306	\$ 974,358	\$ 2,484,948

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	\$ 270,246	\$ 2,127,293	\$ (1,857,047)
2. Assumption Changes	2,251,530	0	2,251,530
3. Net Difference between projected and actual earnings on pension plan investments	6,801,228	1,826,454	4,974,774
4. Total	\$ 9,323,004	\$ 3,953,747	\$ 5,369,257

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

Year Ending September 30	Net Deferred Outflows of Resources
2020	\$ 2,333,002
2021	1,526,614
2022	1,062,684
2023	1,074,819
2024	(328,269)
Thereafter	(299,593)
Total	\$ 5,369,257

Schedule of Changes in Net Pension Liability and Related Ratios

Current Period

For Plan Fiscal Year Ended December 31, 2018 And Employer Reporting Period Ending September 30, 2019

A. Total pension liability	
1. Service Cost	\$ 3,364,800
2. Interest on the Total Pension Liability	\$ 5,608,564
3. Changes of benefit terms	\$ -
4. Difference between expected and actual experience of the Total Pension Liability	\$ (2,492,833)
5. Changes of assumptions	\$ -
6. Benefit payments, including refunds of employee contributions	\$ (4,016,815)
7. Net change in total pension liability	\$ 2,463,716
8. Total pension liability – beginning	\$ 83,410,525
9. Total pension liability – ending	<u><u>\$ 85,874,241</u></u>
B. Plan fiduciary net position	
1. Contributions – employer	\$ 2,227,913
2. Contributions – employee	2,596,875
3. Net investment income	(2,288,326)
4. Benefit payments, including refunds of employee contributions	(4,016,815)
5. Pension Plan Administrative Expense	(150,832)
6. Other	0
7. Net change in plan fiduciary net position	\$ (1,631,185)
8. Plan fiduciary net position – beginning	59,743,544
9. Plan fiduciary net position – ending	<u><u>\$ 58,112,359</u></u>
C. Net pension liability	<u><u>\$ 27,761,882</u></u>
D. Plan fiduciary net position as a percentage of the total pension liability	67.67%
E. Covered-employee payroll	\$ 105,124,301
F. Net pension liability as a percentage of covered employee payroll	26.41%

Notes to Schedule:

Covered Employee Payroll shown in this table is the annualized payroll as of the measurement date used for the valuation.

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Plan fiscal year ending December 31,	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total Pension Liability					
Service Cost	\$ 3,364,800	\$ 3,086,079	\$ 3,014,502	\$ 2,975,950	\$ 2,844,836
Interest on the Total Pension Liability	5,608,564	5,273,704	4,977,651	4,528,512	4,259,329
Benefit Changes	0	0	0	0	0
Experience	(2,492,833)	288,848	39,934	95,587	0
Assumption Changes	0	0	0	5,088,734	0
Benefit Payments and Refunds	<u>(4,016,815)</u>	<u>(3,639,007)</u>	<u>(3,733,824)</u>	<u>(3,572,309)</u>	<u>(3,086,278)</u>
Net Change in Total Pension Liability	2,463,716	5,009,624	4,298,263	9,116,474	4,017,887
Total Pension Liability - Beginning	<u>83,410,525</u>	<u>78,400,901</u>	<u>74,102,638</u>	<u>64,986,164</u>	<u>60,968,277</u>
Total Pension Liability - Ending (a)	<u><u>\$ 85,874,241</u></u>	<u><u>\$ 83,410,525</u></u>	<u><u>\$ 78,400,901</u></u>	<u><u>\$ 74,102,638</u></u>	<u><u>\$ 64,986,164</u></u>
Plan Fiduciary Net Position					
Employer Contributions	\$ 2,227,913	\$ 2,083,347	\$ 2,067,639	\$ 1,390,021	\$ 1,358,113
Employee Contributions	2,596,875	2,585,695	2,448,428	2,334,190	2,262,508
Pension Plan Net Investment Income	(2,288,326)	6,592,197	1,103,719	(350,875)	2,711,022
Benefit Payments and Refunds	(4,016,815)	(3,639,007)	(3,733,824)	(3,572,309)	(3,086,278)
Pension Plan Administrative Expense	(150,832)	(136,810)	(165,946)	(123,779)	(118,500)
Other	0	0	0	0	0
Net Change in Plan Fiduciary Net Position	(1,631,185)	7,485,422	1,720,016	(322,752)	3,126,865
Plan Fiduciary Net Position - Beginning	<u>59,743,544</u>	<u>52,258,122</u>	<u>50,538,106</u>	<u>50,860,858</u>	<u>47,733,993</u>
Plan Fiduciary Net Position - Ending (b)	<u><u>\$ 58,112,359</u></u>	<u><u>\$ 59,743,544</u></u>	<u><u>\$ 52,258,122</u></u>	<u><u>\$ 50,538,106</u></u>	<u><u>\$ 50,860,858</u></u>
Net Pension Liability - Ending (a) - (b)	27,761,882	23,666,981	26,142,779	23,564,532	14,125,306
Plan Fiduciary Net Position as a Percentage					
of Total Pension Liability	67.67 %	71.63 %	66.66 %	68.20 %	78.26 %
Covered Employee Payroll	\$105,124,301	\$100,135,456	\$ 95,365,820	\$ 92,985,815	\$ 89,179,811
Net Pension Liability as a Percentage					
of Covered Employee Payroll	26.41 %	23.63 %	27.41 %	25.34 %	15.84 %

Notes to Schedule:

Covered Employee Payroll shown in this table is the annualized payroll as of the measurement date used for the valuation.

Schedule of Contributions Multiyear

<u>Plan Year Ending December 31,</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Actual Payroll*</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2018	\$ 2,270,964	\$ 2,227,913	\$ 43,051	\$ 107,628,647	2.07%
2017	\$ 1,966,524	\$ 2,083,347	\$ (116,823)	\$ 97,352,664	2.14%
2016	\$ 1,874,402	\$ 2,067,639	\$ (193,237)	\$ 96,618,645	2.14%
2015	\$ 1,315,389	\$ 1,390,021	\$ (74,632)	\$ 93,290,000	1.49%
2014	\$ 1,312,539	\$ 1,358,113	\$ (45,574)	\$ 91,148,542	1.49%

*The payroll shown on this exhibit is the imputed payroll on which contributions were made during the year. This includes payroll for members who terminated and or retired during the year. The covered payroll number shown elsewhere in this report is the reported payroll as of the measurement date for current active members.

Notes to Schedule of Contributions

Valuation Date: January 1, 2019
Notes Actuarially determined contribution rates are calculated as of January 1st and become effective the following January (12 months later).

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level percentage of payroll.
Remaining Amortization Period	32 years as of beginning of fiscal year, January 1, 2018.
Asset Valuation Method	5-year smoothing of market related value
Payroll Growth Rate	3.00%
Inflation	2.50%
Salary Increases	3.50% to 10.50%
Investment Rate of Return	6.75%
Retirement Age	Varying rates of retirement based on a member's age were established based on plan's experience as determined by the TMRS experience study.
Mortality	The RP-2000 Tables for males and females, projected on a fully generational basis by scale BB to account for future mortality improvement.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 6.75%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

1% Decrease	Current Single Discount	1% Increase
5.75%	Rate Assumption	7.75%
\$39,689,429	\$27,761,882	\$17,954,780

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 municipal bond 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 6.75%; the municipal bond rate is 3.71%; and the resulting Single Discount Rate is 6.75%.

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).

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 Ending December 31, 2018

Year	Payroll for Current		Total Employee Payroll	Employer Contributions for		Contributions	Total Contributions
	Employees	Employees		Current Employees	Current Employees	Related to Payroll of Future Employees	
1	\$ 102,525,302	\$ 6,118,700	\$ 108,644,002	\$ 2,563,133	\$ 2,286,314	\$ 85,050	\$ 4,934,496
2	97,529,090	14,374,232	111,903,322	2,438,227	2,174,899	199,802	4,812,928
3	93,179,619	22,080,803	115,260,422	2,329,490	2,077,905	306,923	4,714,319
4	89,089,443	29,628,792	118,718,235	2,227,236	1,986,695	411,840	4,625,771
5	85,080,811	37,198,971	122,279,782	2,127,020	1,897,302	517,066	4,541,388
6	81,311,130	44,637,045	125,948,175	2,032,778	1,813,238	620,455	4,466,471
7	77,722,760	52,003,860	129,726,620	1,943,069	1,733,218	722,854	4,399,141
8	74,169,684	59,448,735	133,618,419	1,854,242	1,653,984	826,337	4,334,564
9	70,611,397	67,015,575	137,626,972	1,765,285	1,574,634	931,516	4,271,435
10	67,049,607	74,706,174	141,755,781	1,676,240	1,495,206	1,038,416	4,209,862
11	63,522,149	82,486,305	146,008,454	1,588,054	1,416,544	1,146,560	4,151,157
12	60,056,412	90,332,296	150,388,708	1,501,410	1,339,258	1,255,619	4,096,287
13	56,663,962	98,236,407	154,900,369	1,416,599	1,263,606	1,365,486	4,045,691
14	53,339,387	106,207,993	159,547,380	1,333,485	1,189,468	1,476,291	3,999,244
15	50,148,882	114,184,919	164,333,801	1,253,722	1,118,320	1,587,170	3,959,212
16	47,030,223	122,233,592	169,263,815	1,175,756	1,048,774	1,699,047	3,923,577
17	43,886,421	130,455,308	174,341,729	1,097,161	978,667	1,813,329	3,889,156
18	40,804,808	138,767,173	179,571,981	1,020,120	909,947	1,928,864	3,858,931
19	37,719,458	147,239,682	184,959,140	942,986	841,144	2,046,632	3,830,762
20	34,501,387	156,006,527	190,507,914	862,535	769,381	2,168,491	3,800,406
21	31,271,297	164,951,854	196,223,151	781,782	697,350	2,292,831	3,771,963
22	28,178,293	173,931,553	202,109,846	704,457	628,376	2,417,649	3,750,482
23	25,211,664	182,961,477	208,173,141	630,292	562,220	2,543,165	3,735,676
24	22,417,405	192,000,930	214,418,335	560,435	499,908	2,668,813	3,729,156
25	19,802,225	201,048,660	220,850,885	495,056	441,590	2,794,576	3,731,222
26	17,344,633	210,131,779	227,476,412	433,616	386,785	2,920,832	3,741,233
27	15,074,631	219,226,073	234,300,704	376,866	336,164	3,047,242	3,760,272
28	13,004,102	228,325,623	241,329,725	325,103	289,991	3,173,726	3,788,820
29	11,139,425	237,430,192	248,569,617	278,486	248,409	3,300,280	3,827,174
30	9,481,185	246,545,521	256,026,706	237,030	211,430	3,426,983	3,875,442
31	7,990,155	255,717,352	263,707,507	199,754	178,180	3,554,471	3,932,405
32	6,664,084	264,954,648	271,618,732	166,602	148,609	3,682,870	3,998,081
33	5,504,835	274,262,459	279,767,294	137,621	122,758	3,812,248	4,072,627
34	4,502,201	283,658,112	288,160,313	112,555	100,399	3,942,848	4,155,802
35	3,653,018	293,152,104	296,805,122	91,325	81,462	4,074,814	4,247,602
36	2,934,652	302,774,624	305,709,276	73,366	65,443	4,208,567	4,347,377
37	2,315,623	312,564,931	314,880,554	57,891	51,638	4,344,653	4,454,181
38	1,797,485	322,529,486	324,326,971	44,937	40,084	4,483,160	4,568,181
39	1,376,567	332,680,213	334,056,780	34,414	30,697	4,624,255	4,689,366
40	1,036,132	343,042,351	344,078,483	25,903	23,106	4,768,289	4,817,298
41	770,887	353,629,950	354,400,837	19,272	17,191	4,915,456	4,951,919
42	569,555	364,463,307	365,032,862	14,239	12,701	5,066,040	5,092,980
43	422,119	375,561,729	375,983,848	10,553	9,413	5,220,308	5,240,274
44	316,229	386,947,134	387,263,363	7,906	7,052	5,378,565	5,393,523
45	234,441	398,646,823	398,881,264	5,861	5,228	5,541,191	5,552,280
46	171,184	410,676,518	410,847,702	4,280	3,817	5,708,404	5,716,500
47	125,181	423,047,952	423,173,133	3,130	2,792	5,880,367	5,886,288
48	91,138	435,777,189	435,868,327	2,278	2,032	6,057,303	6,061,613
49	65,141	448,879,236	448,944,377	1,629	1,453	6,239,421	6,242,503
50	45,107	462,367,601	462,412,708	1,128	1,006	6,426,910	6,429,043

Single Discount Rate Development – Projection of Plan Fiduciary Net Position Ending December 31, 2018

Year	Projected Beginning	Projected Total	Projected Benefit	Projected	Projected	Projected Ending Plan
	Plan Net Position	Contributions	Payments	Administrative Expenses	Investment Earnings at 6.75%	Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 58,112,359	\$ 4,934,496	\$ 3,256,604	\$ 153,788	\$ 3,973,183	\$ 63,609,647
2	63,609,647	4,812,928	3,679,516	146,294	4,326,422	68,923,187
3	68,923,187	4,714,319	4,099,064	139,769	4,668,101	74,066,773
4	74,066,773	4,625,771	4,494,437	133,634	4,999,431	79,063,904
5	79,063,904	4,541,388	4,921,058	127,621	5,319,972	83,876,584
6	83,876,584	4,466,471	5,418,620	121,967	5,626,010	88,428,478
7	88,428,478	4,399,141	5,925,177	116,584	5,914,389	92,700,246
8	92,700,246	4,334,564	6,436,161	111,255	6,183,802	96,671,196
9	96,671,196	4,271,435	6,953,549	105,917	6,432,746	100,315,912
10	100,315,912	4,209,862	7,429,374	100,574	6,661,101	103,656,927
11	103,656,927	4,151,157	7,863,386	95,283	6,870,437	106,719,852
12	106,719,852	4,096,287	8,291,974	90,085	7,061,307	109,495,388
13	109,495,388	4,045,691	8,678,574	84,996	7,234,310	112,011,819
14	112,011,819	3,999,244	9,092,671	80,009	7,389,045	114,227,427
15	114,227,427	3,959,212	9,459,435	75,223	7,525,253	116,177,234
16	116,177,234	3,923,577	9,769,455	70,545	7,645,544	117,906,355
17	117,906,355	3,889,156	10,100,130	65,830	7,750,296	119,379,847
18	119,379,847	3,858,931	10,411,318	61,207	7,838,576	120,604,829
19	120,604,829	3,830,762	10,666,249	56,579	7,912,017	121,624,780
20	121,624,780	3,800,406	10,897,390	51,752	7,972,342	122,448,387
21	122,448,387	3,771,963	11,108,895	46,907	8,020,131	123,084,679
22	123,084,679	3,750,482	11,304,048	42,267	8,056,042	123,544,888
23	123,544,888	3,735,676	11,473,091	37,817	8,081,151	123,850,807
24	123,850,807	3,729,156	11,617,946	33,626	8,096,914	124,025,305
25	124,025,305	3,731,222	11,724,961	29,703	8,105,339	124,107,201
26	124,107,201	3,741,233	11,806,393	26,017	8,108,618	124,124,642
27	124,124,642	3,760,272	11,874,166	22,612	8,108,290	124,096,426
28	124,096,426	3,788,820	11,896,259	19,506	8,106,703	124,076,183
29	124,076,183	3,827,174	11,870,366	16,709	8,107,562	124,123,845
30	124,123,845	3,875,442	11,823,169	14,222	8,114,031	124,275,928
31	124,275,928	3,932,405	11,744,311	11,985	8,128,880	124,580,918
32	124,580,918	3,998,081	11,637,210	9,996	8,155,269	125,087,062
33	125,087,062	4,072,627	11,490,705	8,257	8,196,830	125,857,558
34	125,857,558	4,155,802	11,305,159	6,753	8,257,810	126,959,257
35	126,959,257	4,247,602	11,093,443	5,480	8,342,293	128,450,229
36	128,450,229	4,347,377	10,854,268	4,402	8,454,223	130,393,158
37	130,393,158	4,454,181	10,584,549	3,473	8,597,901	132,857,219
38	132,857,219	4,568,181	10,289,080	2,696	8,777,845	135,911,469
39	135,911,469	4,689,366	9,972,180	2,065	8,998,572	139,625,162
40	139,625,162	4,817,298	9,637,360	1,554	9,264,626	144,068,172
41	144,068,172	4,951,919	9,288,249	1,156	9,580,602	149,311,288
42	149,311,288	5,092,980	8,927,543	854	9,951,180	155,427,051
43	155,427,051	5,240,274	8,551,073	633	10,381,390	162,497,009
44	162,497,009	5,393,523	8,162,204	474	10,876,615	170,604,469
45	170,604,469	5,552,280	7,772,698	352	11,442,075	179,825,774
46	179,825,774	5,716,500	7,379,477	257	12,083,022	190,245,563
47	190,245,563	5,886,288	6,987,639	188	12,805,006	201,949,030
48	201,949,030	6,061,613	6,602,011	137	13,613,614	215,022,109
49	215,022,109	6,242,503	6,223,349	98	14,514,625	229,555,790
50	229,555,790	6,429,043	5,853,157	68	15,514,132	245,645,741

Single Discount Rate Development – Projection of Plan Fiduciary Net Position Ending December 31, 2018(continued)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.75%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	245,645,741	6,621,332	5,492,070	44	16,618,576	263,393,535
52	263,393,535	6,819,526	5,140,068	25	17,834,819	282,907,787
53	282,907,787	7,023,829	4,796,628	13	19,170,216	304,305,191
54	304,305,191	7,234,390	4,461,939	6	20,632,643	327,710,278
55	327,710,278	7,451,324	4,136,306	2	22,230,499	353,255,793
56	353,255,793	7,674,830	3,819,446	1	23,972,761	381,083,936
57	381,083,936	7,905,065	3,512,055	0	25,869,009	411,345,955
58	411,345,955	8,142,211	3,214,652	0	27,929,442	444,202,956
59	444,202,956	8,386,477	2,927,617	0	30,164,928	479,826,744
60	479,826,744	8,638,072	2,652,043	0	32,587,035	518,399,807
61	518,399,807	8,897,214	2,388,871	0	35,208,057	560,116,207
62	560,116,207	9,164,130	2,138,739	0	38,041,079	605,182,677
63	605,182,677	9,439,054	1,902,460	0	41,100,037	653,819,309
64	653,819,309	9,722,226	1,680,749	0	44,399,772	706,260,557
65	706,260,557	10,013,893	1,474,228	0	47,956,095	762,756,318
66	762,756,318	10,314,309	1,283,239	0	51,785,873	823,573,262
67	823,573,262	10,623,739	1,107,743	0	55,907,116	888,996,374
68	888,996,374	10,942,451	947,723	0	60,339,069	959,330,171
69	959,330,171	11,270,724	803,173	0	65,102,298	1,034,900,020
70	1,034,900,020	11,608,846	673,761	0	70,218,784	1,116,053,890
71	1,116,053,890	11,957,112	558,908	0	75,712,046	1,203,164,140
72	1,203,164,140	12,315,825	458,008	0	81,607,246	1,296,629,203
73	1,296,629,203	12,685,300	370,348	0	87,931,314	1,396,875,469
74	1,396,875,469	13,065,859	295,202	0	94,713,066	1,504,359,193
75	1,504,359,193	13,457,834	231,829	0	101,983,335	1,619,568,532
76	1,619,568,532	13,861,569	179,300	0	109,775,112	1,743,025,915
77	1,743,025,915	14,277,417	136,500	0	118,123,712	1,875,290,543
78	1,875,290,543	14,705,739	102,275	0	127,066,931	2,016,960,938
79	2,016,960,938	15,146,911	75,387	0	136,645,222	2,168,677,684
80	2,168,677,684	15,601,319	54,624	0	146,901,877	2,331,126,256
81	2,331,126,256	16,069,358	38,888	0	157,883,217	2,505,039,943
82	2,505,039,943	16,551,439	27,181	0	169,638,784	2,691,202,985
83	2,691,202,985	17,047,982	18,650	0	182,221,557	2,890,453,874
84	2,890,453,874	17,559,421	12,567	0	195,688,173	3,103,688,902
85	3,103,688,902	18,086,204	8,320	0	210,099,167	3,331,865,953
86	3,331,865,953	18,628,790	5,413	0	225,519,228	3,576,008,557
87	3,576,008,557	19,187,654	3,468	0	242,017,472	3,837,210,215
88	3,837,210,215	19,763,284	2,191	0	259,667,736	4,116,639,044
89	4,116,639,044	20,356,182	1,365	0	278,548,893	4,415,542,755
90	4,415,542,755	20,966,868	839	0	298,745,185	4,735,253,969
91	4,735,253,969	21,595,874	508	0	320,346,586	5,077,195,920
92	5,077,195,920	22,243,750	304	0	343,449,183	5,442,888,549
93	5,442,888,549	22,911,062	179	0	368,155,594	5,833,955,025
94	5,833,955,025	23,598,394	104	0	394,575,402	6,252,128,717
95	6,252,128,717	24,306,346	59	0	422,825,631	6,699,260,634
96	6,699,260,634	25,035,536	33	0	453,031,244	7,177,327,382
97	7,177,327,382	25,786,602	17	0	485,325,685	7,688,439,653
98	7,688,439,653	26,560,201	9	0	519,851,446	8,234,851,290
99	8,234,851,290	27,357,007	4	0	556,760,685	8,818,968,978
100	8,818,968,978	28,177,717	2	0	596,215,876	9,443,362,568

Single Discount Rate Development

Present Values of Projected Benefits Ending December 31, 2018

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 (v _f)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*v ^f ((a)-.5)	(h)=((c)/(1+sdr) ^a ((a)-.5)
1	\$ 58,112,359	\$ 3,256,604	\$ 3,256,604	\$ 0	\$ 3,151,962	\$ 0	\$ 3,151,962
2	63,609,647	3,679,516	3,679,516	0	3,336,099	0	3,336,099
3	68,923,187	4,099,064	4,099,064	0	3,481,489	0	3,481,489
4	74,066,773	4,494,437	4,494,437	0	3,575,919	0	3,575,919
5	79,063,904	4,921,058	4,921,058	0	3,667,778	0	3,667,778
6	83,876,584	5,418,620	5,418,620	0	3,783,253	0	3,783,253
7	88,428,478	5,925,177	5,925,177	0	3,875,343	0	3,875,343
8	92,700,246	6,436,161	6,436,161	0	3,943,372	0	3,943,372
9	96,671,196	6,953,549	6,953,549	0	3,990,979	0	3,990,979
10	100,315,912	7,429,374	7,429,374	0	3,994,453	0	3,994,453
11	103,656,927	7,863,386	7,863,386	0	3,960,471	0	3,960,471
12	106,719,852	8,291,974	8,291,974	0	3,912,256	0	3,912,256
13	109,495,388	8,678,574	8,678,574	0	3,835,746	0	3,835,746
14	112,011,819	9,092,671	9,092,671	0	3,764,654	0	3,764,654
15	114,227,427	9,459,435	9,459,435	0	3,668,858	0	3,668,858
16	116,177,234	9,769,455	9,769,455	0	3,549,508	0	3,549,508
17	117,906,355	10,100,130	10,100,130	0	3,437,612	0	3,437,612
18	119,379,847	10,411,318	10,411,318	0	3,319,462	0	3,319,462
19	120,604,829	10,666,249	10,666,249	0	3,185,707	0	3,185,707
20	121,624,780	10,897,390	10,897,390	0	3,048,939	0	3,048,939
21	122,448,387	11,108,895	11,108,895	0	2,911,584	0	2,911,584
22	123,084,679	11,304,048	11,304,048	0	2,775,393	0	2,775,393
23	123,544,888	11,473,091	11,473,091	0	2,638,779	0	2,638,779
24	123,850,807	11,617,946	11,617,946	0	2,503,134	0	2,503,134
25	124,025,305	11,724,961	11,724,961	0	2,366,455	0	2,366,455
26	124,107,201	11,806,393	11,806,393	0	2,232,216	0	2,232,216
27	124,124,642	11,874,166	11,874,166	0	2,103,072	0	2,103,072
28	124,096,426	11,896,259	11,896,259	0	1,973,757	0	1,973,757
29	124,076,183	11,870,366	11,870,366	0	1,844,928	0	1,844,928
30	124,123,845	11,823,169	11,823,169	0	1,721,398	0	1,721,398
31	124,275,928	11,744,311	11,744,311	0	1,601,796	0	1,601,796
32	124,580,918	11,637,210	11,637,210	0	1,486,827	0	1,486,827
33	125,087,062	11,490,705	11,490,705	0	1,375,278	0	1,375,278
34	125,857,558	11,305,159	11,305,159	0	1,267,513	0	1,267,513
35	126,959,257	11,093,443	11,093,443	0	1,165,130	0	1,165,130
36	128,450,229	10,854,268	10,854,268	0	1,067,925	0	1,067,925
37	130,393,158	10,584,549	10,584,549	0	975,539	0	975,539
38	132,857,219	10,289,080	10,289,080	0	888,343	0	888,343
39	135,911,469	9,972,180	9,972,180	0	806,541	0	806,541
40	139,625,162	9,637,360	9,637,360	0	730,175	0	730,175
41	144,068,172	9,288,249	9,288,249	0	659,226	0	659,226
42	149,311,288	8,927,543	8,927,543	0	593,560	0	593,560
43	155,427,051	8,551,073	8,551,073	0	532,581	0	532,581
44	162,497,009	8,162,204	8,162,204	0	476,217	0	476,217
45	170,604,469	7,772,698	7,772,698	0	424,816	0	424,816
46	179,825,774	7,379,477	7,379,477	0	377,822	0	377,822
47	190,245,563	6,987,639	6,987,639	0	335,138	0	335,138
48	201,949,030	6,602,011	6,602,011	0	296,621	0	296,621
49	215,022,109	6,223,349	6,223,349	0	261,928	0	261,928
50	229,555,790	5,853,157	5,853,157	0	230,770	0	230,770

Single Discount Rate Development

PVs of Projected Benefits Ending December 31, 2018(continued)

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 (v _f)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{(a)-.5}	(g)=(e)*v _f ^{(a)-.5}	(h)=((c)/(1+sdr) ^{(a)-.5})
51	245,645,741	5,492,070	5,492,070	0	202,842	0	202,842
52	263,393,535	5,140,068	5,140,068	0	177,837	0	177,837
53	282,907,787	4,796,628	4,796,628	0	155,461	0	155,461
54	304,305,191	4,461,939	4,461,939	0	135,470	0	135,470
55	327,710,278	4,136,306	4,136,306	0	117,642	0	117,642
56	353,255,793	3,819,446	3,819,446	0	101,761	0	101,761
57	381,083,936	3,512,055	3,512,055	0	87,655	0	87,655
58	411,345,955	3,214,652	3,214,652	0	75,159	0	75,159
59	444,202,956	2,927,617	2,927,617	0	64,120	0	64,120
60	479,826,744	2,652,043	2,652,043	0	54,412	0	54,412
61	518,399,807	2,388,871	2,388,871	0	45,913	0	45,913
62	560,116,207	2,138,739	2,138,739	0	38,506	0	38,506
63	605,182,677	1,902,460	1,902,460	0	32,087	0	32,087
64	653,819,309	1,680,749	1,680,749	0	26,555	0	26,555
65	706,260,557	1,474,228	1,474,228	0	21,819	0	21,819
66	762,756,318	1,283,239	1,283,239	0	17,791	0	17,791
67	823,573,262	1,107,743	1,107,743	0	14,387	0	14,387
68	888,996,374	947,723	947,723	0	11,531	0	11,531
69	959,330,171	803,173	803,173	0	9,154	0	9,154
70	1,034,900,020	673,761	673,761	0	7,193	0	7,193
71	1,116,053,890	558,908	558,908	0	5,590	0	5,590
72	1,203,164,140	458,008	458,008	0	4,291	0	4,291
73	1,296,629,203	370,348	370,348	0	3,250	0	3,250
74	1,396,875,469	295,202	295,202	0	2,427	0	2,427
75	1,504,359,193	231,829	231,829	0	1,786	0	1,786
76	1,619,568,532	179,300	179,300	0	1,294	0	1,294
77	1,743,025,915	136,500	136,500	0	923	0	923
78	1,875,290,543	102,275	102,275	0	648	0	648
79	2,016,960,938	75,387	75,387	0	447	0	447
80	2,168,677,684	54,624	54,624	0	303	0	303
81	2,331,126,256	38,888	38,888	0	202	0	202
82	2,505,039,943	27,181	27,181	0	133	0	133
83	2,691,202,985	18,650	18,650	0	85	0	85
84	2,890,453,874	12,567	12,567	0	54	0	54
85	3,103,688,902	8,320	8,320	0	33	0	33
86	3,331,865,953	5,413	5,413	0	20	0	20
87	3,576,008,557	3,468	3,468	0	12	0	12
88	3,837,210,215	2,191	2,191	0	7	0	7
89	4,116,639,044	1,365	1,365	0	4	0	4
90	4,415,542,755	839	839	0	2	0	2
91	4,735,253,969	508	508	0	1	0	1
92	5,077,195,920	304	304	0	1	0	1
93	5,442,888,549	179	179	0	0	0	0
94	5,833,955,025	104	104	0	0	0	0
95	6,252,128,717	59	59	0	0	0	0
96	6,699,260,634	33	33	0	0	0	0
97	7,177,327,382	17	17	0	0	0	0
98	7,688,439,653	9	9	0	0	0	0
99	8,234,851,290	4	4	0	0	0	0
100	8,818,968,978	2	2	0	0	0	0

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 system 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

<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-Employee Payroll</i>	The payroll of employees that are provided with pensions through the pension plan.
<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.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN)

The EAN is a cost 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.

Fiduciary Net Position

The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

GASB

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

Long-Term Expected Rate of Return

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.

Money-Weighted Rate of Return

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. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

Multiple-Employer Defined Benefit Pension Plan

A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

Municipal Bond Rate

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.

Net Pension Liability (NPL)

The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.

Non-Employer Contributing Entities

Non-employer contributing 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 statements, plan members are not considered non-employer contributing entities.

Normal Cost

The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

Glossary of Terms

Other Postemployment Benefits (OPEB)

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.

Real Rate of Return

The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.

Service Cost

The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

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
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 GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.