

ARKANSAS LOCAL POLICE AND FIRE RETIREMENT SYSTEM
GASB STATEMENT NOS. 67 AND 68 ACCOUNTING AND FINANCIAL
REPORTING FOR PENSIONS
DECEMBER 31, 2016

May 24, 2017

Board of Trustees
Arkansas Local Police and Fire Retirement System

Dear Trustees:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 for the Arkansas Local Police and Fire Retirement System ("LOPFI"). These calculations have been made on a basis that is consistent with our understanding of these Statements. This report does not include Pension and Relief Funds under LOPFI Administration. Calculations required for compliance with GASB Statement No. 68 for Pension and Relief Funds under LOPFI Administration will be issued in separate reports.

GASB Statement No. 67 is the accounting standard that applies to the stand-alone financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust.

Our 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 Arkansas Local Police and Fire Retirement System ("LOPFI") only in its entirety and only with the permission of LOPFI. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by LOPFI, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency, but it was not audited. We are not responsible for the accuracy or completeness of the data provided by LOPFI staff.

This report complements the actuarial valuation report that was provided to LOPFI and should be considered in conjunction with that report. Please see the actuarial valuation report as of December 31, 2016 for additional discussion 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 within this report is accurate and fairly represents the actuarial position of the Arkansas Local Police and Fire Retirement System. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

This information is presented in draft form for review by the plan's auditor. This information is intended to assist in preparation of the financial statements of the Arkansas Local Police and Fire Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

The signing individuals are independent of the plan sponsor.

Heidi G. Barry and James R. Sparks are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



David L. Hoffman



Heidi G. Barry, ASA, FCA, MAAA



James R. Sparks, ASA, MAAA

DLH/HGB/JRS:dj

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SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

AS OF DECEMBER 31, 2016

| | |
|---|-------------------|
| | 2016 |
| Actuarial Valuation Date | December 31, 2016 |
| Measurement Date of the Net Pension Liability | December 31, 2016 |
| Employer's Fiscal Year Ending Date (Reporting Date) | December 31, 2016 |

| | Paid | Volunteer |
|---|----------------|------------------|
| Membership | | |
| Number of | | |
| - Retirees and Beneficiaries (Including DROP) | 2,548 | 2,358 |
| - Inactive, Nonretired Members | 5,214 | 5,841 |
| - Active Members | 6,214 | 7,391 |
| - Total | 13,976 | 15,590 |
| Covered Payroll | \$ 329,344,355 | N/A |

| | | |
|---|------------------|----------------|
| Net Pension Liability | | |
| Total Pension Liability | \$ 2,102,581,352 | \$ 103,714,962 |
| Plan Fiduciary Net Position | 1,532,050,830 | 66,681,172 |
| Net Pension Liability | \$ 570,530,522 | \$ 37,033,790 |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | 72.87% | 64.29% |
| Net Pension Liability as a Percentage of Covered Payroll | 173.23% | N/A |

| | | |
|---|-------|-------|
| Development of the Single Discount Rate | | |
| Single Discount Rate | 7.75% | 7.75% |
| Long-Term Expected Rate of Investment Return | 7.75% | 7.75% |
| Long-Term Municipal Bond Rate* | 3.78% | 3.78% |
| Last year ending December 31 in the 2017 to 2116 projection period for which projected benefit payments are fully funded | 2116 | 2116 |

| | | |
|------------------------------|----------------|--------------|
| Total Pension Expense | \$ 115,543,445 | \$ 5,660,180 |
|------------------------------|----------------|--------------|

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

| | Paid | | Volunteer | |
|---|---|--|---|--|
| | Deferred Outflows of Resources | Deferred Inflows of Resources | Deferred Outflows of Resources | Deferred Inflows of Resources |
| Difference between expected and actual experience | \$ 19,875,476 | \$ 134,215 | \$ - | \$ 1,978,991 |
| Changes in assumptions | 30,405,125 | - | 1,048,838 | - |
| Net difference between projected and actual earnings on pension plan investments | 90,595,411 | - | 3,856,829 | - |
| Total | \$ 140,876,012 | \$ 134,215 | \$ 4,905,667 | \$ 1,978,991 |

*Source: "20-Bond GO Index" is the Bond Buyer Index, general obligation, 20 years to maturity, mixed quality. In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA. The rate shown is as of December 29, 2016, the most recent date available on or before the measurement date.

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).

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.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

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 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, net pension liability, and the pension plan's fiduciary net position as a percentage of the total 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

GASB Statement No. 67 requires a 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
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy,

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. 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 December 31, 2016 and a measurement date of December 31, 2016.

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 the Bond Buyer Index, general obligation, 20 years to maturity, mixed quality. The Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA 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 7.75%; the municipal bond rate is 3.78% (based on the weekly rate closest to but not later than the measurement date of the "20-Bond GO Index" rate from the Bond Buyer Index); and the resulting single discount rate is 7.75%.

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 7.75% on the actuarial value of assets), it is expected that:

- (1) The unfunded liability will decrease in dollar amount each year in the future.
- (2) The unfunded liability will be paid off in approximately 16.8 years for paid and 18.5 years for volunteer, which is the number of years remaining in the closed amortization schedule of the unfunded liability beginning January 1, 2018.
- (3) The funded status of the plan will increase gradually towards a 100% funded ratio.

This funding policy results in the projected plan fiduciary net position being sufficient to pay benefits for all future years and a discount rate of 7.75%. 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.

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

Auditor's Note – This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

PENSION EXPENSE UNDER GASB STATEMENT NO. 68
FISCAL YEAR ENDED DECEMBER 31, 2016

| | Paid | Volunteer | Total |
|---|-----------------------|---------------------|-----------------------|
| A. Expense | | | |
| 1. Service Cost | \$ 50,307,455 | \$ 2,103,552 | \$ 52,411,007 |
| 2. Interest on the Total Pension Liability | 149,980,786 | 7,542,093 | 157,522,879 |
| 3. Current-Period Benefit Changes | - | - | - |
| 4. Employee Contributions (made negative for addition here) | (21,816,086) | - | (21,816,086) |
| 5. Projected Earnings on Plan Investments (made negative for addition here) | (110,939,591) | (4,797,206) | (115,736,797) |
| 6. Pension Plan Administrative Expense | 2,554,334 | 111,065 | 2,665,399 |
| 7. Other Changes in Plan Fiduciary Net Position | - | - | - |
| 8. Recognition of Outflow (Inflow) of Resources Due to Liabilities | 16,357,646 | (537,260) | 15,820,386 |
| 9. Recognition of Outflow (Inflow) of Resources Due to Assets | 29,098,901 | 1,237,936 | 30,336,837 |
| 10. Total Pension Expense | \$ 115,543,445 | \$ 5,660,180 | \$ 121,203,625 |

**STATEMENT OF OUTFLOWS AND INFLOWS ARISING
FROM CURRENT REPORTING PERIOD
FISCAL YEAR ENDED DECEMBER 31, 2016**

| | Paid Service | Volunteer Service |
|--|---------------------|--------------------------|
| A. Outflows (Inflows) of Resources due to Liabilities | | |
| 1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses | \$ 20,160,705 | \$ (996,748) |
| 2. Assumption Changes (gains) or losses | \$ - | \$ - |
| 3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years } | 4.5797 | 3.7857 |
| 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 | \$ 4,402,189 | \$ (263,293) |
| 5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes | \$ - | \$ - |
| 6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities | \$ 4,402,189 | \$ (263,293) |
| 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 | \$ 15,758,516 | \$ (733,455) |
| 8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes | \$ - | \$ - |
| 9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities | \$ 15,758,516 | \$ (733,455) |
| B. Outflows (Inflows) of Resources due to Assets | | |
| 1. Net difference between projected and actual earnings on pension plan investments (gains) or losses | \$ 26,034,086 | \$ 1,110,621 |
| 2. Recognition period for Assets {in years } | 5.0000 | 5.0000 |
| 3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets | \$ 5,206,817 | \$ 222,124 |
| 4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets | \$ 20,827,269 | \$ 888,497 |

PAID SERVICE
STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM
CURRENT AND PRIOR REPORTING PERIODS
FISCAL YEAR ENDED DECEMBER 31, 2016*

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

| | <u>Outflows of Resources</u> | <u>Inflows of Resources</u> | <u>Net Outflows of Resources</u> |
|-----------------------|----------------------------------|---------------------------------|--------------------------------------|
| 1. Due to liabilities | \$ 16,430,371 | \$ 72,725 | \$ 16,357,646 |
| 2. Due to assets | 29,098,901 | - | 29,098,901 |
| 3. Total | <u>\$ 45,529,272</u> | <u>\$ 72,725</u> | <u>\$ 45,456,547</u> |

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

| | <u>Outflows of Resources</u> | <u>Inflows of Resources</u> | <u>Net Outflows of Resources</u> |
|---|----------------------------------|---------------------------------|--------------------------------------|
| 1. Differences between expected and actual experience | \$ 5,836,620 | \$ 72,725 | \$ 5,763,895 |
| 2. Assumption changes | 10,593,751 | - | 10,593,751 |
| 3. Net difference between projected and actual earnings on pension plan investments | 29,098,901 | - | 29,098,901 |
| 4. Total | <u>\$ 45,529,272</u> | <u>\$ 72,725</u> | <u>\$ 45,456,547</u> |

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

| | <u>Deferred Outflows of Resources</u> | <u>Deferred Inflows of Resources</u> | <u>Net Deferred Outflows of Resources</u> |
|---|---|--|---|
| 1. Differences between expected and actual experience | \$ 19,875,476 | \$ 134,215 | \$ 19,741,261 |
| 2. Assumption changes | 30,405,125 | - | 30,405,125 |
| 3. Net difference between projected and actual earnings on pension plan investments | 90,595,411 | - | 90,595,411 |
| 4. Total | <u>\$ 140,876,012</u> | <u>\$ 134,215</u> | <u>\$ 140,741,797</u> |

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

| <u>Year Ending December 31</u> | <u>Net Deferred Outflows of Resources</u> |
|------------------------------------|---|
| 2017 | \$ 45,456,547 |
| 2018 | 45,467,783 |
| 2019 | 42,058,702 |
| 2020 | 7,758,765 |
| 2021 | - |
| Thereafter | - |
| Total | <u>\$ 140,741,797</u> |

* Totals may not add due to rounding.

VOLUNTEER SERVICE
STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM
CURRENT AND PRIOR REPORTING PERIODS
FISCAL YEAR ENDED DECEMBER 31, 2016*

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

| | <u>Outflows of Resources</u> | <u>Inflows of Resources</u> | <u>Net Outflows of Resources</u> |
|-----------------------|----------------------------------|---------------------------------|--------------------------------------|
| 1. Due to liabilities | \$ 544,908 | \$ 1,082,168 | \$ (537,260) |
| 2. Due to assets | 1,237,936 | - | 1,237,936 |
| 3. Total | <u>\$ 1,782,844</u> | <u>\$ 1,082,168</u> | <u>\$ 700,676</u> |

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

| | <u>Outflows of Resources</u> | <u>Inflows of Resources</u> | <u>Net Outflows of Resources</u> |
|---|----------------------------------|---------------------------------|--------------------------------------|
| 1. Differences between expected and actual experience | \$ - | \$ 1,082,168 | \$ (1,082,168) |
| 2. Assumption changes | 544,908 | - | 544,908 |
| 3. Net difference between projected and actual earnings on pension plan investments | 1,237,936 | - | 1,237,936 |
| 4. Total | <u>\$ 1,782,844</u> | <u>\$ 1,082,168</u> | <u>\$ 700,676</u> |

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

| | <u>Deferred Outflows of Resources</u> | <u>Deferred Inflows of Resources</u> | <u>Net Deferred Outflows of Resources</u> |
|---|---|--|---|
| 1. Differences between expected and actual experience | \$ - | \$ 1,978,991 | \$ (1,978,991) |
| 2. Assumption changes | 1,048,838 | - | 1,048,838 |
| 3. Net difference between projected and actual earnings on pension plan investments | 3,856,829 | - | 3,856,829 |
| 4. Total | <u>\$ 4,905,667</u> | <u>\$ 1,978,991</u> | <u>\$ 2,926,676</u> |

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

| <u>Year Ending December 31</u> | <u>Net Deferred Outflows of Resources</u> |
|------------------------------------|---|
| 2017 | \$ 701,318 |
| 2018 | 1,051,271 |
| 2019 | 951,963 |
| 2020 | 222,124 |
| 2021 | - |
| Thereafter | - |
| Total | <u>\$ 2,926,676</u> |

* Totals may not add due to rounding.

STATEMENT OF FIDUCIARY NET POSITION*
AS OF DECEMBER 31, 2016

| | 2016 | | |
|---|-------------------------|----------------------|-------------------------|
| | Paid | Volunteer | Total |
| Assets | | | |
| Cash and Short Term Investments | \$ 120,605,947 | \$ 5,249,268 | \$ 125,855,215 |
| Receivables | | | |
| Accrued Interest and Other Dividends | \$ - | \$ - | \$ - |
| Contributions Receivable | 6,677,259 | 290,622 | 6,967,881 |
| Accounts Receivable - Other | 23,540 | 1,025 | 24,565 |
| Total Receivables | <u>\$ 6,700,799</u> | <u>\$ 291,647</u> | <u>\$ 6,992,446</u> |
| Prepaid Expense | \$ 6,142,828 | \$ 267,361 | \$ 6,410,189 |
| Investments | | | |
| U.S. Government and State Obligations | \$ 161,130,641 | \$ 7,013,070 | \$ 168,143,711 |
| Corporate Obligations | 1,755,918 | 76,425 | 1,832,343 |
| Foreign Bonds | 6,487,141 | 282,347 | 6,769,488 |
| Alternative Assets | 165,794,554 | 7,216,063 | 173,010,617 |
| Common and Preferred Stocks | 803,350,288 | 34,965,118 | 838,315,406 |
| Equity Mutual Collective Trusts | 259,416,920 | 11,290,894 | 270,707,814 |
| Real Estate Investments | - | - | - |
| Total Investments | <u>\$ 1,397,935,462</u> | <u>\$ 60,843,917</u> | <u>\$ 1,458,779,379</u> |
| Land, Building, Furniture and Equipment | \$ 2,072,179 | \$ 90,190 | \$ 2,162,369 |
| Other Assets | \$ 5,476 | \$ 238 | \$ 5,714 |
| Total Assets | <u>\$ 1,533,462,691</u> | <u>\$ 66,742,621</u> | <u>\$ 1,600,205,312</u> |
| Liabilities | | | |
| Payables | | | |
| Accounts Payable and Accrued Expenses | \$ 1,051,082 | \$ 45,747 | \$ 1,096,829 |
| Refunds Payable | 56,020 | 2,438 | 58,458 |
| Due to Pension Review Board | 304,759 | 13,264 | 318,023 |
| Total Liabilities | <u>\$ 1,411,861</u> | <u>\$ 61,449</u> | <u>\$ 1,473,310</u> |
| Net Position Restricted for Pensions | <u>\$ 1,532,050,830</u> | <u>\$ 66,681,172</u> | <u>\$ 1,598,732,002</u> |

* Prorated between groups based on information from the December 31, 2016 CAFR Report. Excludes Pension and Relief Funds under LOPFI Administration.

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION #
FOR YEAR ENDED DECEMBER 31, 2016**

| | 2016 | | |
|---|-------------------------|----------------------|-------------------------|
| | Paid | Volunteer | Total |
| Additions | | | |
| Contributions | | | |
| Employer | \$ 70,486,795 | \$ 4,811,421 | \$ 75,298,216 |
| Employee | 21,816,086 | - | 21,816,086 |
| Other | 38,872 | - | 38,872 |
| Total Contributions | <u>\$ 92,341,753</u> | <u>\$ 4,811,421</u> | <u>\$ 97,153,174</u> |
| Investment Income | | | |
| Net Appreciation in Fair Value of Investments | # | # | # |
| Interest and Dividends | # | # | # |
| Less Investment Expense | # | # | # |
| Net Investment Income | <u>\$ 84,905,505</u> | <u>\$ 3,686,585</u> | <u>\$ 88,592,090</u> |
| Other | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> |
| Total Additions | <u>\$ 177,247,258</u> | <u>\$ 8,498,006</u> | <u>\$ 185,745,264</u> |
| Deductions | | | |
| Benefit Payments, including Refunds of Employee Contributions | \$ 48,621,166 | \$ 2,398,981 | \$ 51,020,147 |
| Pension Plan Administrative Expense* | 2,554,334 | 111,065 | 2,665,399 |
| Deferred Retirement Option Distributions | 7,278,465 | - | 7,278,465 |
| Other | - | - | - |
| Total Deductions | <u>\$ 58,453,965</u> | <u>\$ 2,510,046</u> | <u>\$ 60,964,011</u> |
| Net Increase in Net Position | <u>\$ 118,793,293</u> | <u>\$ 5,987,960</u> | <u>\$ 124,781,253</u> |
| Amount to Reconcile Beginning and End of Year Assets | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> |
| Net Position Restricted for Pensions | | | |
| Beginning of Year | <u>\$ 1,413,257,537</u> | <u>\$ 60,693,212</u> | <u>\$ 1,473,950,749</u> |
| End of Year | <u>\$ 1,532,050,830</u> | <u>\$ 66,681,172</u> | <u>\$ 1,598,732,002</u> |

Breakdown not provided in income statement. Totals shown from individually reported balances.

* Prorated between groups based on information from the December 31, 2016 CAFR Report. Excludes Pension and Relief Funds under LOPFI Administration.

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

**SCHEDULE OF CHANGES IN NET PENSION LIABILITY
AND RELATED RATIOS CURRENT PERIOD
FISCAL YEAR ENDED DECEMBER 31, 2016**

| | Paid | Volunteer | Total |
|--|------------------------|-----------------------|------------------------|
| A. Total Pension Liability | | | |
| 1. Service Cost | \$ 50,307,455 | \$ 2,103,552 | \$ 52,411,007 |
| 2. Interest on the Total Pension Liability | 149,980,786 | 7,542,093 | 157,522,879 |
| 3. Changes of benefit terms | - | - | - |
| 4. Difference between expected and actual experience of the Total Pension Liability | 20,160,705 | (996,748) | 19,163,957 |
| 5. Changes of assumptions | - | - | - |
| 6. Benefit payments, including refunds of employee contributions & DROP distributions | (55,899,631) | (2,398,981) | (58,298,612) |
| 7. Net change in Total Pension Liability | \$ 164,549,315 | \$ 6,249,916 | \$ 170,799,231 |
| 8. Total Pension Liability – beginning | 1,938,032,037 | 97,465,046 | 2,035,497,083 |
| 9. Total Pension Liability – ending | \$2,102,581,352 | \$ 103,714,962 | \$2,206,296,314 |
| B. Plan Fiduciary Net Position | | | |
| 1. Employer contributions | \$ 70,486,795 | \$ 4,811,421 | \$ 75,298,216 |
| 2. Employee contributions | 21,816,086 | - | 21,816,086 |
| 3. Other contributions | 38,872 | - | 38,872 |
| 4. Pension plan net investment income | 84,905,505 | 3,686,585 | 88,592,090 |
| 5. Benefit payments, including refunds of employee contributions & DROP distributions | (55,899,631) | (2,398,981) | (58,298,612) |
| 6. Pension plan administrative expense | (2,554,334) | (111,065) | (2,665,399) |
| 7. Net change in Plan Fiduciary Net Position | \$ 118,793,293 | \$ 5,987,960 | \$ 124,781,253 |
| 8. Plan Fiduciary Net Position – beginning | 1,413,257,537 | 60,693,212 | 1,473,950,749 |
| 9. Plan Fiduciary Net Position – ending | \$1,532,050,830 | \$ 66,681,172 | \$1,598,732,002 |
| C. Net Pension Liability | \$ 570,530,522 | \$ 37,033,790 | \$ 607,564,312 |
| D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability | 72.87% | 64.29% | 72.46% |
| E. Covered Payroll | \$ 329,344,355 | N/A | N/A |
| F. Net Pension Liability as a percentage of Covered Payroll | 173.23% | N/A | N/A |

PAID SERVICE
SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
MULTIYEAR

Ultimately 10 Fiscal Years Will Be Displayed

| Fiscal year ending December 31, | 2016 | 2015 | 2014 |
|---|-------------------------|-------------------------|-------------------------|
| Total Pension Liability | | | |
| Service Cost | \$ 50,307,455 | \$ 48,365,128 | \$ 49,060,513 |
| Interest on the Total Pension Liability | 149,980,786 | 139,022,240 | 127,980,919 |
| Benefit Changes | - | - | 50,330 |
| Difference between Expected and Actual Experience | 20,160,705 | 6,985,822 | (352,391) |
| Assumption Changes | - | 51,592,627 | - |
| Benefit Payments | (46,760,445) | (38,791,176) | (31,420,235) |
| Refunds | (1,860,721) | (1,628,853) | (1,425,245) |
| Deferred Retirement Option Distributions | (7,278,465) | (2,638,408) | (846,408) |
| Net Change in Total Pension Liability | 164,549,315 | 202,907,380 | 143,047,483 |
| Total Pension Liability - Beginning | 1,938,032,037 | 1,735,124,657 | 1,592,077,174 |
| Total Pension Liability - Ending (a) | \$ 2,102,581,352 | \$ 1,938,032,037 | \$ 1,735,124,657 |
| Plan Fiduciary Net Position | | | |
| Employer Contributions | \$ 70,486,795 | \$ 62,792,095 | \$ 58,994,602 |
| Employee Contributions | 21,816,086 | 21,187,024 | 21,844,747 |
| Other Contributions | 38,872 | 34,066 | 56,744 |
| Pension Plan Net Investment Income | 84,905,505 | 1,567,555 | 91,210,386 |
| Benefit Payments | (46,760,445) | (38,791,176) | (31,420,235) |
| Refunds | (1,860,721) | (1,628,853) | (1,425,245) |
| Pension Plan Administrative Expense | (2,554,334) | (2,380,241) | (2,167,353) |
| Deferred Retirement Option Distributions | (7,278,465) | (2,638,408) | (846,408) |
| Net Change in Plan Fiduciary Net Position | 118,793,293 | 40,142,062 | 136,247,238 |
| Plan Fiduciary Net Position - Beginning | 1,413,257,537 | 1,373,115,475 | 1,236,868,237 |
| Plan Fiduciary Net Position - Ending (b) | \$ 1,532,050,830 | \$ 1,413,257,537 | \$ 1,373,115,475 |
| Net Pension Liability - Ending (a) - (b) | 570,530,522 | 524,774,500 | 362,009,182 |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | 72.87 % | 72.92 % | 79.14 % |
| Covered Payroll | \$ 329,344,355 | \$ 320,487,331 | \$ 310,870,608 |
| Net Pension Liability as a Percentage of Covered Payroll | 173.23 % | 163.74 % | 116.45 % |
| Notes to Schedule: | N/A | N/A | N/A |

VOLUNTEER SERVICE
SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
MULTIYEAR

Ultimately 10 Fiscal Years Will Be Displayed

| Fiscal year ending December 31, | 2016 | 2015 | 2014 |
|---|-----------------------|----------------------|----------------------|
| Total Pension Liability | | | |
| Service Cost | \$ 2,103,552 | \$ 2,100,948 | \$ 2,087,131 |
| Interest on the Total Pension Liability | 7,542,093 | 7,204,736 | 6,767,758 |
| Benefit Changes | - | - | 222,045 |
| Difference between Expected and Actual Experience | (996,748) | (1,813,451) | (1,426,660) |
| Assumption Changes | - | 2,138,654 | - |
| Benefit Payments | (2,398,981) | (2,349,142) | (2,040,757) |
| Refunds | - | - | - |
| Net Change in Total Pension Liability | 6,249,916 | 7,281,745 | 5,609,517 |
| Total Pension Liability - Beginning | 97,465,046 | 90,183,301 | 84,573,784 |
| Total Pension Liability - Ending (a) | \$ 103,714,962 | \$ 97,465,046 | \$ 90,183,301 |
| Plan Fiduciary Net Position | | | |
| Employer Contributions | \$ 4,811,421 | \$ 4,832,505 | \$ 4,969,527 |
| Employee Contributions | - | - | - |
| Pension Plan Net Investment Income | 3,686,585 | 74,751 | 3,842,540 |
| Benefit Payments | (2,398,981) | (2,349,142) | (2,040,757) |
| Refunds | - | - | - |
| Pension Plan Administrative Expense | (111,065) | (101,882) | (91,307) |
| Reconciliation Adjustment | - | - | - |
| Net Change in Plan Fiduciary Net Position | 5,987,960 | 2,456,232 | 6,680,003 |
| Plan Fiduciary Net Position - Beginning | 60,693,212 | 58,236,980 | 51,556,977 |
| Plan Fiduciary Net Position - Ending (b) | \$ 66,681,172 | \$ 60,693,212 | \$ 58,236,980 |
| Net Pension Liability - Ending (a) - (b) | 37,033,790 | 36,771,834 | 31,946,321 |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | 64.29 % | 62.27 % | 64.58 % |
| Covered Payroll | N/A | N/A | N/A |
| Net Pension Liability as a Percentage of Covered Payroll | N/A | N/A | N/A |
| Notes to Schedule: | N/A | N/A | N/A |

**SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE NET PENSION LIABILITY MULTIYEAR**

LOPFI PAID SERVICE EMPLOYERS

Ultimately 10 Fiscal Years Will Be Displayed

| FY Ending December 31, | Total Pension Liability | Plan Net Position | Net Pension Liability | Plan Net Position as a % of Total Pension Liability | Covered Payroll | Net Pension Liability as a % of Covered Payroll |
|-----------------------------------|--|------------------------------|----------------------------------|--|----------------------------|--|
| 2014 | \$ 1,735,124,657 | \$ 1,373,115,475 | \$ 362,009,182 | 79.14% | \$ 310,870,608 | 116.45% |
| 2015 | 1,938,032,037 | 1,413,257,537 | 524,774,500 | 72.92% | 320,487,331 | 163.74% |
| 2016 | 2,102,581,352 | 1,532,050,830 | 570,530,522 | 72.87% | 329,344,355 | 173.23% |

LOPFI VOLUNTEER SERVICE EMPLOYERS

Ultimately 10 Fiscal Years Will Be Displayed

| FY Ending December 31, | Total Pension Liability | Plan Net Position | Net Pension Liability | Plan Net Position as a % of Total Pension Liability | Covered Payroll | Net Pension Liability as a % of Covered Payroll |
|-----------------------------------|--|------------------------------|----------------------------------|--|----------------------------|--|
| 2014 | \$ 90,183,301 | \$ 58,236,980 | \$ 31,946,321 | 64.58% | N/A | N/A |
| 2015 | 97,465,046 | 60,693,212 | 36,771,834 | 62.27% | N/A | N/A |
| 2016 | 103,714,962 | 66,681,172 | 37,033,790 | 64.29% | N/A | N/A |

SCHEDULE OF CONTRIBUTIONS MULTIYEAR**LOPFI PAID SERVICE EMPLOYERS****Last 10 Fiscal Years**

| FY Ending December 31, | Actuarially Determined Contribution# | Actual Contribution | Contribution Deficiency (Excess) | Covered Payroll* | Actual Contribution as a % of Covered Payroll |
|-----------------------------------|---|--------------------------------|---|-----------------------------|--|
| 2007 | \$ 34,111,802 | \$ 34,111,802 | \$ - | \$ 230,177,530 | 14.82% |
| 2008 | 37,419,713 | 37,419,713 | - | 244,703,982 | 15.29% |
| 2009 | 38,927,727 | 38,927,727 | - | 261,756,026 | 14.87% |
| 2010 | 39,299,629 | 39,299,629 | - | 265,628,662 | 14.79% |
| 2011 | 46,312,346 | 46,312,346 | - | 274,656,592 | 16.86% |
| 2012 | 48,370,995 | 48,370,995 | - | 282,170,105 | 17.14% |
| 2013 | 54,034,420 | 54,034,420 | - | 296,617,370 | 18.22% |
| 2014 | 58,994,602 | 58,994,602 | - | 310,870,608 | 18.98% |
| 2015 | 62,792,095 | 62,792,095 | - | 320,487,331 | 19.59% |
| 2016 | 70,486,795 | 70,486,795 | - | 329,344,355 | 21.40% |

* Actual payroll reported for years beginning December 31, 2014 and thereafter. Census payroll reported for valuation at year end for years prior to December 31, 2014. Contributions are made on actual payroll during the year.

We do not compute a dollar amount for the Actuarially Determined Contribution. It is our understanding that employers contribute the Actuarially Determined Contribution. The amount shown in this column, therefore, matches the actual contributions.

LOPFI VOLUNTEER SERVICE EMPLOYERS**Last 10 Fiscal Years**

| FY Ending December 31, | Actuarially Determined Contribution# | Actual Contribution | Contribution Deficiency (Excess) | Covered Payroll | Actual Contribution as a % of Covered Payroll |
|-----------------------------------|---|--------------------------------|---|----------------------------|--|
| 2007 | \$ 1,957,647 | \$ 1,957,647 | \$ - | N/A | N/A |
| 2008 | 2,595,918 | 2,595,918 | - | N/A | N/A |
| 2009 | 3,031,862 | 3,031,862 | - | N/A | N/A |
| 2010 | 3,610,187 | 3,610,187 | - | N/A | N/A |
| 2011 | 3,960,764 | 3,960,764 | - | N/A | N/A |
| 2012 | 4,195,779 | 4,195,779 | - | N/A | N/A |
| 2013 | 4,359,914 | 4,359,914 | - | N/A | N/A |
| 2014 | 4,969,527 | 4,969,527 | - | N/A | N/A |
| 2015 | 4,832,505 | 4,832,505 | - | N/A | N/A |
| 2016 | 4,811,421 | 4,811,421 | - | N/A | N/A |

We do not compute a dollar amount for the Actuarially Determined Contribution. It is our understanding that employers contribute the Actuarially Determined Contribution. The amount shown in this column, therefore, matches the actual contributions.

PAID SERVICE
NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date: December 31, 2014
Notes: Actuarially determined contribution rates are calculated as of December 31, which is one year prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year 2016:

| | |
|-------------------------------|--|
| Actuarial Cost Method | Entry Age Normal |
| Amortization Method | Level Percentage of Payroll, Closed |
| Remaining Amortization Period | 16.8 years beginning January 1, 2018 |
| Asset Valuation Method | 5-Year smoothed market; 20% corridor |
| Wage Inflation | 4.00% |
| Price Inflation | 3.00% |
| Salary Increases | 4.5% to 19.0%, including inflation |
| Investment Rate of Return | 8.00% |
| Retirement Age | Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2008 - 2011. |
| Mortality | RP-2000 Combined Healthy Mortality Table Projected to 2017 Table, set forward two years for men. Disability post-retirement mortality was assumed to be the same as standard post-retirement mortality set forward an additional 10 years. |

Other Information:

Notes: There were no method, assumption or benefit changes during the year.

VOLUNTEER SERVICE

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date: December 31, 2014
Notes: Actuarially determined contribution rates are calculated as of December 31, which is one year prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year 2016:

| | |
|-------------------------------|--|
| Actuarial Cost Method | Entry Age Normal |
| Amortization Method | Increasing Dollar, Closed |
| Remaining Amortization Period | 18.5 years beginning January 1, 2018 |
| Asset Valuation Method | 5-Year smoothed market; 20% corridor |
| Price Inflation | 3.00% |
| Investment Rate of Return | 8.00% |
| Retirement Age | Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2008 - 2011. |
| Mortality | RP-2000 Combined Healthy Mortality Table Projected to 2017 Table, set forward two years for men. Disability post-retirement mortality was assumed to be the same as standard post-retirement mortality set forward an additional 10 years. |

Other Information:

Notes: There were no method, assumption or benefit changes during the year.

**SCHEDULE OF INVESTMENT RETURNS MULTIYEAR
LAST 10 FISCAL YEARS**

| FY Ending December 31, | Annual Return¹ |
|-----------------------------------|--------------------------------------|
| 2007 | 8.61 % |
| 2008 | (25.24)% |
| 2009 | 17.75 % |
| 2010 | 9.57 % |
| 2011 | 0.20 % |
| 2012 | 11.17 % |
| 2013 | 17.33 % |
| 2014 | 6.80 % |
| 2015 | (0.05)% |
| 2016 | 5.76 % |

¹ *Money-weighted annual return determined by GRS. Monthly money-weighted returns are not available.*

SECTION D

NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

Long-Term Expected Return on Plan Assets

The assumed rate of investment return was adopted by the plan's trustees after considering input from the plan's investment consultant(s) and actuary(s). Additional information about the assumed rate of investment return is included in our actuarial valuation report as of December 31, 2016 and the 2008-2011 four-year experience study. The assumed rate of investment return falls within a reasonable range of the long-term expected rate of return.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each major asset class that is included in the pension plan's target asset allocation as of December 31, 2016, these best estimates are summarized in the following table:

ASSET ALLOCATION

| <u>Asset Class</u> | <u>Target Allocation</u> | <u>Long-Term Expected Real Rate of Return</u> | <u>Allocation-Weighted Long-Term Expected Real Rate of Return</u> |
|----------------------------|--------------------------|---|---|
| Domestic Fixed Income | 30.00% | 2.97% | 0.89% |
| International Fixed Income | 6.00% | 1.50% | 0.09% |
| Domestic Equity | 33.00% | 5.88% | 1.94% |
| Foreign Equity | 7.00% | 6.25% | 0.44% |
| Index | 11.00% | 6.73% | 0.74% |
| Alternative Investments | 10.00% | 6.13% | 0.61% |
| Cash | 3.00% | -0.40% | -0.01% |
| Total | <u>100.00%</u> | | <u>4.70%</u> |
| Expected Inflation | | | <u>3.00%</u> |
| Total Return | | | <u>7.70%</u> |

The figures in the above table were from the 4-year experience study ending December 31, 2011. Gabriel, Roeder, Smith & Company does not provide investment advice.

Single Discount Rate

A Single Discount Rate of 7.75% was used to measure the total pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.75%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

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 7.75%, 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:

SENSITIVITY OF NET PENSION LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION

| | Current Single Discount | | |
|-------------------|--------------------------------|----------------------------------|------------------------------|
| | 1% Decrease 6.75% | Rate Assumption 7.75% | 1% Increase 8.75% |
| Paid Service | \$893,383,220 | \$570,530,522 | \$306,053,212 |
| Volunteer Service | 53,802,587 | 37,033,790 | 23,488,079 |
| Total | \$947,185,807 | \$607,564,312 | \$329,541,291 |

SUMMARY OF POPULATION STATISTICS

| | Paid Service | Volunteer Service |
|---|-------------------------|------------------------------|
| Inactive Plan Members or Beneficiaries Currently Receiving Benefits (Including DROP) | 2,548 | 2,358 |
| Inactive Plan Members Entitled to But Not Yet Receiving Benefits # | 5,214 | 5,841 |
| Active Plan Members | 6,214 | 7,391 |
| Total Plan Members | 13,976 | 15,590 |

These counts include 1,733 and 2,190 inactive linked records for paid service and volunteer service, respectively. These records will generate separate checks at retirement as well as separate counts.

SECTION E

SUMMARY OF BENEFITS

**ARKANSAS LOCAL POLICE AND FIRE RETIREMENT SYSTEM
BRIEF SUMMARY AS OF DECEMBER 31, 2016 OF LOPFI COVERAGE FOR
*BENEFIT PROGRAM 1 PAID SERVICE***

**Benefits and Conditions Evaluated and/or Considered
(Section references are to Arkansas Code of 1987, including
amendments from 2017 General Assembly Session)**

Voluntary Retirement. Section 24-10-604. A member may retire with an age & service annuity after both (i) completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, and (ii) attaining his normal retirement age. The normal retirement age is age 60 for a member with less than 20 years credited service, age 55 for a member with at least 20 years credited service or any age for a member with 28 or more years of credited service.

Compulsory Retirement. Section 24-10-605. Established by each employer.

Paid Service. Section 24-10-102(13). Covered employment which is half-time employment or more, and for which a minimum dollar amount is paid. For each calendar month in 1981, the minimum is \$500 for the month. For each later calendar year, the \$500 is indexed for inflation (Consumer Price Index). Accordingly, the monthly minimum during 2016 was \$1,367.

Volunteer Service. Section 24-10-102(14). Covered employment which cannot be classified as Paid Service.

Final Average Pay. Section 24-10-102(16)(A). The average of a member's monthly pay during the period of 36 consecutive months of credited Paid Service producing the highest monthly average, which period is contained within the 120 consecutive months of credited Paid Service immediately preceding retirement. Not applicable to Volunteer Service.

Age & Service Annuity. Section 24-10-602. The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

- A. ***Paid Service Not Covered by Social Security.*** For each year of such service, 2.94% of the member's final average pay.
- B. ***Paid Service Also Covered by Social Security.*** For each year of such service, 1.94% of the member's final average pay. In addition, there is a temporary annuity equal to 1.0% of the member's final average pay for each year of service, payable to normal Social Security retirement age.
- C. At time of retirement, the total of A plus B cannot exceed 100% of final average pay.

Early Annuity. Section 24-10-606. A member may retire with an early annuity after both (i) completing 20 years of credited service, and (ii) attaining age 50 or (iii) after completing 25 years of credited paid service. The early annuity amount, payable monthly for life, is computed in the same manner as an age & service annuity, based upon his service and pay record to time of early retirement, but reduced to reflect the fact that his age when payments begin is younger than his normal retirement age. The amount of the reduction is 1/2 of 1% (.005) for each month his age at early retirement is younger than his normal retirement age (age 55 for members with 25 years of credited paid service).

Vested Termination Annuity. Section 24-10-611. If a member leaves LOPFI-covered employment (i) before attaining his early retirement age, and (ii) after completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, he becomes eligible for a vested termination annuity; provided he lives to his normal retirement age and does not withdraw his accumulated contributions. The vested annuity amount, payable monthly for life from his normal retirement age, is computed in the same manner as an age & service annuity, based upon his service and pay record to time of leaving LOPFI coverage. However, final average pay is increased by one-half of any increase in the inflation index for the period from termination of employment to beginning of annuity payments.

Non-Duty Disability Annuity. Section 24-10-607(a)(1)(A). A member with 5 or more years (10 or more years for members hired on or after July 1, 2013) of credited service who becomes totally and permanently disabled from other than duty-connected causes receives a non-duty disability annuity computed in the same manner as an age & service annuity, based upon his service and pay record to time of disability.

Duty Disability Annuity. Section 24-10-607(c)(1)(A). A member who becomes totally and permanently disabled from duty-connected causes receives a duty disability annuity computed in the same manner as an age & service annuity, based upon his service and pay record to time of disability. The minimum annuity payable is 65% of the member's final average pay.

Non-Duty Death-in-Service. Paid Member. Section 24-10-608(a)(1). Upon the death, from other than duty-connected causes, of a Paid Service member who had completed 5 years (10 years for members hired on or after July 1, 2013) of paid service, his eligible surviving dependents receive the following benefits:

(a) The surviving spouse receives an annuity equal to the Option B50 annuity (joint and 50% survivor benefit) computed based upon the deceased member's service (and pay) record to time of death. Minimum of 20% of member's final average pay, or \$125 monthly if greater.

(b) While a spouse benefit is payable, each dependent child under age 18 (age 23 if full time student) receives 10% of member's final average pay, or \$25 monthly if greater. The totals for 4 or more children cannot exceed 30% of final average pay, or \$125 monthly if greater.

(c) While no spouse benefit is payable, each dependent child under age 18 (age 23 if full time student) receives 20% of member's final average pay, or \$25 monthly if greater. The total for 3 or more children cannot exceed 50% of final average pay, or \$125 monthly if greater.

(d) If there is neither spouse nor child at time of member's death, each dependent parent receives 20% of final average pay.

Duty Death-in-Service. Section 24-10-608(b)(1). Upon the death of a Paid Service member from duty-connected causes, regardless of length of service, his eligible surviving dependents receive the same benefits as for Non-Duty Death, except that if credited service at time of death is less than 25 years, credited service is increased to 25 years.

Benefit Changes After Retirement. Section 24-10-612. There is an annual redetermination of monthly benefit amount, beginning the July first following 12 months of retirement. The redetermined amount is 3.0% of the monthly benefit from the preceding July.

Member Contributions. Sections 24-10-404 and 24-10-613. Each member contributes 8.5% of his covered pay if his covered employment is resulting in Paid Service credit and is not covered by Social Security. For other covered employment conditions, each member contributes 2.5% of his covered pay. Individual member deposit accounts do not receive interest credit. If a member leaves LOPFI-covered employment before an annuity is payable on his behalf, the member may choose to have his accumulated contributions refunded to him. If he dies, his accumulated contributions are refunded to his designated beneficiary.

Employer Contributions. Section 24-10-405. Each employer contributes the remainder amounts necessary to finance its employees' participation in LOPFI. Contributions to LOPFI are determined based upon level-rate principles, so that contribution rates do not have to increase over decades of time.

DROP (Deferred Retirement Option Plan). Sections 24-10-701 through 24-10-708. Paid service members who have attained age 55 with at least 20 years of service or members with at least 28 years of service may participate. A participant with 28 years of service will receive 75% of his accrued benefit at time of DROP election while in the DROP, payable into the participant's DROP account (which will be credited with 6% interest annually). A participant with less than 28 years of service will receive 72% of his accrued benefit at time of DROP election while in the DROP, payable into the participant's DROP account (which will be credited with 6% interest annually). The duration of participation in the DROP shall not exceed 7 years. When a member has reached year 6 of participation in the DROP, the amount of the accrued benefit at the time of DROP election shall be redetermined. The redetermined amount shall be the amount of the benefit as of the immediately preceding July 1 increased by 3%. The redetermined amount shall be payable only when the member elects to cease employment and receive a service retirement and shall not be added to the plan account. Employer and employee contributions continue and are used to finance System benefits (i.e., they are not deposited to the participant's DROP account). For additional details please refer to Arkansas Code, Title 24, Chapter 10, Subchapter 7.

**ARKANSAS LOCAL POLICE AND FIRE RETIREMENT SYSTEM
BRIEF SUMMARY AS OF DECEMBER 31, 2016 OF LOPFI COVERAGE FOR
BENEFIT PROGRAM 2 PAID SERVICE
Benefits and Conditions Evaluated and/or Considered
(Section references are to Arkansas Code of 1987, including
amendments from 2017 General Assembly Session)**

The provisions for Benefit Program 2 employers are the same as those for Benefit Program 1 employers with the following exception:

Age & Service Annuity. Section 24-10-602. The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

A. Paid Service Not Covered by Social Security.

- **Paid Service Before Adoption of Benefit Program 2.** For each year of such service, 2.94% of the member's final average pay.
- **Paid Service After Adoption of Benefit Program 2.** For each year of such service, 3.28% of the member's final average pay.
- At time of retirement, the total cannot exceed 100% of final average pay.

B. Paid Service Also Covered by Social Security.

- **Paid Service Before Adoption of Benefit Program 2.** For each year of such service, 1.94% of the member's final average pay, plus a temporary annuity equal to 1.0% of the member's final average pay for each year of service, payable to normal Social Security retirement age.
- **Paid Service After Adoption of Benefit Program 2.** For each year of such service, 2.94% of the member's final average pay.
- At time of retirement, the total cannot exceed 100% of final average pay.

**ARKANSAS LOCAL POLICE AND FIRE RETIREMENT SYSTEM
BRIEF SUMMARY AS OF DECEMBER 31, 2016 OF LOPFI COVERAGE FOR
*VOLUNTEER SERVICE***

**Benefits and Conditions Evaluated and/or Considered
(Section references are to Arkansas Code of 1987, including
amendments from 2017 General Assembly Session)**

Voluntary Retirement. Section 24-10-604. A member may retire with an age & service annuity after both (i) completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, and (ii) attaining his normal retirement age. The normal retirement age is age 60 for a member with less than 20 years credited service, age 55 for a member with at least 20 years credited service or any age for a member with 28 or more years of credited service.

Compulsory Retirement. Section 24-10-605. Established by each employer.

Paid Service. Section 24-10-102(13). Covered employment which is half-time employment or more, and for which a minimum dollar amount is paid. For each calendar month in 1981, the minimum is \$500 for the month. For each later calendar year, the \$500 is indexed for inflation (Consumer Price Index). Accordingly, the monthly minimum during 2016 was \$1,367.

Volunteer Service. Section 24-10-102(14). Covered employment which cannot be classified as Paid Service.

Age & Service Annuity. Section 24-10-102(16)(A). The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

Volunteer Service. For each year of Benefit Program 3 Volunteer Service, \$5.00 monthly, to a maximum of \$200 monthly for all volunteer service. Beginning in 2003, each July 1 these amounts are indexed for inflation by any percentage increase in the inflation index for the period from December 2003 to the December immediately preceding July 1, for members retiring in the next 12 months. Accordingly, the basic benefit factor reflected in the December 31, 2016 valuations was \$6.54 monthly.

For each year of Benefit Program 4 Volunteer Service, \$10.00 monthly, to a maximum benefit of \$400 monthly for all volunteer service. Beginning in 2013, each July 1 these amounts are indexed for inflation by any percentage increase in the inflation index for the period from December 2011 to the December immediately preceding July 1, for members retiring in the next 12 months. Accordingly, the basic benefit factor reflected in the December 31, 2016 valuations was \$10.60 monthly.

Early Annuity. Section 24-10-606. A member may retire with an early annuity after both (i) completing 20 years of credited service, and (ii) attaining age 50. The early annuity amount, payable monthly for life, is computed in the same manner as an age & service annuity, based upon his service record to time of early retirement, but reduced to reflect the fact that his age when payments begin is younger than his normal retirement age. The amount of the reduction is 1/2 of 1% (.005) for each month his age at early retirement is younger than his normal retirement age.

Vested Termination Annuity. Section 24-10-611. If a member leaves LOPFI-covered employment (i) before attaining his early retirement age, and (ii) after completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, he becomes eligible for a vested termination annuity; provided he lives to his normal retirement age (and does not withdraw any accumulated contributions). The vested annuity amount, payable monthly for life from his normal retirement age, is computed in the same manner as an age & service annuity, based upon his service record to time of leaving LOPFI coverage.

Non-Duty Disability Annuity. Section 24-10-607(a)(1)(A). A member with 5 or more years (10 or more years for members hired on or after July 1, 2013) of credited service who becomes totally and permanently disabled from other than duty-connected causes receives a non-duty disability annuity computed in the same manner as an age & service annuity, based upon his service record to time of disability.

Duty Disability Annuity. Section 24-10-607(c)(1)(A). A member who becomes totally and permanently disabled from duty-connected causes receives a duty disability annuity computed in the same manner as an age & service annuity, based upon his service and pay record to time of disability. If the member had less than 25 years of service at time of disability, credited service is increased to 25 years.

Non-Duty Death-in-Service. Volunteer Member. Section 24-10-609. Upon the death, from other than duty-connected causes, of a Volunteer member who had completed 5 years (10 years for members hired on or after July 1, 2013) of volunteer service, or who was eligible for normal retirement, his eligible surviving dependents receive the following benefits:

(a) The surviving spouse receives an annuity equal to the Option B50 annuity (joint and 50% survivor benefit) computed based upon the deceased member's service record to time of death.

(b) Each dependent child under age 18 (age 23 if full time student) receives \$15 monthly. The totals for 3 or more children cannot exceed \$40 monthly.

Duty Death-in-Service. Section 24-10-608(b)(1). Upon the death of a Paid Service member from duty-connected causes, regardless of length of service, his eligible surviving dependents receive the same benefits as for Non-Duty Death, except that if credited service at the time of death is less than 25 years, credited service is increased to 25 years.

Benefit Changes After Retirement. Section 24-10-612. There is an annual redetermination of monthly benefit amount, beginning the July first following 12 months of retirement. The redetermined amount is 3.0% of the monthly benefit from the preceding July.

Member Contributions. For Volunteer Service credit, members do not contribute.

Employer Contributions. Section 24-10-405. Each employer contributes the amounts necessary to finance all employees participation in LOPFI. Contributions to LOPFI are determined based upon level-rate principles, so that contribution rates do not have to increase over decades of time.

SECTION F

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

**Summary of
ASSUMPTIONS USED FOR LOPFI ACTUARIAL VALUATIONS
Assumptions Adopted by Board of Trustees after Consulting with Actuary**

The actuarial assumptions used in making the valuations are shown in this section of the report. The assumptions are established by the Board after consulting with the actuary as outlined in A.C.A. 24-10-205(a)(1).

ECONOMIC ASSUMPTIONS -----

The investment return rate used in making the valuation was 7.75% per year, compounded annually (net after administrative expenses). This rate of return is not the assumed real rate of return. The real rate of return is defined to be the portion of investment return which is more than the wage inflation rate. With a 3.75% wage inflation assumption, the 7.75% investment return rate translates to an assumed real rate of return of 4.0%.

Price inflation was assumed to be 2.75% a year. This assumption was utilized to increase the basic benefit factor for volunteer members.

Pay increase assumptions for individual active members are summarized in Schedule A-5. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.75% recognizes wage inflation.

Total active member payroll is assumed to increase 3.75% a year, which is the portion of the individual pay increase assumptions attributable to wage inflation.

The number of active members is assumed to continue at the present number for LOPFI plans.

NON-ECONOMIC ASSUMPTIONS -----

The mortality table used to measure retired life mortality was the RP-2000 Combined Healthy Mortality Table Projected to 2017 Table, set forward two years for men. Related values are shown in Schedule A-1. Disability post-retirement mortality was assumed to be the same as standard post-retirement mortality set forward an additional 10 years. For death-in-service mortality, one hundred percent of the post-retirement mortality tables were used. Fifty percent of deaths-in-service were assumed to be duty related. These assumptions include a margin for future mortality improvements.

The probabilities of retirement for members eligible to retire are shown in Schedule A-3.

The probabilities of withdrawal from service are summarized in Schedule A-4, and the *probabilities of disability* are summarized in Schedule A-2.

An individual entry age actuarial cost method of valuation was used in determining age & service allowance normal costs and the allocation of actuarial present values between service rendered before and after the valuation date. The entry-age actuarial cost method has the following characteristics:

- (i) the annual normal costs for each individual active member, payable from the member's actual date of employment to the member's projected date of retirement are sufficient to accumulate the actuarial present value of the member's benefit at the time of retirement; and
- (ii) each annual normal cost is: (a) a constant percentage of the member's year by year projected covered pay for paid service plans, or (b) an increasing dollar amount for volunteer service plans.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") are inevitable and become part of accrued liabilities. In LOPFI, cumulative actuarial losses and gains are the same as unfunded (or overfunded) accrued liabilities.

Unfunded accrued liabilities are amortized to produce contribution amounts (principal and interest) which are (a) level percent of payroll contributions over a period of future years for paid service plans, or (b) increasing dollar amounts for volunteer service plans.

For Benefit Program 3 volunteer service plans, the contribution rates from the December 31, 2002 valuation were developed based on a \$5.00 per month basic benefit factor. This factor is \$6.54 effective July 1, 2017 and is assumed to increase at the assumed rate of price inflation in future years. For Benefit Program 4 volunteer service plans, the contribution rates from the December 31, 2012 valuation were developed based on a \$10.00 per month basic benefit factor. This factor is \$10.60 effective July 1, 2017 and is assumed to increase at the assumed rate of price inflation in future years.

OTHER TECHNICAL ASSUMPTIONS - - - - -

Decrements are assumed to occur at the middle of the valuation year.

The probability of being married, for death-in-service benefits, is assumed to be 90%.

Members who are eligible to participate in the DROP are assumed to participate in the DROP program in such a manner that is the most advantageous to them.

Future service credit is always assumed to accrue at the rate of 1 year of credit every 12 calendar months. Lower service accrual rates (service breaks or less-than-full-time employment) or higher service accrual rates (addition of military credit or reinstatement of prior service) are reflected as they are reported. Any lower or higher accrual rates may result in small financial gains or losses when reported.

The form of benefit payment assumed in the valuation for paid service and volunteer service plans is the Five Year Certain and Life Option. For local plans under LOPFI administration, the assumed form of benefit payment is 100% joint and survivor for police plans and the Life Option for fire plans. For local fire plans under LOPFI administration who have adopted Act 397, the assumed form of benefit payment is 100% joint and survivor.

Employer contribution dollars were assumed to be ***paid in equal installments*** throughout the employer fiscal year.

Present assets (cash & investments) were used based on a smoothed market value.

The data about persons now covered and about present assets were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

Schedule A-1
Single Life Retirement Values
Based on the RP-2000 Combined Healthy Mortality Table Projected to 2017 Table
and 7.75% Interest
(First used for December 31, 2012 Valuations)

| Sample Attained Ages | Value at Retirement: \$1.00 Monthly for Life | | Future Life Expectancy (years) | |
|----------------------------|---|----------|-----------------------------------|-------|
| | Men | Women | Men | Women |
| 45 | \$144.21 | \$148.44 | 35.48 | 40.05 |
| 50 | 138.33 | 143.93 | 30.80 | 35.29 |
| 55 | 130.68 | 137.91 | 26.25 | 30.61 |
| 60 | 121.14 | 130.04 | 21.90 | 26.04 |
| 65 | 109.70 | 120.24 | 17.83 | 21.70 |
| 70 | 96.21 | 108.70 | 14.07 | 17.68 |
| 75 | 81.16 | 95.55 | 10.72 | 14.02 |
| 80 | 65.31 | 80.99 | 7.83 | 10.76 |

| Sample Attained Ages | Benefit Increasing 2.75% Yearly | Portion of Age 55 Lives Still Alive | Sample Attained Ages |
|----------------------------|---------------------------------------|--|----------------------------|
| 55 | \$100 | 100 % | 55 |
| 60 | 115 | 97 | 60 |
| 65 | 131 | 92 | 65 |
| 70 | 150 | 84 | 70 |
| 75 | 172 | 73 | 75 |
| 80 | 197 | 56 | 80 |

Schedule A-2
Probabilities of Disability Retirement

PAID SERVICE MEMBERS
(First used for December 31, 2012 Valuations)

| Sample Ages | Percent Becoming Disabled within Next Year | |
|------------------------|---|-------------|
| | Non-Duty | Duty |
| 20 | 0.07 % | 0.09 % |
| 25 | 0.07 | 0.09 |
| 30 | 0.10 | 0.11 |
| 35 | 0.13 | 0.16 |
| 40 | 0.20 | 0.24 |
| 45 | 0.31 | 0.37 |
| 50 | 0.52 | 0.63 |
| 55 | 0.91 | 1.09 |
| 60 | 1.36 | 1.63 |

VOLUNTEER SERVICE MEMBERS
(First used for December 31, 2003 Valuations)

| Sample Ages | Percent Becoming Disabled within Next Year | |
|------------------------|---|-------------|
| | Non-Duty | Duty |
| 20 | 0.07 % | 0.00 % |
| 25 | 0.07 | 0.00 |
| 30 | 0.07 | 0.00 |
| 35 | 0.07 | 0.00 |
| 40 | 0.18 | 0.01 |
| 45 | 0.23 | 0.01 |
| 50 | 0.43 | 0.02 |
| 55 | 0.79 | 0.04 |
| 60 | 1.24 | 0.06 |

Schedule A-3
Probabilities of Retirement for Members Eligible to Retire
(First used for December 31, 2012 Valuations)

PAID SERVICE MEMBERS

| Retirement Ages | Percents of Active Members Retiring within Next Year | | Years of Service | Percents of Active Members Retiring within Next Year |
|--------------------|--|--------|---------------------|--|
| | Early | Normal | | |
| 45-49 | 3 % | | | |
| 50-54 | 3 | | | |
| 55 | | 20 % | 28 | 25 % |
| 56 | | 20 | 29 | 15 |
| 57 | | 20 | 30 | 15 |
| 58 | | 20 | 31 | 20 |
| 59 | | 20 | 32 | 35 |
| 60 | | 20 | 33 | 40 |
| 61 | | 20 | 34 | 100 |
| 62 | | 25 | | |
| 63 | | 25 | | |
| 64 | | 25 | | |
| 65 | | 50 | | |
| 66 | | 60 | | |
| 67 | | 70 | | |
| 68 | | 80 | | |
| 69 | | 90 | | |
| 70+ | | 100 | | |

A member was assumed eligible for retirement after attaining age 55 with 20 years of service or age 60 with 5 years of service or any age with 28 or more years of service. A member was assumed to retire with 100% probability at 34 or more years of service credit.

A member was assumed eligible for a reduced benefit after attaining age 50 with 20 or more years of service or any age with 25 or more years of paid service credit.

The probabilities of retirement shown above represent ultimate termination of employment (whether or not the member participates in the DROP).

Schedule A-3
Probabilities of Retirement for Members Eligible to Retire (Concluded)
(First used for December 31, 2012 Valuations)

VOLUNTEER SERVICE MEMBERS

| Retirement Ages | Percents of Active Members Retiring within Next Year | |
|----------------------------|---|---------------|
| | Early | Normal |
| Under 50 | | 20 % |
| 50-54 | 2 % | 20 |
| 55-59 | | 15 |
| 60-64 | | 15 |
| 65-69 | | 20 |
| 70-74 | | 30 |
| 75+ | | 100 |

A member was assumed to be eligible for retirement after 28 years of service, attaining age 55 with 20 years of service, or age 60 with 5 years of service.

A member was assumed eligible for a reduced benefit after attaining age 50 with 20 or more years of service.

Schedule A-4
Rates of Separation (Excluding Deaths and Disability)
from Active Employment Before Retirement
(First used for December 31, 2012 Valuations)

PAID SERVICE MEMBERS

| Sample Ages | Years of Service | % of Active Members Separating within Next Year |
|----------------|---------------------|--|
| ALL | 0 | 18.00 % |
| | 1 | 16.00 |
| | 2 | 13.00 |
| | 3 | 11.00 |
| | 4 | 10.00 |
| 25 | 5 & Over | 8.56 |
| 30 | | 7.20 |
| 35 | | 5.52 |
| 40 | | 4.40 |
| 45 | | 3.52 |
| 50 | | 2.80 |
| 55 | | 0.80 |
| 60 | | 0.00 |

VOLUNTEER SERVICE MEMBERS

| Sample Ages | Years of Service | % of Active Members Separating within Next Year |
|----------------|---------------------|--|
| ALL | 0 | 23.00 % |
| | 1 | 21.00 |
| | 2 | 19.00 |
| | 3 | 17.00 |
| | 4 | 15.00 |
| 25 | 5 & Over | 8.50 |
| 30 | | 8.50 |
| 35 | | 8.50 |
| 40 | | 8.50 |
| 45 | | 8.50 |
| 50 | | 8.50 |
| 55 | | 8.50 |
| 60 | | 8.50 |

Schedule A-5
Pay Increase Assumptions
for an Individual Paid Service Member
(First used for December 31, 2012 Valuations)

| Pay Increase Assumptions | | | |
|---------------------------------|--------------------------------|----------------------------|-------------------------------|
| For an Individual Member | | | |
| Service Years | Merit and Seniority | Base (Economic) | Increase Next Year |
| 1 | 15.00% | 3.75% | 18.75% |
| 2 | 9.00% | 3.75% | 12.75% |
| 3 | 4.00% | 3.75% | 7.75% |
| 4 | 3.00% | 3.75% | 6.75% |
| 5 | 2.00% | 3.75% | 5.75% |
| 6 | 1.50% | 3.75% | 5.25% |
| 7 | 1.50% | 3.75% | 5.25% |
| 8 | 1.50% | 3.75% | 5.25% |
| 9 | 1.00% | 3.75% | 4.75% |
| 10 | 1.00% | 3.75% | 4.75% |
| 11 | 0.50% | 3.75% | 4.25% |
| 12 | 0.50% | 3.75% | 4.25% |
| 13 | 0.50% | 3.75% | 4.25% |
| 14 | 0.50% | 3.75% | 4.25% |
| 15 | 0.50% | 3.75% | 4.25% |
| 16 | 0.50% | 3.75% | 4.25% |
| 17 | 0.50% | 3.75% | 4.25% |
| 18 | 0.50% | 3.75% | 4.25% |
| 19 | 0.50% | 3.75% | 4.25% |
| 20+ | 0.50% | 3.75% | 4.25% |

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67 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 (based on the “20-Bond GO Index” rate from the Bond Buyer Index) 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 7.75%; the municipal bond rate is 3.78%; and the resulting Single Discount Rate is 7.75%.

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. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

**PAID SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS BEGINNING JANUARY 1, 2017
(YEARS 1-50)**

| Year | Projected Payroll for Current Employees | Projected Contributions from Current Employees | Projected Service Cost and Expense Contributions | Projected UAL Contributions | Projected Total Contributions |
|------|---|--|--|-----------------------------|-------------------------------|
| 0 | \$ 329,344,355 | | | | |
| 1 | 323,155,871 | \$ 21,939,696 | \$ 31,580,651 | \$ 38,874,412 | \$ 92,394,760 |
| 2 | 303,121,152 | 20,516,281 | 31,052,918 | 40,332,202 | 91,901,402 |
| 3 | 287,952,839 | 19,437,419 | 30,551,865 | 64,600,211 | 114,589,495 |
| 4 | 275,483,818 | 18,551,134 | 30,039,365 | 67,932,941 | 116,523,440 |
| 5 | 263,055,261 | 17,660,307 | 29,557,702 | 71,461,190 | 118,679,199 |
| 6 | 252,395,445 | 16,902,852 | 28,942,903 | 75,197,758 | 121,043,513 |
| 7 | 241,400,974 | 16,119,506 | 28,297,205 | 48,483,333 | 92,900,044 |
| 8 | 229,901,418 | 15,300,240 | 27,542,856 | 50,301,458 | 93,144,554 |
| 9 | 218,305,860 | 14,483,829 | 26,753,266 | 52,187,762 | 93,424,858 |
| 10 | 206,486,960 | 13,660,531 | 25,920,854 | 54,144,803 | 93,726,189 |
| 11 | 194,328,978 | 12,816,845 | 25,045,673 | 56,175,234 | 94,037,752 |
| 12 | 182,260,998 | 11,983,374 | 24,165,282 | 58,281,805 | 94,430,461 |
| 13 | 170,334,137 | 11,164,271 | 23,279,407 | 60,467,373 | 94,911,050 |
| 14 | 158,705,174 | 10,370,802 | 22,400,444 | 62,734,899 | 95,506,145 |
| 15 | 147,358,468 | 9,601,011 | 21,529,899 | 65,087,458 | 96,218,367 |
| 16 | 135,957,288 | 8,829,615 | 20,638,138 | 67,528,237 | 96,995,990 |
| 17 | 124,775,260 | 8,074,409 | 19,757,775 | 70,060,546 | 97,892,731 |
| 18 | 114,051,227 | 7,355,698 | 18,908,978 | 58,369,398 | 84,634,074 |
| 19 | 103,744,609 | 6,675,011 | 18,055,789 | - | 24,730,800 |
| 20 | 93,914,436 | 6,031,376 | 17,118,556 | - | 23,149,932 |
| 21 | 84,201,549 | 5,390,976 | 16,176,643 | - | 21,567,619 |
| 22 | 74,858,278 | 4,774,700 | 15,259,213 | - | 20,033,913 |
| 23 | 66,004,298 | 4,191,541 | 14,373,716 | - | 18,565,257 |
| 24 | 57,461,891 | 3,632,524 | 13,496,956 | - | 17,129,479 |
| 25 | 49,333,304 | 3,108,515 | 12,637,997 | - | 15,746,511 |
| 26 | 41,594,070 | 2,615,363 | 11,801,531 | - | 14,416,894 |
| 27 | 34,185,572 | 2,147,435 | 10,980,456 | - | 13,127,891 |
| 28 | 27,005,513 | 1,696,692 | 10,165,144 | - | 11,861,836 |
| 29 | 20,566,729 | 1,289,593 | 9,399,949 | - | 10,689,542 |
| 30 | 15,134,839 | 944,152 | 8,709,002 | - | 9,653,154 |
| 31 | 10,319,850 | 640,262 | 8,057,334 | - | 8,697,596 |
| 32 | 6,267,106 | 386,316 | 7,460,842 | - | 7,847,158 |
| 33 | 3,206,308 | 198,236 | 6,937,864 | - | 7,136,100 |
| 34 | 987,151 | 62,524 | 6,477,648 | - | 6,540,171 |
| 35 | - | - | 6,122,099 | - | 6,122,099 |
| 36 | - | - | 5,853,666 | - | 5,853,666 |
| 37 | - | - | 5,578,532 | - | 5,578,532 |
| 38 | - | - | 5,298,567 | - | 5,298,567 |
| 39 | - | - | 5,015,548 | - | 5,015,548 |
| 40 | - | - | 4,731,286 | - | 4,731,286 |
| 41 | - | - | 4,447,607 | - | 4,447,607 |
| 42 | - | - | 4,166,165 | - | 4,166,165 |
| 43 | - | - | 3,888,591 | - | 3,888,591 |
| 44 | - | - | 3,616,067 | - | 3,616,067 |
| 45 | - | - | 3,349,594 | - | 3,349,594 |
| 46 | - | - | 3,090,212 | - | 3,090,212 |
| 47 | - | - | 2,838,801 | - | 2,838,801 |
| 48 | - | - | 2,596,098 | - | 2,596,098 |
| 49 | - | - | 2,362,911 | - | 2,362,911 |
| 50 | - | - | 2,140,003 | - | 2,140,003 |

**PAID SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS BEGINNING JANUARY 1, 2017
(YEARS 51-100)**

| Year | Projected Payroll for Current Employees | Projected Contributions from Current Employees | Projected Service Cost and Expense Contributions | Projected UAL Contributions | Projected Total Contributions |
|------|---|--|--|-----------------------------|-------------------------------|
| 51 | \$ - | \$ - | \$ 1,928,020 | \$ - | \$ 1,928,020 |
| 52 | - | - | 1,727,498 | - | 1,727,498 |
| 53 | - | - | 1,538,868 | - | 1,538,868 |
| 54 | - | - | 1,362,452 | - | 1,362,452 |
| 55 | - | - | 1,198,466 | - | 1,198,466 |
| 56 | - | - | 1,047,017 | - | 1,047,017 |
| 57 | - | - | 908,103 | - | 908,103 |
| 58 | - | - | 781,611 | - | 781,611 |
| 59 | - | - | 667,320 | - | 667,320 |
| 60 | - | - | 564,900 | - | 564,900 |
| 61 | - | - | 473,922 | - | 473,922 |
| 62 | - | - | 393,862 | - | 393,862 |
| 63 | - | - | 324,115 | - | 324,115 |
| 64 | - | - | 264,000 | - | 264,000 |
| 65 | - | - | 212,772 | - | 212,772 |
| 66 | - | - | 169,637 | - | 169,637 |
| 67 | - | - | 133,771 | - | 133,771 |
| 68 | - | - | 104,335 | - | 104,335 |
| 69 | - | - | 80,498 | - | 80,498 |
| 70 | - | - | 61,458 | - | 61,458 |
| 71 | - | - | 46,456 | - | 46,456 |
| 72 | - | - | 34,796 | - | 34,796 |
| 73 | - | - | 25,849 | - | 25,849 |
| 74 | - | - | 19,068 | - | 19,068 |
| 75 | - | - | 13,986 | - | 13,986 |
| 76 | - | - | 10,215 | - | 10,215 |
| 77 | - | - | 7,439 | - | 7,439 |
| 78 | - | - | 5,409 | - | 5,409 |
| 79 | - | - | 3,932 | - | 3,932 |
| 80 | - | - | 2,861 | - | 2,861 |
| 81 | - | - | 2,085 | - | 2,085 |
| 82 | - | - | 1,523 | - | 1,523 |
| 83 | - | - | 1,115 | - | 1,115 |
| 84 | - | - | 818 | - | 818 |
| 85 | - | - | 602 | - | 602 |
| 86 | - | - | 444 | - | 444 |
| 87 | - | - | 327 | - | 327 |
| 88 | - | - | 242 | - | 242 |
| 89 | - | - | 179 | - | 179 |
| 90 | - | - | 132 | - | 132 |
| 91 | - | - | 97 | - | 97 |
| 92 | - | - | 71 | - | 71 |
| 93 | - | - | 51 | - | 51 |
| 94 | - | - | 37 | - | 37 |
| 95 | - | - | 26 | - | 26 |
| 96 | - | - | 17 | - | 17 |
| 97 | - | - | 11 | - | 11 |
| 98 | - | - | 7 | - | 7 |
| 99 | - | - | 4 | - | 4 |
| 100 | - | - | 2 | - | 2 |

PAID SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION BEGINNING JANUARY 1, 2017
(YEARS 1-50)

| Year | Projected Beginning Plan Net Position | Projected Total Contributions | Projected Benefit Payments | Projected Administrative Expenses | Projected Investment Earnings at 7.75% | Projected Ending Plan Net Position |
|------|---|-------------------------------------|-------------------------------|---|---|--|
| | (a) | (b) | (c) | (d) | (e) | (f)=(a)+(b)-(c)-(d)+(e) |
| 1 | \$ 1,532,050,830 | \$ 92,394,760 | \$ 71,402,798 | \$ 2,757,691 | \$ 119,427,333 | \$ 1,669,712,434 |
| 2 | 1,669,712,434 | 91,901,402 | 76,568,633 | 3,005,482 | 129,871,483 | 1,811,911,205 |
| 3 | 1,811,911,205 | 114,589,495 | 85,097,436 | 3,261,440 | 141,420,589 | 1,979,562,413 |
| 4 | 1,979,562,413 | 116,523,440 | 94,385,774 | 3,563,212 | 154,122,417 | 2,152,259,284 |
| 5 | 2,152,259,284 | 118,679,199 | 97,368,626 | 3,874,067 | 167,463,152 | 2,337,158,941 |
| 6 | 2,337,158,941 | 121,043,513 | 108,814,525 | 4,206,886 | 181,434,874 | 2,526,615,917 |
| 7 | 2,526,615,917 | 92,900,044 | 121,350,349 | 4,547,909 | 194,557,911 | 2,688,175,614 |
| 8 | 2,688,175,614 | 93,144,554 | 134,061,451 | 4,838,716 | 206,593,663 | 2,849,013,664 |
| 9 | 2,849,013,664 | 93,424,858 | 147,323,111 | 5,128,225 | 218,553,961 | 3,008,541,146 |
| 10 | 3,008,541,146 | 93,726,189 | 160,676,255 | 5,415,374 | 230,410,100 | 3,166,585,805 |
| 11 | 3,166,585,805 | 94,037,752 | 175,222,098 | 5,699,854 | 242,106,457 | 3,321,808,061 |
| 12 | 3,321,808,061 | 94,430,461 | 190,297,860 | 5,979,255 | 253,567,205 | 3,473,528,611 |
| 13 | 3,473,528,611 | 94,911,050 | 205,587,052 | 6,252,352 | 264,752,036 | 3,621,352,293 |
| 14 | 3,621,352,293 | 95,506,145 | 220,888,173 | 6,518,434 | 275,639,027 | 3,765,090,859 |
| 15 | 3,765,090,859 | 96,218,367 | 235,883,126 | 6,777,164 | 286,225,798 | 3,904,874,734 |
| 16 | 3,904,874,734 | 96,995,990 | 250,938,940 | 7,028,775 | 296,506,524 | 4,040,409,534 |
| 17 | 4,040,409,534 | 97,892,731 | 265,755,419 | 7,272,737 | 306,471,869 | 4,171,745,977 |
| 18 | 4,171,745,977 | 84,634,074 | 280,481,621 | 7,509,143 | 315,577,274 | 4,283,966,561 |
| 19 | 4,283,966,561 | 24,730,800 | 294,967,083 | 7,711,140 | 321,437,909 | 4,327,457,047 |
| 20 | 4,327,457,047 | 23,149,932 | 308,506,043 | 7,789,423 | 324,230,483 | 4,358,541,997 |
| 21 | 4,358,541,997 | 21,567,619 | 321,330,462 | 7,845,376 | 326,089,595 | 4,377,023,373 |
| 22 | 4,377,023,373 | 20,033,913 | 333,515,226 | 7,878,642 | 326,998,965 | 4,382,662,382 |
| 23 | 4,382,662,382 | 18,565,257 | 345,776,150 | 7,888,792 | 326,913,507 | 4,374,476,205 |
| 24 | 4,374,476,205 | 17,129,479 | 356,906,235 | 7,874,057 | 325,801,797 | 4,352,627,189 |
| 25 | 4,352,627,189 | 15,746,511 | 367,648,296 | 7,834,729 | 323,648,916 | 4,316,539,592 |
| 26 | 4,316,539,592 | 14,416,894 | 377,136,095 | 7,769,771 | 320,443,244 | 4,266,493,864 |
| 27 | 4,266,493,864 | 13,127,891 | 385,487,071 | 7,679,689 | 316,201,546 | 4,202,656,540 |
| 28 | 4,202,656,540 | 11,861,836 | 393,548,075 | 7,564,782 | 310,903,843 | 4,124,309,362 |
| 29 | 4,124,309,362 | 10,689,542 | 399,934,390 | 7,423,757 | 304,549,869 | 4,032,190,626 |
| 30 | 4,032,190,626 | 9,653,154 | 404,469,475 | 7,257,943 | 297,205,106 | 3,927,321,468 |
| 31 | 3,927,321,468 | 8,697,596 | 407,533,735 | 7,069,179 | 288,932,063 | 3,810,348,212 |
| 32 | 3,810,348,212 | 7,847,158 | 408,431,058 | 6,858,627 | 279,808,180 | 3,682,713,866 |
| 33 | 3,682,713,866 | 7,136,100 | 407,327,622 | 6,628,885 | 269,940,175 | 3,545,833,634 |
| 34 | 3,545,833,634 | 6,540,171 | 404,260,445 | 6,382,501 | 259,435,301 | 3,401,166,160 |
| 35 | 3,401,166,160 | 6,122,099 | 397,600,430 | 6,122,099 | 248,470,836 | 3,252,036,566 |
| 36 | 3,252,036,566 | 5,853,666 | 390,052,451 | 5,853,666 | 237,200,319 | 3,099,184,434 |
| 37 | 3,099,184,434 | 5,578,532 | 381,226,126 | 5,578,532 | 225,689,917 | 2,943,648,225 |
| 38 | 2,943,648,225 | 5,298,567 | 371,247,771 | 5,298,567 | 214,015,308 | 2,786,415,762 |
| 39 | 2,786,415,762 | 5,015,548 | 360,174,190 | 5,015,548 | 202,250,887 | 2,628,492,459 |
| 40 | 2,628,492,459 | 4,731,286 | 348,071,818 | 4,731,286 | 190,472,047 | 2,470,892,689 |
| 41 | 2,470,892,689 | 4,447,607 | 335,107,617 | 4,447,607 | 178,751,055 | 2,314,536,126 |
| 42 | 2,314,536,126 | 4,166,165 | 321,364,061 | 4,166,165 | 167,156,047 | 2,160,328,112 |
| 43 | 2,160,328,112 | 3,888,591 | 307,147,546 | 3,888,591 | 155,745,537 | 2,008,926,103 |
| 44 | 2,008,926,103 | 3,616,067 | 292,605,495 | 3,616,067 | 144,564,871 | 1,860,885,479 |
| 45 | 1,860,885,479 | 3,349,594 | 277,757,447 | 3,349,594 | 133,656,349 | 1,716,784,382 |
| 46 | 1,716,784,382 | 3,090,212 | 262,732,795 | 3,090,212 | 123,059,856 | 1,577,111,443 |
| 47 | 1,577,111,443 | 2,838,801 | 247,643,849 | 2,838,801 | 112,808,990 | 1,442,276,585 |
| 48 | 1,442,276,585 | 2,596,098 | 232,483,772 | 2,596,098 | 102,935,781 | 1,312,728,594 |
| 49 | 1,312,728,594 | 2,362,911 | 217,310,735 | 2,362,911 | 93,472,796 | 1,188,890,655 |
| 50 | 1,188,890,655 | 2,140,003 | 202,217,712 | 2,140,003 | 84,449,298 | 1,071,122,241 |

PAID SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION BEGINNING JANUARY 1, 2017
(YEARS 51-100)

| Year | Projected Beginning Plan Net Position | Projected Total Contributions | Projected Benefit Payments | Projected Administrative Expenses | Projected Investment Earnings at 7.75% | Projected Ending Plan Net Position |
|------|---|-------------------------------------|-------------------------------|---|---|--|
| | (a) | (b) | (c) | (d) | (e) | (f)=(a)+(b)-(c)-(d)+(e) |
| 51 | \$ 1,071,122,241 | \$ 1,928,020 | \$ 187,290,789 | \$ 1,928,020 | \$ 75,889,872 | \$ 959,721,324 |
| 52 | 959,721,324 | 1,727,498 | 172,609,263 | 1,727,498 | 67,814,595 | 854,926,655 |
| 53 | 854,926,655 | 1,538,868 | 158,247,984 | 1,538,868 | 60,239,124 | 756,917,795 |
| 54 | 756,917,795 | 1,362,452 | 144,278,127 | 1,362,452 | 53,174,668 | 665,814,336 |
| 55 | 665,814,336 | 1,198,466 | 130,766,360 | 1,198,466 | 46,627,962 | 581,675,938 |
| 56 | 581,675,938 | 1,047,017 | 117,775,640 | 1,047,017 | 40,601,234 | 504,501,531 |
| 57 | 504,501,531 | 908,103 | 105,365,237 | 908,103 | 35,092,147 | 434,228,442 |
| 58 | 434,228,442 | 781,611 | 93,588,912 | 781,611 | 30,093,801 | 370,733,331 |
| 59 | 370,733,331 | 667,320 | 82,494,568 | 667,320 | 25,594,814 | 313,833,578 |
| 60 | 313,833,578 | 564,900 | 72,123,025 | 564,900 | 21,579,482 | 263,290,034 |
| 61 | 263,290,034 | 473,922 | 62,505,687 | 473,922 | 18,028,075 | 218,812,422 |
| 62 | 218,812,422 | 393,862 | 53,665,582 | 393,862 | 14,917,223 | 180,064,063 |
| 63 | 180,064,063 | 324,115 | 45,617,808 | 324,115 | 12,220,258 | 146,666,513 |
| 64 | 146,666,513 | 264,000 | 38,367,739 | 264,000 | 9,907,646 | 118,206,420 |
| 65 | 118,206,420 | 212,772 | 31,910,920 | 212,772 | 7,947,522 | 94,243,022 |
| 66 | 94,243,022 | 169,637 | 26,231,960 | 169,637 | 6,306,312 | 74,317,374 |
| 67 | 74,317,374 | 133,771 | 21,303,108 | 133,771 | 4,949,504 | 57,963,769 |
| 68 | 57,963,769 | 104,335 | 17,085,170 | 104,335 | 3,842,495 | 44,721,094 |
| 69 | 44,721,094 | 80,498 | 13,529,280 | 80,498 | 2,951,407 | 34,143,221 |
| 70 | 34,143,221 | 61,458 | 10,577,999 | 61,458 | 2,243,850 | 25,809,073 |
| 71 | 25,809,073 | 46,456 | 8,167,740 | 46,456 | 1,689,609 | 19,330,942 |
| 72 | 19,330,942 | 34,796 | 6,231,510 | 34,796 | 1,261,183 | 14,360,615 |
| 73 | 14,360,615 | 25,849 | 4,701,249 | 25,849 | 934,173 | 10,593,539 |
| 74 | 10,593,539 | 19,068 | 3,510,850 | 19,068 | 687,492 | 7,770,182 |
| 75 | 7,770,182 | 13,986 | 2,598,723 | 13,986 | 503,368 | 5,674,827 |
| 76 | 5,674,827 | 10,215 | 1,909,399 | 10,215 | 367,190 | 4,132,618 |
| 77 | 4,132,618 | 7,439 | 1,394,796 | 7,439 | 267,238 | 3,005,060 |
| 78 | 3,005,060 | 5,409 | 1,014,718 | 5,409 | 194,305 | 2,184,648 |
| 79 | 2,184,648 | 3,932 | 736,430 | 3,932 | 141,306 | 1,589,524 |
| 80 | 1,589,524 | 2,861 | 534,010 | 2,861 | 102,881 | 1,158,395 |
| 81 | 1,158,395 | 2,085 | 387,436 | 2,085 | 75,043 | 846,002 |
| 82 | 846,002 | 1,523 | 281,519 | 1,523 | 54,860 | 619,343 |
| 83 | 619,343 | 1,115 | 205,034 | 1,115 | 40,202 | 454,511 |
| 84 | 454,511 | 818 | 149,734 | 818 | 29,531 | 334,309 |
| 85 | 334,309 | 602 | 109,655 | 602 | 21,739 | 246,392 |
| 86 | 246,392 | 444 | 80,565 | 444 | 16,032 | 181,859 |
| 87 | 181,859 | 327 | 59,358 | 327 | 11,837 | 134,338 |
| 88 | 134,338 | 242 | 43,847 | 242 | 8,744 | 99,235 |
| 89 | 99,235 | 179 | 32,487 | 179 | 6,455 | 73,204 |
| 90 | 73,204 | 132 | 24,138 | 132 | 4,755 | 53,821 |
| 91 | 53,821 | 97 | 17,961 | 97 | 3,488 | 39,348 |
| 92 | 39,348 | 71 | 13,389 | 71 | 2,540 | 28,500 |
| 93 | 28,500 | 51 | 9,980 | 51 | 1,829 | 20,349 |
| 94 | 20,349 | 37 | 7,398 | 37 | 1,296 | 14,247 |
| 95 | 14,247 | 26 | 5,441 | 26 | 897 | 9,703 |
| 96 | 9,703 | 17 | 3,951 | 17 | 602 | 6,353 |
| 97 | 6,353 | 11 | 2,821 | 11 | 385 | 3,918 |
| 98 | 3,918 | 7 | 1,981 | 7 | 228 | 2,165 |
| 99 | 2,165 | 4 | 1,373 | 4 | 116 | 907 |
| 100 | 907 | 2 | 940 | 2 | 35 | 2 |

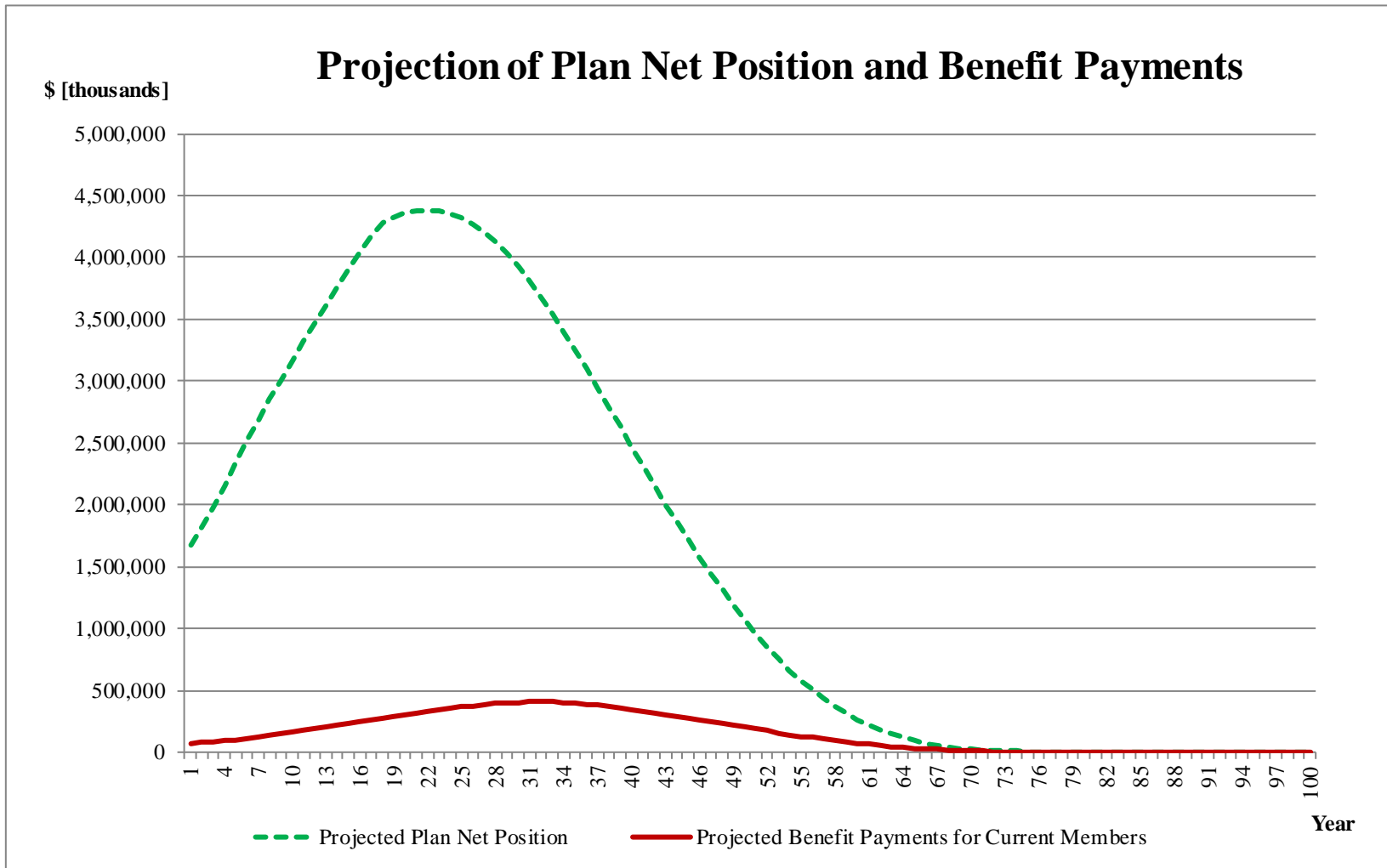
PAID SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS BEGINNING JANUARY 1, 2017
(YEARS 1-50)

| Year | Projected Plan Net Position | Projected Benefit Payments | Funded Portion of Projected Benefit Payments | Unfunded Portion of Projected 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 All 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) |
| 1 | \$ 1,532,050,830 | \$ 71,402,798 | \$ 71,402,798 | \$ - | \$ 68,787,035 | \$ - | \$ 68,787,035 |
| 2 | 1,669,712,434 | 76,568,633 | 76,568,633 | - | 68,458,121 | - | 68,458,121 |
| 3 | 1,811,911,205 | 85,097,436 | 85,097,436 | - | 70,611,149 | - | 70,611,149 |
| 4 | 1,979,562,413 | 94,385,774 | 94,385,774 | - | 72,685,213 | - | 72,685,213 |
| 5 | 2,152,259,284 | 97,368,626 | 97,368,626 | - | 69,589,111 | - | 69,589,111 |
| 6 | 2,337,158,941 | 108,814,525 | 108,814,525 | - | 72,175,838 | - | 72,175,838 |
| 7 | 2,526,615,917 | 121,350,349 | 121,350,349 | - | 74,701,396 | - | 74,701,396 |
| 8 | 2,688,175,614 | 134,061,451 | 134,061,451 | - | 76,590,398 | - | 76,590,398 |
| 9 | 2,849,013,664 | 147,323,111 | 147,323,111 | - | 78,113,125 | - | 78,113,125 |
| 10 | 3,008,541,146 | 160,676,255 | 160,676,255 | - | 79,065,597 | - | 79,065,597 |
| 11 | 3,166,585,805 | 175,222,098 | 175,222,098 | - | 80,021,640 | - | 80,021,640 |
| 12 | 3,321,808,061 | 190,297,860 | 190,297,860 | - | 80,655,725 | - | 80,655,725 |
| 13 | 3,473,528,611 | 205,587,052 | 205,587,052 | - | 80,868,572 | - | 80,868,572 |
| 14 | 3,621,352,293 | 220,888,173 | 220,888,173 | - | 80,637,898 | - | 80,637,898 |
| 15 | 3,765,090,859 | 235,883,126 | 235,883,126 | - | 79,918,317 | - | 79,918,317 |
| 16 | 3,904,874,734 | 250,938,940 | 250,938,940 | - | 78,904,221 | - | 78,904,221 |
| 17 | 4,040,409,534 | 265,755,419 | 265,755,419 | - | 77,552,719 | - | 77,552,719 |
| 18 | 4,171,745,977 | 280,481,621 | 280,481,621 | - | 75,962,986 | - | 75,962,986 |
| 19 | 4,283,966,561 | 294,967,083 | 294,967,083 | - | 74,140,224 | - | 74,140,224 |
| 20 | 4,327,457,047 | 308,506,043 | 308,506,043 | - | 71,965,896 | - | 71,965,896 |
| 21 | 4,358,541,997 | 321,330,462 | 321,330,462 | - | 69,566,104 | - | 69,566,104 |
| 22 | 4,377,023,373 | 333,515,226 | 333,515,226 | - | 67,010,702 | - | 67,010,702 |
| 23 | 4,382,662,382 | 345,776,150 | 345,776,150 | - | 64,477,213 | - | 64,477,213 |
| 24 | 4,374,476,205 | 356,906,235 | 356,906,235 | - | 61,765,802 | - | 61,765,802 |
| 25 | 4,352,627,189 | 367,648,296 | 367,648,296 | - | 59,048,548 | - | 59,048,548 |
| 26 | 4,316,539,592 | 377,136,095 | 377,136,095 | - | 56,215,683 | - | 56,215,683 |
| 27 | 4,266,493,864 | 385,487,071 | 385,487,071 | - | 53,327,586 | - | 53,327,586 |
| 28 | 4,202,656,540 | 393,548,075 | 393,548,075 | - | 50,526,897 | - | 50,526,897 |
| 29 | 4,124,309,362 | 399,934,390 | 399,934,390 | - | 47,653,665 | - | 47,653,665 |
| 30 | 4,032,190,626 | 404,469,475 | 404,469,475 | - | 44,727,644 | - | 44,727,644 |
| 31 | 3,927,321,468 | 407,533,735 | 407,533,735 | - | 41,825,059 | - | 41,825,059 |
| 32 | 3,810,348,212 | 408,431,058 | 408,431,058 | - | 38,902,228 | - | 38,902,228 |
| 33 | 3,682,713,866 | 407,327,622 | 407,327,622 | - | 36,006,615 | - | 36,006,615 |
| 34 | 3,545,833,634 | 404,260,445 | 404,260,445 | - | 33,165,184 | - | 33,165,184 |
| 35 | 3,401,166,160 | 397,600,430 | 397,600,430 | - | 30,272,670 | - | 30,272,670 |
| 36 | 3,252,036,566 | 390,052,451 | 390,052,451 | - | 27,561,929 | - | 27,561,929 |
| 37 | 3,099,184,434 | 381,226,126 | 381,226,126 | - | 25,000,689 | - | 25,000,689 |
| 38 | 2,943,648,225 | 371,247,771 | 371,247,771 | - | 22,595,185 | - | 22,595,185 |
| 39 | 2,786,415,762 | 360,174,190 | 360,174,190 | - | 20,344,516 | - | 20,344,516 |
| 40 | 2,628,492,459 | 348,071,818 | 348,071,818 | - | 18,246,785 | - | 18,246,785 |
| 41 | 2,470,892,689 | 335,107,617 | 335,107,617 | - | 16,303,637 | - | 16,303,637 |
| 42 | 2,314,536,126 | 321,364,061 | 321,364,061 | - | 14,510,428 | - | 14,510,428 |
| 43 | 2,160,328,112 | 307,147,546 | 307,147,546 | - | 12,871,012 | - | 12,871,012 |
| 44 | 2,008,926,103 | 292,605,495 | 292,605,495 | - | 11,379,701 | - | 11,379,701 |
| 45 | 1,860,885,479 | 277,757,447 | 277,757,447 | - | 10,025,287 | - | 10,025,287 |
| 46 | 1,716,784,382 | 262,732,795 | 262,732,795 | - | 8,800,921 | - | 8,800,921 |
| 47 | 1,577,111,443 | 247,643,849 | 247,643,849 | - | 7,698,818 | - | 7,698,818 |
| 48 | 1,442,276,585 | 232,483,772 | 232,483,772 | - | 6,707,673 | - | 6,707,673 |
| 49 | 1,312,728,594 | 217,310,735 | 217,310,735 | - | 5,818,930 | - | 5,818,930 |
| 50 | 1,188,890,655 | 202,217,712 | 202,217,712 | - | 5,025,322 | - | 5,025,322 |

PAID SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS BEGINNING JANUARY 1, 2017
(YEARS 51-100)

| Year | Projected Beginning Plan Net Position | Projected Benefit Payments | Funded Portion of Projected Benefit Payments | Unfunded Portion of Projected 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 All Benefit Payments using Single Discount Rate (SDR) |
|---------------|---|-------------------------------|--|--|---|---|--|
| (a) | (b) | (c) | (d) | (e) | (f)=(d)*v ^{(a)-51} | (g)=(e)*vf ^{(a)-51} | (h)=((c)/(1+SDR) ^{(a)-51}) |
| 51 | \$ 1,071,122,241 | \$ 187,290,789 | \$ 187,290,789 | \$ - | \$ 4,319,603 | \$ - | \$ 4,319,603 |
| 52 | 959,721,324 | 172,609,263 | 172,609,263 | - | 3,694,658 | - | 3,694,658 |
| 53 | 854,926,655 | 158,247,984 | 158,247,984 | - | 3,143,627 | - | 3,143,627 |
| 54 | 756,917,795 | 144,278,127 | 144,278,127 | - | 2,659,966 | - | 2,659,966 |
| 55 | 665,814,336 | 130,766,360 | 130,766,360 | - | 2,237,455 | - | 2,237,455 |
| 56 | 581,675,938 | 117,775,640 | 117,775,640 | - | 1,870,236 | - | 1,870,236 |
| 57 | 504,501,531 | 105,365,237 | 105,365,237 | - | 1,552,820 | - | 1,552,820 |
| 58 | 434,228,442 | 93,588,912 | 93,588,912 | - | 1,280,062 | - | 1,280,062 |
| 59 | 370,733,331 | 82,494,568 | 82,494,568 | - | 1,047,164 | - | 1,047,164 |
| 60 | 313,833,578 | 72,123,025 | 72,123,025 | - | 849,661 | - | 849,661 |
| 61 | 263,290,034 | 62,505,687 | 62,505,687 | - | 683,399 | - | 683,399 |
| 62 | 218,812,422 | 53,665,582 | 53,665,582 | - | 544,544 | - | 544,544 |
| 63 | 180,064,063 | 45,617,808 | 45,617,808 | - | 429,590 | - | 429,590 |
| 64 | 146,666,513 | 38,367,739 | 38,367,739 | - | 335,327 | - | 335,327 |
| 65 | 118,206,420 | 31,910,920 | 31,910,920 | - | 258,836 | - | 258,836 |
| 66 | 94,243,022 | 26,231,960 | 26,231,960 | - | 197,469 | - | 197,469 |
| 67 | 74,317,374 | 21,303,108 | 21,303,108 | - | 148,831 | - | 148,831 |
| 68 | 57,963,769 | 17,085,170 | 17,085,170 | - | 110,778 | - | 110,778 |
| 69 | 44,721,094 | 13,529,280 | 13,529,280 | - | 81,412 | - | 81,412 |
| 70 | 34,143,221 | 10,577,999 | 10,577,999 | - | 59,075 | - | 59,075 |
| 71 | 25,809,073 | 8,167,740 | 8,167,740 | - | 42,333 | - | 42,333 |
| 72 | 19,330,942 | 6,231,510 | 6,231,510 | - | 29,975 | - | 29,975 |
| 73 | 14,360,615 | 4,701,249 | 4,701,249 | - | 20,987 | - | 20,987 |
| 74 | 10,593,539 | 3,510,850 | 3,510,850 | - | 14,546 | - | 14,546 |
| 75 | 7,770,182 | 2,598,723 | 2,598,723 | - | 9,992 | - | 9,992 |
| 76 | 5,674,827 | 1,909,399 | 1,909,399 | - | 6,814 | - | 6,814 |
| 77 | 4,132,618 | 1,394,796 | 1,394,796 | - | 4,619 | - | 4,619 |
| 78 | 3,005,060 | 1,014,718 | 1,014,718 | - | 3,119 | - | 3,119 |
| 79 | 2,184,648 | 736,430 | 736,430 | - | 2,101 | - | 2,101 |
| 80 | 1,589,524 | 534,010 | 534,010 | - | 1,414 | - | 1,414 |
| 81 | 1,158,395 | 387,436 | 387,436 | - | 952 | - | 952 |
| 82 | 846,002 | 281,519 | 281,519 | - | 642 | - | 642 |
| 83 | 619,343 | 205,034 | 205,034 | - | 434 | - | 434 |
| 84 | 454,511 | 149,734 | 149,734 | - | 294 | - | 294 |
| 85 | 334,309 | 109,655 | 109,655 | - | 200 | - | 200 |
| 86 | 246,392 | 80,565 | 80,565 | - | 136 | - | 136 |
| 87 | 181,859 | 59,358 | 59,358 | - | 93 | - | 93 |
| 88 | 134,338 | 43,847 | 43,847 | - | 64 | - | 64 |
| 89 | 99,235 | 32,487 | 32,487 | - | 44 | - | 44 |
| 90 | 73,204 | 24,138 | 24,138 | - | 30 | - | 30 |
| 91 | 53,821 | 17,961 | 17,961 | - | 21 | - | 21 |
| 92 | 39,348 | 13,389 | 13,389 | - | 14 | - | 14 |
| 93 | 28,500 | 9,980 | 9,980 | - | 10 | - | 10 |
| 94 | 20,349 | 7,398 | 7,398 | - | 7 | - | 7 |
| 95 | 14,247 | 5,441 | 5,441 | - | 5 | - | 5 |
| 96 | 9,703 | 3,951 | 3,951 | - | 3 | - | 3 |
| 97 | 6,353 | 2,821 | 2,821 | - | 2 | - | 2 |
| 98 | 3,918 | 1,981 | 1,981 | - | 1 | - | 1 |
| 99 | 2,165 | 1,373 | 1,373 | - | 1 | - | 1 |
| 100 | 907 | 940 | 940 | - | 1 | - | 1 |
| Totals | | | | | \$ 2,504,430,985 | \$ - | \$ 2,504,430,985 |

PAID SERVICE



VOLUNTEER SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS BEGINNING JANUARY 1, 2017
(YEARS 1-50)

| Year | Projected Number of Current Employees | Projected Contributions from Current Employees | Projected Service Cost and Expense Contributions | Projected UAL Contributions | Projected Total Contributions |
|------|--|---|--|-----------------------------------|-------------------------------------|
| 0 | 7,391 | | | | |
| 1 | 6,541 | \$ - | \$ 2,166,376 | \$ 2,705,430 | \$ 4,871,806 |
| 2 | 5,882 | - | 1,956,744 | 2,779,830 | 4,736,573 |
| 3 | 5,334 | - | 1,778,289 | 3,791,773 | 5,570,062 |
| 4 | 4,873 | - | 1,641,568 | 3,942,821 | 5,584,389 |
| 5 | 4,466 | - | 1,522,181 | 4,101,649 | 5,623,829 |
| 6 | 4,100 | - | 1,418,916 | 4,268,750 | 5,687,666 |
| 7 | 3,751 | - | 1,319,658 | 3,183,665 | 4,503,323 |
| 8 | 3,424 | - | 1,230,263 | 3,271,215 | 4,501,479 |
| 9 | 3,121 | - | 1,147,364 | 3,361,174 | 4,508,538 |
| 10 | 2,838 | - | 1,072,362 | 3,453,606 | 4,525,968 |
| 11 | 2,579 | - | 1,000,858 | 3,548,580 | 4,549,438 |
| 12 | 2,338 | - | 939,108 | 3,646,166 | 4,585,274 |
| 13 | 2,117 | - | 882,852 | 3,746,436 | 4,629,287 |
| 14 | 1,914 | - | 832,120 | 3,849,463 | 4,681,583 |
| 15 | 1,725 | - | 786,548 | 3,955,323 | 4,741,871 |
| 16 | 1,552 | - | 744,632 | 4,064,094 | 4,808,727 |
| 17 | 1,394 | - | 705,924 | 4,175,857 | 4,881,781 |
| 18 | 1,250 | - | 673,010 | 4,290,693 | 4,963,703 |
| 19 | 1,116 | - | 643,626 | 4,408,687 | 5,052,314 |
| 20 | 994 | - | 618,416 | 2,291,867 | 2,910,283 |
| 21 | 882 | - | 591,990 | - | 591,990 |
| 22 | 778 | - | 563,413 | - | 563,413 |
| 23 | 682 | - | 535,969 | - | 535,969 |
| 24 | 594 | - | 508,728 | - | 508,728 |
| 25 | 513 | - | 485,479 | - | 485,479 |
| 26 | 439 | - | 462,500 | - | 462,500 |
| 27 | 371 | - | 440,403 | - | 440,403 |
| 28 | 310 | - | 421,635 | - | 421,635 |
| 29 | 258 | - | 401,363 | - | 401,363 |
| 30 | 214 | - | 382,083 | - | 382,083 |
| 31 | 177 | - | 363,585 | - | 363,585 |
| 32 | 146 | - | 347,110 | - | 347,110 |
| 33 | 121 | - | 332,133 | - | 332,133 |
| 34 | 99 | - | 316,110 | - | 316,110 |
| 35 | 81 | - | 301,092 | - | 301,092 |
| 36 | 66 | - | 287,783 | - | 287,783 |
| 37 | 53 | - | 273,680 | - | 273,680 |
| 38 | 43 | - | 258,205 | - | 258,205 |
| 39 | 34 | - | 244,858 | - | 244,858 |
| 40 | 27 | - | 231,322 | - | 231,322 |
| 41 | 21 | - | 217,938 | - | 217,938 |
| 42 | 16 | - | 203,865 | - | 203,865 |
| 43 | 12 | - | 192,087 | - | 192,087 |
| 44 | 9 | - | 180,941 | - | 180,941 |
| 45 | 7 | - | 167,448 | - | 167,448 |
| 46 | 5 | - | 155,468 | - | 155,468 |
| 47 | 3 | - | 143,642 | - | 143,642 |
| 48 | 2 | - | 132,315 | - | 132,315 |
| 49 | 2 | - | 121,703 | - | 121,703 |
| 50 | 1 | - | 111,550 | - | 111,550 |

VOLUNTEER SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS BEGINNING JANUARY 1, 2017
(YEARS 51-100)

| Year | Projected Number of Current Employees | Projected Contributions from Current Employees | Projected Service Cost and Expense Contributions | Projected UAL Contributions | Projected Total Contributions |
|------|--|---|--|-----------------------------------|-------------------------------------|
| 51 | 1 | \$ - | \$ 101,792 | \$ - | \$ 101,792 |
| 52 | - | - | 92,455 | - | 92,455 |
| 53 | - | - | 83,561 | - | 83,561 |
| 54 | - | - | 75,131 | - | 75,131 |
| 55 | - | - | 67,181 | - | 67,181 |
| 56 | - | - | 59,725 | - | 59,725 |
| 57 | - | - | 52,773 | - | 52,773 |
| 58 | - | - | 46,331 | - | 46,331 |
| 59 | - | - | 40,398 | - | 40,398 |
| 60 | - | - | 34,973 | - | 34,973 |
| 61 | - | - | 30,047 | - | 30,047 |
| 62 | - | - | 25,610 | - | 25,610 |
| 63 | - | - | 21,645 | - | 21,645 |
| 64 | - | - | 18,133 | - | 18,133 |
| 65 | - | - | 15,051 | - | 15,051 |
| 66 | - | - | 12,372 | - | 12,372 |
| 67 | - | - | 10,069 | - | 10,069 |
| 68 | - | - | 8,110 | - | 8,110 |
| 69 | - | - | 6,462 | - | 6,462 |
| 70 | - | - | 5,094 | - | 5,094 |
| 71 | - | - | 3,971 | - | 3,971 |
| 72 | - | - | 3,062 | - | 3,062 |
| 73 | - | - | 2,335 | - | 2,335 |
| 74 | - | - | 1,762 | - | 1,762 |
| 75 | - | - | 1,316 | - | 1,316 |
| 76 | - | - | 974 | - | 974 |
| 77 | - | - | 714 | - | 714 |
| 78 | - | - | 519 | - | 519 |
| 79 | - | - | 374 | - | 374 |
| 80 | - | - | 267 | - | 267 |
| 81 | - | - | 190 | - | 190 |
| 82 | - | - | 134 | - | 134 |
| 83 | - | - | 93 | - | 93 |
| 84 | - | - | 65 | - | 65 |
| 85 | - | - | 44 | - | 44 |
| 86 | - | - | 30 | - | 30 |
| 87 | - | - | 20 | - | 20 |
| 88 | - | - | 13 | - | 13 |
| 89 | - | - | 9 | - | 9 |
| 90 | - | - | 6 | - | 6 |
| 91 | - | - | 4 | - | 4 |
| 92 | - | - | 2 | - | 2 |
| 93 | - | - | 1 | - | 1 |
| 94 | - | - | 1 | - | 1 |
| 95 | - | - | - | - | - |
| 96 | - | - | - | - | - |
| 97 | - | - | - | - | - |
| 98 | - | - | - | - | - |
| 99 | - | - | - | - | - |
| 100 | - | - | - | - | - |

VOLUNTEER SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION BEGINNING JANUARY 1, 2017
(YEARS 1-50)

| Year | Projected Beginning Plan Net Position | Projected Total Contributions | Projected Benefit Payments | Projected Administrative Expenses | Projected Investment Earnings at 7.75% | Projected Ending Plan Net Position |
|------|---|-------------------------------------|-------------------------------|---|---|--|
| | (a) | (b) | (c) | (d) | (e) | (f)=(a)+(b)-(c)-(d)+(e) |
| 1 | \$ 66,681,172 | \$ 4,871,806 | \$ 3,189,615 | \$ 120,026 | \$ 5,227,195 | \$ 73,470,532 |
| 2 | 73,470,532 | 4,736,573 | 3,647,399 | 132,247 | 5,730,355 | 80,157,815 |
| 3 | 80,157,815 | 5,570,062 | 4,096,214 | 144,284 | 6,262,790 | 87,750,168 |
| 4 | 87,750,168 | 5,584,389 | 4,554,210 | 157,950 | 6,833,806 | 95,456,203 |
| 5 | 95,456,203 | 5,623,829 | 5,050,066 | 171,821 | 7,413,140 | 103,271,286 |
| 6 | 103,271,286 | 5,687,666 | 5,573,417 | 185,888 | 8,000,800 | 111,200,447 |
| 7 | 111,200,447 | 4,503,323 | 6,099,684 | 200,161 | 8,549,718 | 117,953,643 |
| 8 | 117,953,643 | 4,501,479 | 6,664,616 | 212,317 | 9,051,076 | 124,629,264 |
| 9 | 124,629,264 | 4,508,538 | 7,240,915 | 224,333 | 9,546,333 | 131,218,888 |
| 10 | 131,218,888 | 4,525,968 | 7,818,190 | 236,194 | 10,035,289 | 137,725,760 |
| 11 | 137,725,760 | 4,549,438 | 8,404,096 | 247,906 | 10,517,738 | 144,140,935 |
| 12 | 144,140,935 | 4,585,274 | 8,993,983 | 259,454 | 10,993,406 | 150,466,178 |
| 13 | 150,466,178 | 4,629,287 | 9,607,456 | 270,839 | 11,461,525 | 156,678,695 |
| 14 | 156,678,695 | 4,681,583 | 10,223,540 | 282,022 | 11,921,131 | 162,775,847 |
| 15 | 162,775,847 | 4,741,871 | 10,836,053 | 292,997 | 12,372,243 | 168,760,911 |
| 16 | 168,760,911 | 4,808,727 | 11,467,970 | 303,770 | 12,814,188 | 174,612,086 |
| 17 | 174,612,086 | 4,881,781 | 12,079,464 | 314,302 | 13,246,779 | 180,346,879 |
| 18 | 180,346,879 | 4,963,703 | 12,656,687 | 324,624 | 13,671,998 | 186,001,269 |
| 19 | 186,001,269 | 5,052,314 | 13,207,790 | 334,802 | 14,092,239 | 191,603,229 |
| 20 | 191,603,229 | 2,910,283 | 13,748,974 | 344,886 | 14,423,973 | 194,843,625 |
| 21 | 194,843,625 | 591,990 | 14,269,322 | 350,719 | 14,566,937 | 195,382,510 |
| 22 | 195,382,510 | 563,413 | 14,765,541 | 351,689 | 14,588,707 | 195,417,400 |
| 23 | 195,417,400 | 535,969 | 15,252,143 | 351,751 | 14,571,861 | 194,921,336 |
| 24 | 194,921,336 | 508,728 | 15,690,157 | 350,858 | 14,515,758 | 193,904,807 |
| 25 | 193,904,807 | 485,479 | 16,094,750 | 349,029 | 14,420,777 | 192,367,283 |
| 26 | 192,367,283 | 462,500 | 16,457,077 | 346,261 | 14,287,072 | 190,313,517 |
| 27 | 190,313,517 | 440,403 | 16,794,765 | 342,564 | 14,114,364 | 187,730,955 |
| 28 | 187,730,955 | 421,635 | 17,104,432 | 337,916 | 13,901,903 | 184,612,145 |
| 29 | 184,612,145 | 401,363 | 17,341,454 | 332,302 | 13,650,624 | 180,990,377 |
| 30 | 180,990,377 | 382,083 | 17,505,271 | 325,783 | 13,363,223 | 176,904,628 |
| 31 | 176,904,628 | 363,585 | 17,593,329 | 318,428 | 13,042,805 | 172,399,261 |
| 32 | 172,399,261 | 347,110 | 17,626,575 | 310,319 | 12,692,056 | 167,501,534 |
| 33 | 167,501,534 | 332,133 | 17,612,702 | 301,503 | 12,312,776 | 162,232,239 |
| 34 | 162,232,239 | 316,110 | 17,536,228 | 292,018 | 11,907,065 | 156,627,168 |
| 35 | 156,627,168 | 301,092 | 17,399,911 | 281,929 | 11,477,668 | 150,724,088 |
| 36 | 150,724,088 | 287,783 | 17,187,383 | 271,303 | 11,028,159 | 144,581,345 |
| 37 | 144,581,345 | 273,680 | 16,920,540 | 260,246 | 10,562,128 | 138,236,368 |
| 38 | 138,236,368 | 258,205 | 16,601,680 | 248,825 | 10,082,364 | 131,726,431 |
| 39 | 131,726,431 | 244,858 | 16,209,815 | 237,108 | 9,592,683 | 125,117,049 |
| 40 | 125,117,049 | 231,322 | 15,768,181 | 225,211 | 9,097,187 | 118,452,167 |
| 41 | 118,452,167 | 217,938 | 15,286,590 | 213,214 | 8,598,920 | 111,769,222 |
| 42 | 111,769,222 | 203,865 | 14,763,487 | 201,185 | 8,100,806 | 105,109,221 |
| 43 | 105,109,221 | 192,087 | 14,197,038 | 189,197 | 7,606,204 | 98,521,278 |
| 44 | 98,521,278 | 180,941 | 13,601,773 | 177,338 | 7,118,302 | 92,041,409 |
| 45 | 92,041,409 | 167,448 | 12,992,722 | 165,675 | 6,639,203 | 85,689,662 |
| 46 | 85,689,662 | 155,468 | 12,372,966 | 154,241 | 6,170,489 | 79,488,412 |
| 47 | 79,488,412 | 143,642 | 11,745,845 | 143,079 | 5,713,714 | 73,456,844 |
| 48 | 73,456,844 | 132,315 | 11,114,686 | 132,222 | 5,270,251 | 67,612,502 |
| 49 | 67,612,502 | 121,703 | 10,481,839 | 121,703 | 4,841,376 | 61,972,039 |
| 50 | 61,972,039 | 111,550 | 9,849,265 | 111,550 | 4,428,295 | 56,551,069 |

VOLUNTEER SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION BEGINNING JANUARY 1, 2017
(YEARS 51-100)

| Year | Projected Beginning Plan Net Position | Projected Total Contributions | Projected Benefit Payments | Projected Administrative Expenses | Projected Investment Earnings at 7.75% | Projected Ending Plan Net Position |
|------|---|-------------------------------------|-------------------------------|---|---|--|
| | (a) | (b) | (c) | (d) | (e) | (f)=(a)+(b)-(c)-(d)+(e) |
| 51 | \$ 56,551,069 | \$ 101,792 | \$ 9,219,457 | \$ 101,792 | \$ 4,032,120 | \$ 51,363,732 |
| 52 | 51,363,732 | 92,455 | 8,594,871 | 92,455 | 3,653,852 | 46,422,713 |
| 53 | 46,422,713 | 83,561 | 7,977,910 | 83,561 | 3,294,384 | 41,739,187 |
| 54 | 41,739,187 | 75,131 | 7,371,002 | 75,131 | 2,954,490 | 37,322,675 |
| 55 | 37,322,675 | 67,181 | 6,776,780 | 67,181 | 2,634,807 | 33,180,703 |
| 56 | 33,180,703 | 59,725 | 6,197,928 | 59,725 | 2,335,816 | 29,318,590 |
| 57 | 29,318,590 | 52,773 | 5,637,089 | 52,773 | 2,057,829 | 25,739,331 |
| 58 | 25,739,331 | 46,331 | 5,096,770 | 46,331 | 1,800,983 | 22,443,543 |
| 59 | 22,443,543 | 40,398 | 4,579,317 | 40,398 | 1,565,237 | 19,429,464 |
| 60 | 19,429,464 | 34,973 | 4,086,850 | 34,973 | 1,350,373 | 16,692,986 |
| 61 | 16,692,986 | 30,047 | 3,621,285 | 30,047 | 1,156,000 | 14,227,701 |
| 62 | 14,227,701 | 25,610 | 3,184,336 | 25,610 | 981,556 | 12,024,920 |
| 63 | 12,024,920 | 21,645 | 2,777,434 | 21,645 | 826,314 | 10,073,800 |
| 64 | 10,073,800 | 18,133 | 2,401,675 | 18,133 | 689,391 | 8,361,516 |
| 65 | 8,361,516 | 15,051 | 2,057,769 | 15,051 | 569,767 | 6,873,514 |
| 66 | 6,873,514 | 12,372 | 1,746,005 | 12,372 | 466,302 | 5,593,811 |
| 67 | 5,593,811 | 10,069 | 1,466,265 | 10,069 | 377,763 | 4,505,309 |
| 68 | 4,505,309 | 8,110 | 1,218,042 | 8,110 | 302,843 | 3,590,110 |
| 69 | 3,590,110 | 6,462 | 1,000,425 | 6,462 | 240,190 | 2,829,875 |
| 70 | 2,829,875 | 5,094 | 812,087 | 5,094 | 188,434 | 2,206,222 |
| 71 | 2,206,222 | 3,971 | 651,283 | 3,971 | 146,216 | 1,701,155 |
| 72 | 1,701,155 | 3,062 | 515,908 | 3,062 | 112,221 | 1,297,468 |
| 73 | 1,297,468 | 2,335 | 403,591 | 2,335 | 85,206 | 979,083 |
| 74 | 979,083 | 1,762 | 311,817 | 1,762 | 64,021 | 731,287 |
| 75 | 731,287 | 1,316 | 237,992 | 1,316 | 47,625 | 540,920 |
| 76 | 540,920 | 974 | 179,536 | 974 | 35,094 | 396,478 |
| 77 | 396,478 | 714 | 133,968 | 714 | 25,633 | 288,142 |
| 78 | 288,142 | 519 | 98,977 | 519 | 18,567 | 207,733 |
| 79 | 207,733 | 374 | 72,471 | 374 | 13,343 | 148,606 |
| 80 | 148,606 | 267 | 52,629 | 267 | 9,516 | 105,492 |
| 81 | 105,492 | 190 | 37,929 | 190 | 6,733 | 74,296 |
| 82 | 74,296 | 134 | 27,134 | 134 | 4,726 | 51,888 |
| 83 | 51,888 | 93 | 19,266 | 93 | 3,289 | 35,910 |
| 84 | 35,910 | 65 | 13,571 | 65 | 2,267 | 24,607 |
| 85 | 24,607 | 44 | 9,474 | 44 | 1,547 | 16,680 |
| 86 | 16,680 | 30 | 6,549 | 30 | 1,044 | 11,174 |
| 87 | 11,174 | 20 | 4,477 | 20 | 696 | 7,393 |
| 88 | 7,393 | 13 | 3,024 | 13 | 458 | 4,827 |
| 89 | 4,827 | 9 | 2,016 | 9 | 297 | 3,109 |
| 90 | 3,109 | 6 | 1,325 | 6 | 191 | 1,975 |
| 91 | 1,975 | 4 | 859 | 4 | 120 | 1,236 |
| 92 | 1,236 | 2 | 549 | 2 | 75 | 763 |
| 93 | 763 | 1 | 346 | 1 | 46 | 462 |
| 94 | 462 | 1 | 216 | 1 | 28 | 274 |
| 95 | 274 | - | 133 | - | 16 | 157 |
| 96 | 157 | - | 80 | - | 9 | 87 |
| 97 | 87 | - | 46 | - | 5 | 46 |
| 98 | 46 | - | 26 | - | 3 | 22 |
| 99 | 22 | - | 14 | - | 1 | 10 |
| 100 | 10 | - | 10 | - | - | - |

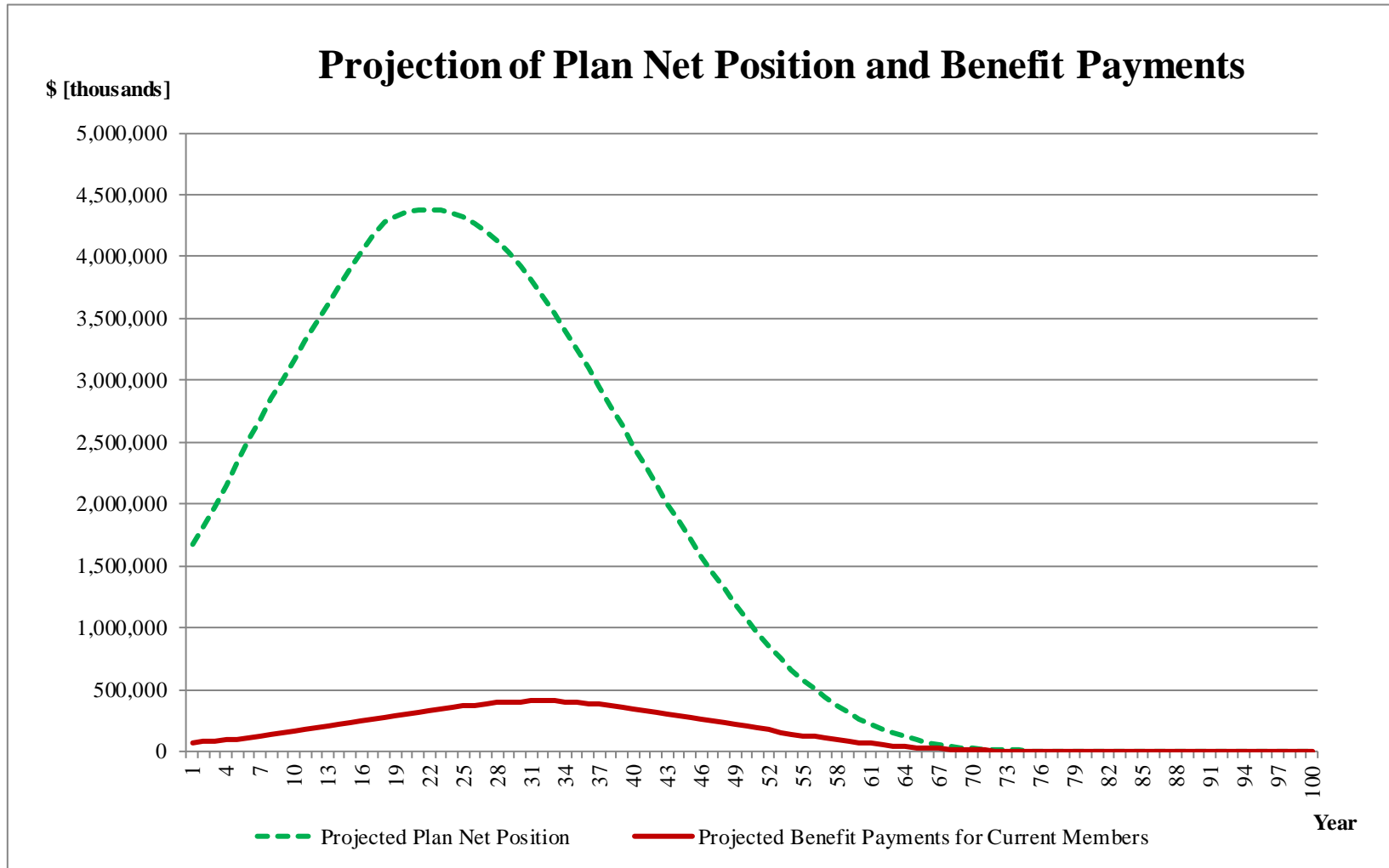
VOLUNTEER SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS BEGINNING JANUARY 1, 2017
(YEARS 1-50)

| Year | Projected Plan Net Position | Projected Benefit Payments | Funded Portion of Projected Benefit Payments | Unfunded Portion of Projected 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 All 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} |
| 1 | \$ 66,681,172 | \$ 3,189,615 | \$ 3,189,615 | \$ - | \$ 3,072,767 | \$ - | \$ 3,072,767 |
| 2 | 73,470,532 | 3,647,399 | 3,647,399 | - | 3,261,049 | - | 3,261,049 |
| 3 | 80,157,815 | 4,096,214 | 4,096,214 | - | 3,398,908 | - | 3,398,908 |
| 4 | 87,750,168 | 4,554,210 | 4,554,210 | - | 3,507,136 | - | 3,507,136 |
| 5 | 95,456,203 | 5,050,066 | 5,050,066 | - | 3,609,269 | - | 3,609,269 |
| 6 | 103,271,286 | 5,573,417 | 5,573,417 | - | 3,696,805 | - | 3,696,805 |
| 7 | 111,200,447 | 6,099,684 | 6,099,684 | - | 3,754,871 | - | 3,754,871 |
| 8 | 117,953,643 | 6,664,616 | 6,664,616 | - | 3,807,550 | - | 3,807,550 |
| 9 | 124,629,264 | 7,240,915 | 7,240,915 | - | 3,839,252 | - | 3,839,252 |
| 10 | 131,218,888 | 7,818,190 | 7,818,190 | - | 3,847,176 | - | 3,847,176 |
| 11 | 137,725,760 | 8,404,096 | 8,404,096 | - | 3,838,041 | - | 3,838,041 |
| 12 | 144,140,935 | 8,993,983 | 8,993,983 | - | 3,812,004 | - | 3,812,004 |
| 13 | 150,466,178 | 9,607,456 | 9,607,456 | - | 3,779,135 | - | 3,779,135 |
| 14 | 156,678,695 | 10,223,540 | 10,223,540 | - | 3,732,227 | - | 3,732,227 |
| 15 | 162,775,847 | 10,836,053 | 10,836,053 | - | 3,671,306 | - | 3,671,306 |
| 16 | 168,760,911 | 11,467,970 | 11,467,970 | - | 3,605,942 | - | 3,605,942 |
| 17 | 174,612,086 | 12,079,464 | 12,079,464 | - | 3,525,028 | - | 3,525,028 |
| 18 | 180,346,879 | 12,656,687 | 12,656,687 | - | 3,427,817 | - | 3,427,817 |
| 19 | 186,001,269 | 13,207,790 | 13,207,790 | - | 3,319,789 | - | 3,319,789 |
| 20 | 191,603,229 | 13,748,974 | 13,748,974 | - | 3,207,254 | - | 3,207,254 |
| 21 | 194,843,625 | 14,269,322 | 14,269,322 | - | 3,089,222 | - | 3,089,222 |
| 22 | 195,382,510 | 14,765,541 | 14,765,541 | - | 2,966,729 | - | 2,966,729 |
| 23 | 195,417,400 | 15,252,143 | 15,252,143 | - | 2,844,082 | - | 2,844,082 |
| 24 | 194,921,336 | 15,690,157 | 15,690,157 | - | 2,715,321 | - | 2,715,321 |
| 25 | 193,904,807 | 16,094,750 | 16,094,750 | - | 2,585,002 | - | 2,585,002 |
| 26 | 192,367,283 | 16,457,077 | 16,457,077 | - | 2,453,082 | - | 2,453,082 |
| 27 | 190,313,517 | 16,794,765 | 16,794,765 | - | 2,323,357 | - | 2,323,357 |
| 28 | 187,730,955 | 17,104,432 | 17,104,432 | - | 2,196,006 | - | 2,196,006 |
| 29 | 184,612,145 | 17,341,454 | 17,341,454 | - | 2,066,298 | - | 2,066,298 |
| 30 | 180,990,377 | 17,505,271 | 17,505,271 | - | 1,935,794 | - | 1,935,794 |
| 31 | 176,904,628 | 17,593,329 | 17,593,329 | - | 1,805,598 | - | 1,805,598 |
| 32 | 172,399,261 | 17,626,575 | 17,626,575 | - | 1,678,895 | - | 1,678,895 |
| 33 | 167,501,534 | 17,612,702 | 17,612,702 | - | 1,556,913 | - | 1,556,913 |
| 34 | 162,232,239 | 17,536,228 | 17,536,228 | - | 1,438,657 | - | 1,438,657 |
| 35 | 156,627,168 | 17,399,911 | 17,399,911 | - | 1,324,802 | - | 1,324,802 |
| 36 | 150,724,088 | 17,187,383 | 17,187,383 | - | 1,214,497 | - | 1,214,497 |
| 37 | 144,581,345 | 16,920,540 | 16,920,540 | - | 1,109,644 | - | 1,109,644 |
| 38 | 138,236,368 | 16,601,680 | 16,601,680 | - | 1,010,425 | - | 1,010,425 |
| 39 | 131,726,431 | 16,209,815 | 16,209,815 | - | 915,615 | - | 915,615 |
| 40 | 125,117,049 | 15,768,181 | 15,768,181 | - | 826,607 | - | 826,607 |
| 41 | 118,452,167 | 15,286,590 | 15,286,590 | - | 743,722 | - | 743,722 |
| 42 | 111,769,222 | 14,763,487 | 14,763,487 | - | 666,610 | - | 666,610 |
| 43 | 105,109,221 | 14,197,038 | 14,197,038 | - | 594,927 | - | 594,927 |
| 44 | 98,521,278 | 13,601,773 | 13,601,773 | - | 528,986 | - | 528,986 |
| 45 | 92,041,409 | 12,992,722 | 12,992,722 | - | 468,955 | - | 468,955 |
| 46 | 85,689,662 | 12,372,966 | 12,372,966 | - | 414,465 | - | 414,465 |
| 47 | 79,488,412 | 11,745,845 | 11,745,845 | - | 365,158 | - | 365,158 |
| 48 | 73,456,844 | 11,114,686 | 11,114,686 | - | 320,683 | - | 320,683 |
| 49 | 67,612,502 | 10,481,839 | 10,481,839 | - | 280,672 | - | 280,672 |
| 50 | 61,972,039 | 9,849,265 | 9,849,265 | - | 244,765 | - | 244,765 |

VOLUNTEER SERVICE
SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS BEGINNING JANUARY 1, 2017
(YEARS 51-100)

| Year | Projected Beginning Plan Net Position | Projected Benefit Payments | Funded Portion of Projected Benefit Payments | Unfunded Portion of Projected 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 All 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) |
| 51 | \$ 56,551,069 | \$ 9,219,457 | \$ 9,219,457 | \$ - | \$ 212,634 | \$ - | \$ 212,634 |
| 52 | 51,363,732 | 8,594,871 | 8,594,871 | - | 183,971 | - | 183,971 |
| 53 | 46,422,713 | 7,977,910 | 7,977,910 | - | 158,483 | - | 158,483 |
| 54 | 41,739,187 | 7,371,002 | 7,371,002 | - | 135,895 | - | 135,895 |
| 55 | 37,322,675 | 6,776,780 | 6,776,780 | - | 115,953 | - | 115,953 |
| 56 | 33,180,703 | 6,197,928 | 6,197,928 | - | 98,421 | - | 98,421 |
| 57 | 29,318,590 | 5,637,089 | 5,637,089 | - | 83,077 | - | 83,077 |
| 58 | 25,739,331 | 5,096,770 | 5,096,770 | - | 69,711 | - | 69,711 |
| 59 | 22,443,543 | 4,579,317 | 4,579,317 | - | 58,129 | - | 58,129 |
| 60 | 19,429,464 | 4,086,850 | 4,086,850 | - | 48,146 | - | 48,146 |
| 61 | 16,692,986 | 3,621,285 | 3,621,285 | - | 39,593 | - | 39,593 |
| 62 | 14,227,701 | 3,184,336 | 3,184,336 | - | 32,311 | - | 32,311 |
| 63 | 12,024,920 | 2,777,434 | 2,777,434 | - | 26,156 | - | 26,156 |
| 64 | 10,073,800 | 2,401,675 | 2,401,675 | - | 20,990 | - | 20,990 |
| 65 | 8,361,516 | 2,057,769 | 2,057,769 | - | 16,691 | - | 16,691 |
| 66 | 6,873,514 | 1,746,005 | 1,746,005 | - | 13,144 | - | 13,144 |
| 67 | 5,593,811 | 1,466,265 | 1,466,265 | - | 10,244 | - | 10,244 |
| 68 | 4,505,309 | 1,218,042 | 1,218,042 | - | 7,898 | - | 7,898 |
| 69 | 3,590,110 | 1,000,425 | 1,000,425 | - | 6,020 | - | 6,020 |
| 70 | 2,829,875 | 812,087 | 812,087 | - | 4,535 | - | 4,535 |
| 71 | 2,206,222 | 651,283 | 651,283 | - | 3,376 | - | 3,376 |
| 72 | 1,701,155 | 515,908 | 515,908 | - | 2,482 | - | 2,482 |
| 73 | 1,297,468 | 403,591 | 403,591 | - | 1,802 | - | 1,802 |
| 74 | 979,083 | 311,817 | 311,817 | - | 1,292 | - | 1,292 |
| 75 | 731,287 | 237,992 | 237,992 | - | 915 | - | 915 |
| 76 | 540,920 | 179,536 | 179,536 | - | 641 | - | 641 |
| 77 | 396,478 | 133,968 | 133,968 | - | 444 | - | 444 |
| 78 | 288,142 | 98,977 | 98,977 | - | 304 | - | 304 |
| 79 | 207,733 | 72,471 | 72,471 | - | 207 | - | 207 |
| 80 | 148,606 | 52,629 | 52,629 | - | 139 | - | 139 |
| 81 | 105,492 | 37,929 | 37,929 | - | 93 | - | 93 |
| 82 | 74,296 | 27,134 | 27,134 | - | 62 | - | 62 |
| 83 | 51,888 | 19,266 | 19,266 | - | 41 | - | 41 |
| 84 | 35,910 | 13,571 | 13,571 | - | 27 | - | 27 |
| 85 | 24,607 | 9,474 | 9,474 | - | 17 | - | 17 |
| 86 | 16,680 | 6,549 | 6,549 | - | 11 | - | 11 |
| 87 | 11,174 | 4,477 | 4,477 | - | 7 | - | 7 |
| 88 | 7,393 | 3,024 | 3,024 | - | 4 | - | 4 |
| 89 | 4,827 | 2,016 | 2,016 | - | 3 | - | 3 |
| 90 | 3,109 | 1,325 | 1,325 | - | 2 | - | 2 |
| 91 | 1,975 | 859 | 859 | - | 1 | - | 1 |
| 92 | 1,236 | 549 | 549 | - | 1 | - | 1 |
| 93 | 763 | 346 | 346 | - | - | - | - |
| 94 | 462 | 216 | 216 | - | - | - | - |
| 95 | 274 | 133 | 133 | - | - | - | - |
| 96 | 157 | 80 | 80 | - | - | - | - |
| 97 | 87 | 46 | 46 | - | - | - | - |
| 98 | 46 | 26 | 26 | - | - | - | - |
| 99 | 22 | 14 | 14 | - | - | - | - |
| 100 | 10 | 10 | 10 | - | - | - | - |
| Totals | | | | | \$ 115,752,686 | \$ - | \$ 115,752,686 |

VOLUNTEER SERVICE



SECTION H

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

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| <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 covered employees, which is typically only the pensionable pay and does not include pay above any pay cap. |
| <i>Deferred Retirement Option Program (DROP)</i> | A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report. |
| <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

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| <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. |
| <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 market value of the assets of the trust dedicated to the defined benefit provisions. |
| <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. 67, 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 statements, 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. |

GLOSSARY OF TERMS

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| <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. |
| <i>Total Pension Expense</i> | The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none"> 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 |
| <i>Total Pension Liability (TPL)</i> | The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. |
| <i>Unfunded Actuarial Accrued Liability (UAAL)</i> | The UAAL is the difference between actuarial accrued liability and valuation assets. |
| <i>Valuation Assets</i> | 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. |