Gabriel Roeder Smith & Company
Consultants & Actuaries

CITY OF FAIRFAX RETIREMENT PLAN FOR GENERAL EMPLOYEES

GASB STATEMENT NOS. 67 AND 68 ACCOUNTING AND FINANCIAL REPORTING FOR PENSIONS

JUNE 30, 2016

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November 11, 2016

Administrative Committee
City of Fairfax Retirement Plan for General Employees

Dear Ladies and Gentlemen:

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 City of Fairfax Retirement Plan for General Employees ("the City"). These calculations have been made on a basis that is consistent with our understanding of these Statements.

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. The calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the City of Fairfax Retirement Plan for General Employees ("the City") only in its entirety and only with the permission of the City. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by the City, 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.

This report complements the actuarial valuation report that was provided to the City and should be considered in conjunction with that report. Please see the actuarial valuation report as of June 30, 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 City of Fairfax Retirement Plan for General Employees. 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 intended to assist in preparation of the financial statements of the City of Fairfax Retirement Plan for General Employees. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

The signing actuaries are independent of the plan sponsor.

Brian B. Murphy, Heidi G. Barry and Shana M. Neeson 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,

Brian B Murphy

Brian B. Murphy, FSA, EA, FCA, MAAA

Heidi G Barry

Heidi G. Barry, ASA, MAAA

Shana M Neeson

Shana M. Neeson, ASA, MAAA

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY
AS OF JUNE 30, 2016

		2016
Actuarial Valuation Date		June 30, 2016
Measurement Date of the Net Pension Liability		June 30, 2016
Employer's Fiscal Year Ending Date (Reporting Date)		June 30, 2016
Membership		
Number of		
- Retirees and Beneficiaries		208
- Inactive, Nonretired Members		34
- Active Members		254
- Total		496
Covered Payroll^	$	16,835,961
Net Pension Liability		
Total Pension Liability	$	58,074,861
Plan Fiduciary Net Position		54,097,439
Net Pension Liability	$	3,977,422
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		93.15%
Net Pension Liability as a Percentage of Covered Payroll		23.62%
Development of the Single Discount Rate		
Single Discount Rate		6.75%
Long-Term Expected Rate of Investment Return		6.75%
Long-Term Municipal Bond Rate*		2.85%
Last year ending June 30 in the 2017 to 2116 projection period for which projected benefit payments are fully funded		2087
Total Pension Expense	$	2,287,815

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$ -	$ 1,590,801
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	6,412,506	-
Total	$ 6,412,506	$ 1,590,801

**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 June 30, 2016, the most recent date available on or before the measurement date.*

^Based on June 30 census data, covered employee payroll for employer's disclosure may differ.

DISCUSSION

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the City subsequent to the measurement date of June 30, 2016.

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

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

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 6.75% on the actuarial value of assets), then the following outcomes are expected:

1. The employer normal cost as a percentage of pay will decrease to the level of the current new entrants (i.e. members hired after July 1, 2014) normal cost as time passes and the majority of the active population is comprised of members hired after this date;
2. A small unfunded liability will remain for an extended period;
3. The unfunded liability is not expected to be fully amortized during the lifetimes of current members; and
4. The funded status of the plan is expected to increase gradually towards a 100% funded ratio.

This funding policy results in an expected crossover date in 2087 and a GASB single discount rate of 6.75%. The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. 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 June 30, 2016 and a measurement date of June 30, 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 an index of 20-year general obligation bonds with an average AA credit rating (which is published by 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 6.75%; the municipal bond rate is 2.85% (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 6.75%.

SECTION B

FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Fairfax Retirement Plan for General Employees. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

PENSION EXPENSE UNDER GASB STATEMENT NO. 68
FISCAL YEAR ENDED JUNE 30, 2016

A. Expense

1. Service Cost	$	1,321,396
2. Interest on the Total Pension Liability		3,825,762
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		(489,511)
5. Projected Earnings on Plan Investments (made negative for addition here)		(3,769,085)
6. Pension Plan Administrative Expense		-
7. Other Changes in Plan Fiduciary Net Position		(30,167)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		(399,359)
9. Recognition of Outflow (Inflow) of Resources due to Assets		1,828,779
10. Total Pension Expense	**$**	**2,287,815**

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM THE CURRENT REPORTING PERIOD

FISCAL YEAR ENDED JUNE 30, 2016

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	(1,571,490)
2. Assumption Changes (gains) or losses	$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		5.2279
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	$	(300,597)
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	$	(300,597)
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	$	(1,270,893)
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	$	(1,270,893)
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	4,630,859
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	926,172
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	3,704,687

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM THE CURRENT AND PRIOR REPORTING PERIODS
FISCAL YEAR ENDED JUNE 30

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ -	$ 399,359	$ (399,359)
2. Due to Assets	1,828,779	-	1,828,779
3. Total	$ 1,828,779	$ 399,359	$ 1,429,420

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 399,359	$ (399,359)
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	1,828,779	-	1,828,779
4. Total	$ 1,828,779	$ 399,359	$ 1,429,420

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 1,590,801	$ (1,590,801)
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	6,412,506	-	6,412,506
4. Total	$ 6,412,506	$ 1,590,801	$ 4,821,705

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

Year Ending June 30	Net Deferred Outflows of Resources
2017	$ 1,429,420
2018	1,429,420
2019	1,429,418
2020	601,952
2021	(68,505)
Thereafter	-
Total	$ 4,821,705

STATEMENT OF FIDUCIARY NET POSITION
AS OF JUNE 30, 2016

		2016*
Assets		
Cash and Deposits	$	-
Receivables		
Accounts Receivable - Sale of Investments	$	-
Accrued Interest and Other Dividends		-
Contributions		-
Accounts Receivable - Other		-
Total Receivables	$	-
Investments		
Money Market Fund	$	1,013,654
Common Stock		10,005,523
Mutual Funds		43,074,163
Real Estate		-
Accrued Income		4,099
Total Investments	$	54,097,439
Total Assets	$	54,097,439
Liabilities		
Payables		
Accounts Payable - Purchase of Investments	$	-
Accrued Expenses		-
Accounts Payable - Other		-
Total Liabilities	$	-
Net Position Restricted for Pensions	$	54,097,439

* *Assets by category were provided by the plan administrator in total for both the Public Safety Retirement Plan and the General Employees Retirement Plan. The numbers above were computed by prorating based on the market value of the General Employees Plan to the total market value of both plans.*

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION FOR YEAR ENDED JUNE 30, 2016

		2016
Additions		
Contributions		
Employer	$	758,268
Employee		489,511
Other		30,167
Total Contributions	$	1,277,946
Investment Income		
Net Appreciation in Fair Value of Investments	$	(1,714,657)
Interest and Dividends		1,204,920
Less Investment Expense		(352,037)
Net Investment Income	$	(861,774)
Other	$	-
Total Additions	$	416,172
Deductions		
Benefit payments, including refunds of employee contributions	$	3,036,116
Pension Plan Administrative Expense		-
Other		-
Total Deductions	$	3,036,116
Net Increase in Net Position	$	(2,619,944)
Net Position Restricted for Pensions		
Beginning of Year	$	56,717,383
End of Year	$	54,097,439

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor’s Note – This information is intended to assist in preparation of the financial statements of the City of Fairfax Retirement Plan for General Employees. Financial statements are the responsibility of management, subject to the auditor’s review. Please let us know if the auditor recommends any changes.

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS
FISCAL YEAR ENDED JUNE 30, 2016

A. Total pension liability		
1. Service Cost	$	1,321,396
2. Interest on the Total Pension Liability		3,825,762
3. Changes of benefit terms		-
4. Difference between expected and actual experience of the Total Pension Liability		(1,571,490)
5. Changes of assumptions		-
6. Benefit payments, including refunds of employee contributions		(3,036,116)
7. Net change in Total Pension Liability	$	539,552
8. Total Pension Liability – beginning		57,535,309
9. Total Pension Liability – ending	**$**	**58,074,861**
B. Plan fiduciary net position		
1. Contributions – employer	$	758,268
2. Contributions – employee		489,511
3. Net investment income		(861,774)
4. Benefit payments, including refunds of employee contributions		(3,036,116)
5. Pension Plan Administrative Expense		-
6. Other		30,167
7. Net change in plan fiduciary net position	$	(2,619,944)
8. Plan fiduciary net position – beginning		56,717,383
9. Plan fiduciary net position – ending	**$**	**54,097,439**
C. Net pension liability	**$**	**3,977,422**
D. Plan fiduciary net position as a percentage of the Total Pension Liability		**93.15%**
E. Covered-employee payroll*	**$**	**16,835,961**
F. Net pension liability as a percentage of covered-employee payroll		**23.62%**

* *Based on June 30 census data. Covered employee payroll for employer's disclosure may differ.*

Schedules of Required Supplementary Information

Schedule of Changes in the Employers' Net Pension Liability and Related Ratios

Fiscal year ending June 30,	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Total Pension Liability										
Service Cost	$ 1,321,396	$ 1,223,136	$ 1,238,483							
Interest on the Total Pension Liability	3,825,762	3,724,963	3,693,905							
Benefit Changes	-	-	40,012							
Difference between expected and actual experience of the Total Pension Liability	(1,571,490)	(517,432)	(1,277,224)							
Assumption Changes	-	-	-							
Benefit Payments and Refunds	(3,036,116)	(2,936,859)	(3,517,912)							
Net Change in Total Pension Liability	539,552	1,493,808	177,264							
Total Pension Liability - Beginning	57,535,309	56,041,501	55,864,237							
Total Pension Liability - Ending (a)	$ 58,074,861	$ 57,535,309	$ 56,041,501							
Plan Fiduciary Net Position										
Employer Contributions	$ 758,268	$ 1,064,636	$ 876,511							
Employee Contributions	489,511	478,806	512,116							
Pension Plan Net Investment Income	(861,774)	(598,006)	6,985,339							
Benefit Payments and Refunds	(3,036,116)	(2,936,859)	(3,517,912)							
Pension Plan Administrative Expense	-	-	-							
Other	30,167	23,402	24,368							
Net Change in Plan Fiduciary Net Position	(2,619,944)	(1,968,021)	4,880,422							
Plan Fiduciary Net Position - Beginning	56,717,383	58,685,404	53,804,982							
Plan Fiduciary Net Position - Ending (b)	$ 54,097,439	$ 56,717,383	$ 58,685,404							
Net Pension Liability - Ending (a) - (b)	3,977,422	817,926	(2,643,903)							
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	93.15 %	98.58 %	104.72 %							
Covered Employee Payroll*	$ 16,835,961	$ 16,374,172	$ 15,346,754							
Net Pension Liability as a Percentage of Covered Employee Payroll	23.62 %	5.00 %	(17.23)%							

Notes to Schedule:

** Based on June 30 census data, covered employee payroll for employer's disclosure may differ.*

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE EMPLOYERS' NET PENSION LIABILITY

FY Ending June 30,	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	$56,041,501	$58,685,404	($2,643,903)	104.72%	$15,346,754	(17.23)%
2015	57,535,309	56,717,383	817,926	98.58%	16,374,172	5.00 %
2016	58,074,861	54,097,439	3,977,422	93.15%	16,835,961	23.62 %

* *Based on June 30 census data. Covered employee payroll for employer's disclosure may differ.*

SCHEDULE OF CONTRIBUTIONS

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution*	Contribution Deficiency (Excess)	Covered Payroll**	Actuarially Determined Contribution as a % of Payroll
2014	$ 876,511	$ 876,511	$ -	$ 15,346,754	5.17%
2015	1,064,636	1,064,636	-	16,374,172	6.62%
2016	758,268	758,268	-	16,835,961	4.62%

* *We do not compute a dollar amount for the Actuarial Determined Contribution. It is our understanding that the plan contributes a percent-of-payroll corresponding to the Actuarially Determined Contribution. The amount shown in this column therefore matches the actual contributions. Contributions other than the Actuarial Determined Contributions are accounted for separately.*

** *Actual contributions are based on pay actually paid throughout the year which is different from the payrolls reported above. Covered payroll is based on June 30 census data. Covered employee payroll for employer's disclosure may differ.*

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:

Notes	Actuarially determined contribution amounts are calculated as of June 30 each year, which is 1 year prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry age actuarial cost method
Amortization Method	Level percent-of-payroll
Remaining Amortization Period	10 years, open
Asset Valuation Method	5-year smoothed market value for funding purposes
Payroll Growth	3.5%
Price inflation	3.0%
Salary Increases	4.0% to 8.5% including inflation
Investment Rate of Return	6.75%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition and date of hire.
Mortality	RP-2000 Combined Healthy Mortality Table for males and females projecteed to 2020 using projection scale AA.

Other Information:

Notes	Cost-of-living adjustments: 2.8% compound (2.5% compound for members hired after 7/1/14)

The following table was provided by the Plan's investment consultant, NEPC, LLC.

SCHEDULE OF INVESTMENT RETURNS

FY Ending June 30,	Annual Money Weighted Rate of Return
2014	14.50 %
2015	(1.10)%
2016	(1.50)%

The Dollar Weighted Return is calculated net of all investment management expenses and additional plan investment related expenses that are reported by the client's custodian and/or were provided to NEPC by the client.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Fairfax Retirement Plan for General Employees. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Long-Term Expected Return on Plan Assets

The assumed rate of investment return was adopted by the plan's Administrative Committee 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 June 30, 2016.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate arithmetic 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. Finally, the arithmetic portfolio expected return is converted into a geometric expected return using assumed asset class standard deviations and correlations. For each major asset class that is included in the pension plan's target asset allocation as of June 30, 2016, these best estimates of geometric returns are summarized in the following table:

ASSET ALLOCATION

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return *
Large Cap Equities	20.00%	5.92%
Small/Mid Cap Equities	5.00%	6.71%
International Equities	12.00%	6.95%
Emerging International Equities	8.00%	9.49%
Core Bonds	10.00%	1.17%
Global Multi-Sector Fixed Income	10.00%	2.76%
Real Assets (Liquid)	5.00%	4.84%
Global Asset Allocation	15.00%	5.15%
Risk Parity	15.00%	4.61%
Cash	0.00%	0.00%
Total	100.00%	

** 30-year geometric returns.*

The figures in the above table were supplied by the City's investment consultant, NEPC, LLC. Gabriel, Roeder, Smith & Company does not provide investment advice.

Single Discount Rate

A Single Discount Rate of 6.75% was used to measure the total pension liability. This Single Discount Rate was based on an expected rate of return on pension plan investments of 6.75% and a municipal bond rate of 2.85%. 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 and future contributions were sufficient to finance the benefit payments through the year 2087. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2087, and the municipal bond rate was applied to all benefit payments after that date.

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

SENSITIVITY OF THE NET PENSION LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION

	1% Decrease 5.75%	Current Single Rate 6.75%	1% Increase 7.75%
Total Pension Liability	$ 65,154,260	$ 58,074,861	$ 52,136,340
Plan Fiduciary Net Position	54,097,439	54,097,439	54,097,439
Net Pension Liability/(Asset)	$ 11,056,821	$ 3,977,422	$ (1,961,099)

SUMMARY OF POPULATION STATISTICS

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	208
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	34
Active Plan Members	254
Total Plan Members	496

SECTION E

SUMMARY OF BENEFITS

GENERAL EMPLOYEES
BENEFIT PROVISIONS EVALUATED/CONSIDERED

EMPLOYEES HIRED BEFORE 4/1/83	EMPLOYEES HIRED BETWEEN 4/1/83 AND 6/30/14	EMPLOYEES HIRED 7/1/14 AND LATER

Normal Age and Service Retirement

The benefits are described in the terms of amounts payable to and after Social Security Full Retirement Age (SSFRA).

EMPLOYEES HIRED BEFORE 4/1/83	EMPLOYEES HIRED BETWEEN 4/1/83 AND 6/30/14	EMPLOYEES HIRED 7/1/14 AND LATER
Eligibility Age 60 with 5 years of service.	**Eligibility** Age 60 with 5 years of service.	**Eligibility** Age 62 with 7 years of service.
Amount Straight life benefit equal to 1.8% of 3-year highest average earnings times total service not in excess of the maximum years. Total service includes credit for sick leave unused at retirement. For retirements before January 1, 2004, the maximum number of years is 30. For retirements after January 1, 2004, the maximum is 30 plus years of creditable service attributable to eligible unused sick leave.	**Amount** To SSFRA: Straight life benefit of 1.50% of 3-year highest average earnings times total service. At SSFRA: 0.83% of 3-year highest average earnings times total service. (For participants without at least one month of 'Qualified 2004 Service' the amount is 0.50% of 3-year highest average earnings times total service.) Total service includes credit for sick leave unused at retirement.	**Amount** To SSFRA: Straight life benefit of 1.50% of 5-year highest average earnings times total service. At SSFRA: 0.83% of 5-year highest average earnings times total service. (For participants without at least one month of 'Qualified 2004 Service' the amount is 0.50% of 5-year highest average earnings times total service.) Total service includes credit for sick leave unused at retirement.

Early Retirement

EMPLOYEES HIRED BEFORE 4/1/83	EMPLOYEES HIRED BETWEEN 4/1/83 AND 6/30/14	EMPLOYEES HIRED 7/1/14 AND LATER
Eligibility Age 50 with 5 years of service, or 25 years of service regardless of age.	**Eligibility** Age 50 with 5 years of service, or 25 years of service regardless of age.	**Eligibility** Age 50 with 7 years of service, or 25 years of service regardless of age.
Amount Accrued normal retirement benefit reduced 1/6 of 1% for each month actual retirement precedes age 60.	**Amount** Accrued normal retirement benefit reduced 5/12 of 1% for each month actual retirement precedes age 60. Members age 50 with 30 or more years of credited service and "Qualified 2004 service" receive an amount equal to the accrued normal retirement benefit reduced 1/6 of 1% for each month actual retirement precedes age 60.	**Amount** Accrued normal retirement benefit reduced 5/12 of 1% for each month actual retirement precedes age 62. Members age 50 with 30 or more years of credited service and "Qualified 2004 service" receive an amount equal to the accrued normal retirement benefit reduced 1/6 of 1% for each month actual retirement precedes age 62.

General Employees
Benefit Provisions Evaluated/Considered

Employees Hired Before 4/1/83	Employees Hired Between 4/1/83 and 6/30/14	Employees Hired 7/1/14 and Later
	Deferred (Vested) Retirement	
Eligibility 5 years of service.	**Eligibility** 5 years of service.	**Eligibility** 7 years of service.
Amount Accrued normal retirement benefit payable at age 60 (full benefit) or at 50 (reduced early benefit).	**Amount** Accrued normal retirement benefit payable at age 60 (full benefit) or at 50 (reduced early benefit).	**Amount** Accrued normal retirement benefit payable at age 62 (full benefit) or at 50 (reduced early benefit).
	Disability Retirement	
Eligibility 5 years of service.	**Eligibility** 5 years of service.	**Eligibility** 7 years of service.
Amount Computed in the same manner as normal retirement except that 'total service' is the smallest of: (i) twice the years of credited service. (ii) the years of credited service the participant would have had at normal retirement date. (iii) 30 years.	**Amount** Computed in the same manner as normal retirement except that 'total service' is: (i) actual accrued service if the disability is from non-duty related causes. (ii) the number of years of service the participant would have had at normal retirement date if the disability is from duty related causes.	**Amount** Computed in the same manner as normal retirement except that 'total service' is: (i) actual accrued service if the disability is from non-duty related causes. (ii) the number of years of service the participant would have had at normal retirement date if the disability is from duty related causes.
Benefit payable prior to Social Security age, when combined with worker's compensation, Social Security, VRS benefits, and any earned income may not exceed 75% of 3-year highest average earnings.	Benefit payable prior to Social Security age, when combined with worker's compensation, Social Security, VRS benefits, and any earned income, may not exceed 75% of 3-year highest average earnings.	Benefit payable prior to Social Security age, when combined with worker's compensation, Social Security, VRS benefits, and any earned income, may not exceed 75% of 5-year highest average earnings.

General Employees
Benefit Provisions Evaluated/Considered

Employees Hired Before 4/1/83	Employees Hired Between 4/1/83 and 6/30/14	Employees Hired 7/1/14 and Later
	Benefits for Death before Retirement	
Eligibility 5 years of service.	**Eligibility** 5 years of service.	**Eligibility** 7 years of service.
Amount The spouse or parent receives the same monthly benefit that would have been payable if the member had retired at death, elected the joint and 100% survivor option and died immediately thereafter.	**Amount** The spouse or parent receives the same monthly benefit that would have been payable if the member had retired at death, elected the joint and 100% survivor option and died immediately thereafter.	**Amount** The spouse or parent receives the same monthly benefit that would have been payable if the member had retired at death, elected the joint and 100% survivor option and died immediately thereafter.
Minimum benefit is 15% of 3-year highest average earnings. Benefits for dependent children and parents may also be payable. Special rules apply if the spouse was less than 40 years old when the member died.	Minimum benefit is 15% of 3-year highest average earnings. Benefits for dependent children and parents may also be payable. Special rules apply if the spouse was less than 40 years old when the member died.	Minimum benefit is 15% of 5-year highest average earnings. Benefits for dependent children and parents may also be payable. Special rules apply if the spouse was less than 40 years old when the member died.
	Benefit Increases after Retirement	
Monthly benefits are adjusted annually, to reflect changes in the Inflation Index (CPI) since retirement, with maximum increase of 5% in any year.	Monthly benefits are adjusted annually, to reflect changes in the Inflation Index (CPI) since retirement, with maximum increase of 5% in any year.	Monthly benefits are adjusted annually, to reflect changes in the Inflation Index (CPI) since retirement, with maximum increase of 3% in any year.
	Member Contributions	
1.5% of member's pay. No contributions after 30 years credited service. Interest credited, based on actual investment return but not less than 4.0% annually until June 30, 2014. Starting July 1, 2014, interest credited at a rate of 3.0% annually.	3.0% of member's pay. Interest credited, based on actual investment return but not less than 4.0% annually until June 30, 2014. Starting July 1, 2014, interest credited at a rate of 3.0% annually.	3.0% of member's pay. Interest credited at the rate of 3.0% annually.

GENERAL EMPLOYEES
BENEFIT PROVISIONS EVALUATED/CONSIDERED

EMPLOYEES HIRED BEFORE 4/1/83	EMPLOYEES HIRED BETWEEN 4/1/83 AND 6/30/14	EMPLOYEES HIRED 7/1/14 AND LATER
	Optional Forms of Benefit Payment	
Option 1: Reduced benefits are paid to the member for life. Upon death of the member a designated portion of the member's benefit is payable to the contingent annuitant for life. Upon death of the contingent annuitant, the member's benefit will revert to the unreduced straight life amount if the retiree is alive at that time.	Same.	Same.
Option 2: Members retiring prior to eligibility for VRS or OASDI benefits may elect to receive a higher amount prior to commencement of those benefits and a lower amount later.	Same.	Same.
Option factors are based upon the 1984 actuarial equivalent tables of the Virginia Retirement System.	Same.	Same.
	Other	
None.	None.	Part-time members will not participate in the Defined Benefit Plan.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

ACTUARIAL COST METHODS USED

Age and Service and Casualty Benefits. Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an individual **entry-age actuarial cost method** having the following characteristics:

(i) the annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement; and

(ii) each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

The value of assets used for GASB Statement Nos. 67 and 68 reporting purposes was the fair market value of assets.

ACTUARIAL ASSUMPTIONS USED

The actuarial assumptions used in performing the GASB valuation are shown in this Section of the report. The assumptions were established for the June 30, 2012 actuarial valuation, based upon a study of experience during the period July 1, 2006 to June 30, 2011.

Economic Assumptions

The investment return rate used in making the valuation was 6.75% 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 over wages is the portion of investment return which is more than the wage inflation rate. Considering wage inflation recognition of 3.50%, the 6.75% investment return rate translates to ***an assumed real rate of return of 3.25% over wages. The assumed real return over prices would be higher***.

Pay increase assumptions for individual active members are shown on page 27. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.50% recognizes wage inflation.

Total active member payroll is assumed to increase 3.50% a year, which is the portion of the individual pay increase assumptions recognizing wage inflation.

Price inflation is assumed to be 3% per year. For all members hired prior to 7/1/2014, the 5% COLA cap was valued by assuming that the actual COLA paid would average 2.8% annually. For all members hired after 7/1/2014, the 3% COLA cap was valued by assuming that the actual COLA paid would average 2.5% annually.

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

Non-Economic Assumptions

The mortality table used to measure non-disabled retired life mortality is the RP-2000 Combined Healthy Mortality Table for males and females projected to 2020 using projection scale AA. The base table is the RP-2000 Combined Healthy Mortality Table projected to the valuation date and the provision for future mortality improvement is 8 years of additional projection with scale AA. The mortality tables used to measure disabled retired life mortality were the same as described above, set-forward 10-years. Related values for sample ages are shown on page 28.

ACTUARIAL ASSUMPTIONS USED

The probabilities of retirement for members eligible to retire are shown on page 29.

The probabilities of withdrawal from service, ***death-in-service*** and ***disability*** are shown for sample ages on page 27.

The entry age actuarial cost method of valuation was used in determining liabilities and normal cost.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") become part of actuarial accrued liabilities.

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

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

ACTUARIAL ASSUMPTIONS USED

PAY INCREASE ASSUMPTIONS FOR AN INDIVIDUAL MEMBER

Sample Ages	Pay Increase Assumptions For An Individual Employee: Merit & Seniority	Base (Economy)	Increase Next Year
20	5.0%	3.5%	8.5%
25	4.0	3.5	7.5
30	2.5	3.5	6.0
35	2.0	3.5	5.5
40	1.5	3.5	5.0
45	1.0	3.5	4.5
50	0.5	3.5	4.0
55	0.5	3.5	4.0
60	0.5	3.5	4.0
65	0.5	3.5	4.0
Ref	399		

RATES OF SEPARATION FROM ACTIVE EMPLOYMENT BEFORE RETIREMENT

Sample	% of Active Members Separating Within Next Year: Death		Disability*		Other	
Ages	Men	Women	Men	Women	Men	Women
25	0.0154%	0.0078%	0.0850%	0.0340%	13.50%	12.60%
30	0.0201	0.0108	0.1400	0.0540	10.50	11.97
35	0.0350	0.0191	0.2050	0.0890	8.50	11.55
40	0.0460	0.0261	0.2700	0.1220	5.50	11.24
45	0.0581	0.0407	0.3900	0.2920	3.50	6.62
50	0.0744	0.0595	0.5100	0.4590	3.00	3.36
55	0.1235	0.1157	0.2550	0.2290	3.00	3.15
60	0.2444	0.2287	0.0000	0.0000	3.00	3.15
Ref	#454x0.5sb0	#455x0.5sb0	458	459	ab990x1	ab991x1

* *80% of disabilities are assumed to be non-duty related for post-4/1/83 members.*

ACTUARIAL ASSUMPTIONS USED

DEATH AFTER RETIREMENT

NON-DISABLED

	Men			Women		
Sample Age Now	Future Life Expectancy (years)	Expected Total Life (years)	Portion of Age 55 Lives Still Alive	Future Life Expectancy (years)	Expected Total Life (years)	Portion of Age 55 Lives Still Alive
55	28.0	83.0	100%	29.9	84.9	100%
60	23.5	83.5	98	25.3	85.3	98
65	19.2	84.2	95	21.0	86.0	95
70	15.2	85.2	89	17.1	87.1	90
75	11.6	86.6	79	13.5	88.5	81
80	8.4	88.4	65	10.2	90.2	69
85	5.9	90.9	45	7.4	92.4	53
Ref	#454x1sb0			#455x1sb0		

DISABLED

	Men			Women		
Sample Age Now	Future Life Expectancy (years)	Expected Total Life (years)	Portion of Age 55 Lives Still Alive	Future Life Expectancy (years)	Expected Total Life (years)	Portion of Age 55 Lives Still Alive
55	19.2	74.2	100%	21.0	76.0	100%
60	15.2	75.2	93	17.1	77.1	94
65	11.6	76.6	84	13.5	78.5	85
70	8.4	78.4	68	10.2	80.2	73
75	5.9	80.9	47	7.4	82.4	56
80	4.1	84.1	23	5.3	85.3	34
85	2.9	87.9	7	4.1	89.1	14
Ref	#454x1sb-10			#455x1sb-10		

ACTUARIAL ASSUMPTIONS USED

PROBABILITIES OF RETIREMENT FOR MEMBERS ELIGIBLE TO RETIRE

	Percent of Eligible Members Retiring Within Next Year Member Hired		
Attained Ages	Before April 1, 1983*	After April 1, 1983 and Before July 1, 2014	After July 1, 2014
45	8%	2%	2%
46	8	2	2
47	8	2	2
48	8	2	2
49	8	2	2
50	10	2	2
51	10	2	2
52	10	2	2
53	10	2	2
54	10	2	2
55	10	2	2
56	10	2	2
57	10	2	2
58	10	2	2
59	10	2	2
60	30	7	5
61	30	7	5
62	60	35	40
63	30	15	15
64	40	15	15
65	100	20	20
66	100	20	20
67	100	20	20
68	100	10	10
69	100	10	10
70	100	100	100

* *Also applies to post-4/1/83 members age 50 with 30 or more years of service with at least one month of qualified 2004 service.*

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Reported pays were pay rates at July 1 including the COLA for the year. Other increases are assumed to occur uniformly throughout the year. This situation is approximated by assuming that pay increases occur six months after the beginning of the fiscal year.
Decrement Timing:	Decrements are assumed to occur mid-year (i.e., January 1).
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without conversion to multiple decrement probabilities.
Decrement Operation:	Disability and turnover do not operate during retirement eligibility.
Service Credit Accruals:	It is assumed that members employed on a full-time basis accrue one year of service credit per year. Part-time members earn service credit based on the number of hours they work per week divided by a standard 40-hour work week.
Loads:	The normal cost and actuarial accrued liability, for age and service benefits, were increased by 1.8% to account for inclusion of unused sick leave in the service used to calculate retirement benefits. Optional benefit factors are described in Sections 66-126 and 66-366 of the City of Fairfax Code of Ordinances. The factors used are not actuarially equivalent. Liabilities were increased 1.7% to reflect this.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form.

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 municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by 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 6.75%; the municipal bond rate is 2.85%; and the resulting Single Discount Rate is 6.75%.

The tables in this section provide background for the development of the Single Discount Rate.

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

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

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

There may be cases where schedules do not add, or where they do not exactly balance to other related schedules due to rounding.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost and Expense Contributions	UAL Contributions	Total Contributions
0	$ 16,835,961				
1	16,464,972	$ 493,949	$ 827,681	$ (116,551)	$ 1,205,079
2	15,777,885	473,337	788,495	(87,079)	1,174,753
3	15,177,438	455,323	755,985	35,552	1,246,860
4	14,606,228	438,187	724,607	196,668	1,359,462
5	14,029,621	420,889	693,158	465,576	1,579,622
6	13,390,898	401,727	658,006	596,081	1,655,814
7	12,749,483	382,484	623,468	563,473	1,569,426
8	12,099,941	362,998	587,284	532,650	1,482,932
9	11,443,356	343,301	550,386	503,513	1,397,199
10	10,856,608	325,698	518,501	475,969	1,320,169
11	10,239,373	307,181	485,115	449,932	1,242,229
12	9,626,476	288,794	450,840	425,320	1,164,954
13	9,113,469	273,404	423,090	402,054	1,098,547
14	8,567,044	257,011	393,396	380,060	1,030,467
15	7,951,208	238,536	360,807	359,270	958,613
16	7,403,525	222,106	332,353	339,617	894,075
17	6,898,115	206,943	305,725	321,039	833,707
18	6,360,093	190,803	278,661	303,477	772,941
19	5,818,212	174,546	251,491	286,876	712,914
20	5,314,837	159,445	226,593	271,183	657,221
21	4,918,562	147,557	206,878	256,349	610,784
22	4,513,207	135,396	187,665	242,326	565,387
23	4,006,853	120,206	164,006	229,070	513,282
24	3,582,989	107,490	144,287	216,539	468,316
25	3,210,831	96,325	127,577	204,694	428,596
26	2,787,204	83,616	108,818	193,497	385,930
27	2,412,320	72,370	92,210	182,912	347,491
28	2,072,687	62,181	77,351	172,906	312,438
29	1,793,809	53,814	65,616	163,448	282,878
30	1,511,943	45,358	54,668	154,507	254,533
31	1,198,076	35,942	42,371	146,055	224,368
32	971,607	29,148	33,540	138,065	200,753
33	784,495	23,535	26,527	130,513	180,575
34	588,846	17,665	19,155	123,373	160,194
35	446,293	13,389	13,949	116,624	143,962
36	353,287	10,599	10,785	110,245	131,629
37	271,644	8,149	8,221	104,214	120,584
38	185,240	5,557	5,463	98,513	109,534
39	120,157	3,605	3,278	93,124	100,007
40	91,750	2,753	2,434	88,030	93,217
41	72,838	2,185	1,932	83,215	87,332
42	48,974	1,469	1,253	78,663	81,385
43	29,073	872	705	74,360	75,936
44	21,222	637	490	70,292	71,419
45	14,035	421	305	66,447	67,173
46	7,674	230	154	62,812	63,196
47	3,398	102	72	59,376	59,550
48	2,101	63	40	56,128	56,231
49	1,414	42	28	53,058	53,128
50	817	25	10	50,155	50,189

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS (CONCLUDED)

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost and Expense Contributions	UAL Contributions	Total Contributions
51	400	12	7	47,412	47,430
52	-	-	-	44,818	44,818
53	-	-	-	42,366	42,366
54	-	-	-	40,049	40,049
55	-	-	-	37,858	37,858
56	-	-	-	35,787	35,787
57	-	-	-	33,829	33,829
58	-	-	-	31,979	31,979
59	-	-	-	30,230	30,230
60	-	-	-	28,576	28,576
61	-	-	-	27,013	27,013
62	-	-	-	25,535	25,535
63	-	-	-	24,138	24,138
64	-	-	-	22,818	22,818
65	-	-	-	21,570	21,570
66	-	-	-	20,390	20,390
67	-	-	-	19,274	19,274
68	-	-	-	18,220	18,220
69	-	-	-	17,223	17,223
70	-	-	-	16,281	16,281
71	-	-	-	15,391	15,391
72	-	-	-	14,549	14,549
73	-	-	-	13,753	13,753
74	-	-	-	13,000	13,000
75	-	-	-	12,289	12,289
76	-	-	-	11,617	11,617
77	-	-	-	10,982	10,982
78	-	-	-	10,381	10,381
79	-	-	-	9,813	9,813
80	-	-	-	9,276	9,276
81	-	-	-	8,769	8,769
82	-	-	-	8,289	8,289
83	-	-	-	7,836	7,836
84	-	-	-	7,407	7,407
85	-	-	-	7,002	7,002
86	-	-	-	6,619	6,619
87	-	-	-	6,257	6,257
88	-	-	-	5,914	5,914
89	-	-	-	5,591	5,591
90	-	-	-	5,285	5,285
91	-	-	-	4,996	4,996
92	-	-	-	4,723	4,723
93	-	-	-	4,464	4,464
94	-	-	-	4,220	4,220
95	-	-	-	3,989	3,989
96	-	-	-	3,771	3,771
97	-	-	-	3,565	3,565
98	-	-	-	3,370	3,370
99	-	-	-	3,185	3,185
100	-	-	-	3,011	3,011

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.75%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	$ 54,097,439	$ 1,205,079	$ 3,216,694	$ -	$ 3,584,794	$ 55,670,617
2	55,670,617	1,174,753	3,354,480	-	3,685,402	57,176,293
3	57,176,293	1,246,860	3,480,418	-	3,785,248	58,727,983
4	58,727,983	1,359,462	3,654,322	-	3,887,952	60,321,075
5	60,321,075	1,579,622	3,786,687	-	3,998,400	62,112,410
6	62,112,410	1,655,814	3,990,150	-	4,115,090	63,893,164
7	63,893,164	1,569,426	4,109,554	-	4,228,459	65,581,495
8	65,581,495	1,482,932	4,294,366	-	4,333,414	67,103,476
9	67,103,476	1,397,199	4,503,662	-	4,426,353	68,423,367
10	68,423,367	1,320,169	4,726,971	-	4,505,475	69,522,039
11	69,522,039	1,242,229	4,939,075	-	4,570,006	70,395,200
12	70,395,200	1,164,954	5,067,180	-	4,622,126	71,115,100
13	71,115,100	1,098,547	5,218,933	-	4,663,477	71,658,191
14	71,658,191	1,030,467	5,393,060	-	4,692,095	71,987,693
15	71,987,693	958,613	5,529,879	-	4,707,408	72,123,835
16	72,123,835	894,075	5,607,782	-	4,711,869	72,121,998
17	72,121,998	833,707	5,711,688	-	4,706,291	71,950,308
18	71,950,308	772,941	5,875,606	-	4,687,243	71,534,886
19	71,534,886	712,914	6,039,784	-	4,651,758	70,859,774
20	70,859,774	657,221	6,144,761	-	4,600,854	69,973,089
21	69,973,089	610,784	6,247,575	-	4,536,048	68,872,346
22	68,872,346	565,387	6,317,384	-	4,457,923	67,578,272
23	67,578,272	513,282	6,390,639	-	4,366,411	66,067,327
24	66,067,327	468,316	6,437,942	-	4,261,359	64,359,060
25	64,359,060	428,596	6,420,841	-	4,145,300	62,512,115
26	62,512,115	385,930	6,452,937	-	4,018,150	60,463,258
27	60,463,258	347,491	6,458,149	-	3,878,403	58,231,003
28	58,231,003	312,438	6,363,140	-	3,729,716	55,910,018
29	55,910,018	282,878	6,268,067	-	3,575,224	53,500,053
30	53,500,053	254,533	6,167,353	-	3,414,954	51,002,187
31	51,002,187	224,368	6,003,192	-	3,250,797	48,474,160
32	48,474,160	200,753	5,832,490	-	3,085,038	45,927,462
33	45,927,462	180,575	5,672,727	-	2,917,770	43,353,079
34	43,353,079	160,194	5,496,601	-	2,749,170	40,765,842
35	40,765,842	143,962	5,261,287	-	2,581,805	38,230,322
36	38,230,322	131,629	5,018,487	-	2,418,308	35,761,773
37	35,761,773	120,584	4,805,507	-	2,258,385	33,335,235
38	33,335,235	109,534	4,598,216	-	2,101,109	30,947,661
39	30,947,661	100,007	4,358,046	-	1,947,605	28,637,228
40	28,637,228	93,217	4,097,580	-	1,800,072	26,432,937
41	26,432,937	87,332	3,865,637	-	1,658,788	24,313,419
42	24,313,419	81,385	3,635,017	-	1,523,179	22,282,966
43	22,282,966	75,936	3,400,993	-	1,393,712	20,351,622
44	20,351,622	71,419	3,172,006	-	1,270,798	18,521,832
45	18,521,832	67,173	2,960,270	-	1,154,176	16,782,911
46	16,782,911	63,196	2,753,595	-	1,043,528	15,136,040
47	15,136,040	59,550	2,550,669	-	938,980	13,583,901
48	13,583,901	56,231	2,352,419	-	840,682	12,128,395
49	12,128,395	53,128	2,159,236	-	748,746	10,771,033
50	10,771,033	50,189	1,974,891	-	663,147	9,509,479

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.75%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	$ 9,509,479	$ 47,430	$ 1,796,909	$ -	$ 583,809	$ 8,343,809
52	8,343,809	44,818	1,625,972	-	510,715	7,273,369
53	7,273,369	42,366	1,462,517	-	443,805	6,297,024
54	6,297,024	40,049	1,307,251	-	382,979	5,412,801
55	5,412,801	37,858	1,160,916	-	328,080	4,617,823
56	4,617,823	35,787	1,024,037	-	278,894	3,908,467
57	3,908,467	33,829	896,927	-	235,168	3,280,537
58	3,280,537	31,979	779,973	-	196,604	2,729,147
59	2,729,147	30,230	673,340	-	162,867	2,248,903
60	2,248,903	28,576	576,960	-	133,595	1,834,114
61	1,834,114	27,013	490,635	-	108,411	1,478,902
62	1,478,902	25,535	413,961	-	86,931	1,177,407
63	1,177,407	24,138	346,407	-	68,776	923,915
64	923,915	22,818	287,420	-	53,580	712,892
65	712,892	21,570	236,380	-	40,989	539,070
66	539,070	20,390	192,651	-	30,668	397,477
67	397,477	19,274	155,564	-	22,305	283,492
68	283,492	18,220	124,405	-	15,611	192,918
69	192,918	17,223	98,496	-	10,324	121,970
70	121,970	16,281	77,178	-	6,211	67,284
71	67,284	15,391	59,830	-	3,066	25,911
72	25,911	14,549	45,888	-	709	-
73	-	-	-	-	-	-
74	-	-	-	-	-	-
75	-	-	-	-	-	-
76	-	-	-	-	-	-
77	-	-	-	-	-	-
78	-	-	-	-	-	-
79	-	-	-	-	-	-
80	-	-	-	-	-	-
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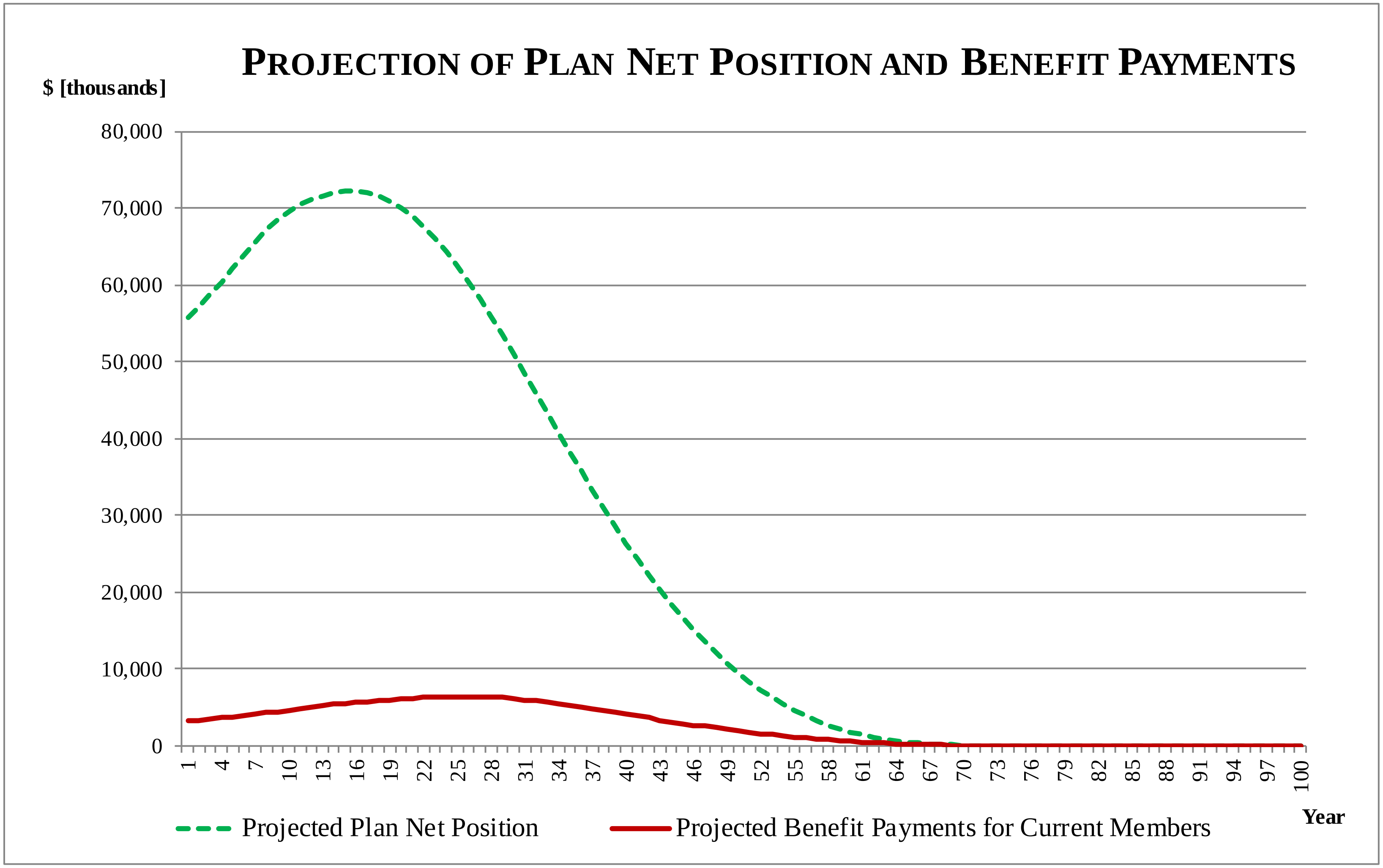
93	-	-	-	-	-	-
94	-	-	-	-	-	-
95	-	-	-	-	-	-
96	-	-	-	-	-	-
97	-	-	-	-	-	-
98	-	-	-	-	-	-
99	-	-	-	-	-	-
100	-	-	-	-	-	-

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFIT PAYMENTS

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=((c)/(1+sdr)^(a-.5)
1	$ 54,097,439	$ 3,216,694	$ 3,216,694	$ -	$ 3,113,335	$ -	$ 3,113,361
2	55,670,617	3,354,480	3,354,480	-	3,041,399	-	3,041,475
3	57,176,293	3,480,418	3,480,418	-	2,956,049	-	2,956,173
4	58,727,983	3,654,322	3,654,322	-	2,907,497	-	2,907,666
5	60,321,075	3,786,687	3,786,687	-	2,822,305	-	2,822,517
6	62,112,410	3,990,150	3,990,150	-	2,785,903	-	2,786,158
7	63,893,164	4,109,554	4,109,554	-	2,687,840	-	2,688,132
8	65,581,495	4,294,366	4,294,366	-	2,631,116	-	2,631,445
9	67,103,476	4,503,662	4,503,662	-	2,584,870	-	2,585,237
10	68,423,367	4,726,971	4,726,971	-	2,541,488	-	2,541,891
11	69,522,039	4,939,075	4,939,075	-	2,487,613	-	2,488,049
12	70,395,200	5,067,180	5,067,180	-	2,390,759	-	2,391,217
13	71,115,100	5,218,933	5,218,933	-	2,306,658	-	2,307,139
14	71,658,191	5,393,060	5,393,060	-	2,232,897	-	2,233,400
15	71,987,693	5,529,879	5,529,879	-	2,144,773	-	2,145,292
16	72,123,835	5,607,782	5,607,782	-	2,037,459	-	2,037,986
17	72,121,998	5,711,688	5,711,688	-	1,943,992	-	1,944,527
18	71,950,308	5,875,606	5,875,606	-	1,873,332	-	1,873,879
19	71,534,886	6,039,784	6,039,784	-	1,803,913	-	1,804,469
20	70,859,774	6,144,761	6,144,761	-	1,719,219	-	1,719,779
21	69,973,089	6,247,575	6,247,575	-	1,637,457	-	1,638,017
22	68,872,346	6,317,384	6,317,384	-	1,551,057	-	1,551,613
23	67,578,272	6,390,639	6,390,639	-	1,469,829	-	1,470,381
24	66,067,327	6,437,942	6,437,942	-	1,387,081	-	1,387,625
25	64,359,060	6,420,841	6,420,841	-	1,295,922	-	1,296,451
26	62,512,115	6,452,937	6,452,937	-	1,220,046	-	1,220,565
27	60,463,258	6,458,149	6,458,149	-	1,143,824	-	1,144,329
28	58,231,003	6,363,140	6,363,140	-	1,055,734	-	1,056,219
29	55,910,018	6,268,067	6,268,067	-	974,202	-	974,665
30	53,500,053	6,167,353	6,167,353	-	897,938	-	898,380
31	51,002,187	6,003,192	6,003,192	-	818,770	-	819,186
32	48,474,160	5,832,490	5,832,490	-	745,188	-	745,579
33	45,927,462	5,672,727	5,672,727	-	678,947	-	679,315
34	43,353,079	5,496,601	5,496,601	-	616,269	-	616,613
35	40,765,842	5,261,287	5,261,287	-	552,586	-	552,904
36	38,230,322	5,018,487	5,018,487	-	493,757	-	494,049
37	35,761,773	4,805,507	4,805,507	-	442,906	-	443,176
38	33,335,235	4,598,216	4,598,216	-	397,003	-	397,251
39	30,947,661	4,358,046	4,358,046	-	352,475	-	352,701
40	28,637,228	4,097,580	4,097,580	-	310,453	-	310,658
41	26,432,937	3,865,637	3,865,637	-	274,361	-	274,546
42	24,313,419	3,635,017	3,635,017	-	241,679	-	241,847
43	22,282,966	3,400,993	3,400,993	-	211,822	-	211,972
44	20,351,622	3,172,006	3,172,006	-	185,068	-	185,202
45	18,521,832	2,960,270	2,960,270	-	161,793	-	161,913
46	16,782,911	2,753,595	2,753,595	-	140,981	-	141,088
47	15,136,040	2,550,669	2,550,669	-	122,334	-	122,429
48	13,583,901	2,352,419	2,352,419	-	105,692	-	105,775
49	12,128,395	2,159,236	2,159,236	-	90,878	-	90,951
50	10,771,033	1,974,891	1,974,891	-	77,863	-	77,928

SINGLE DISCOUNT RATE DEVELOPMENT
PVS OF PROJECTED BENEFIT PAYMENTS (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=((c)/(1+sdr)^(a-.5)
51	$ 9,509,479	$ 1,796,909	$ 1,796,909	$ -	$ 66,366	$ -	$ 66,422
52	8,343,809	1,625,972	1,625,972	-	56,256	-	56,304
53	7,273,369	1,462,517	1,462,517	-	47,401	-	47,442
54	6,297,024	1,307,251	1,307,251	-	39,690	-	39,725
55	5,412,801	1,160,916	1,160,916	-	33,018	-	33,048
56	4,617,823	1,024,037	1,024,037	-	27,283	-	27,309
57	3,908,467	896,927	896,927	-	22,386	-	22,407
58	3,280,537	779,973	779,973	-	18,236	-	18,253
59	2,729,147	673,340	673,340	-	14,747	-	14,762
60	2,248,903	576,960	576,960	-	11,837	-	11,849
61	1,834,114	490,635	490,635	-	9,430	-	9,439
62	1,478,902	413,961	413,961	-	7,453	-	7,461
63	1,177,407	346,407	346,407	-	5,842	-	5,849
64	923,915	287,420	287,420	-	4,541	-	4,546
65	712,892	236,380	236,380	-	3,499	-	3,502
66	539,070	192,651	192,651	-	2,671	-	2,674
67	397,477	155,564	155,564	-	2,020	-	2,023
68	283,492	124,405	124,405	-	1,514	-	1,515
69	192,918	98,496	98,496	-	1,123	-	1,124
70	121,970	77,178	77,178	-	824	-	825
71	67,284	59,830	59,830	-	598	-	599
72	25,911	45,888	26,772	19,117	251	2,563	430
73	-	34,813	-	34,813	-	4,539	306
74	-	26,112	-	26,112	-	3,310	215
75	-	19,368	-	19,368	-	2,387	149
76	-	14,217	-	14,217	-	1,704	103
77	-	10,329	-	10,329	-	1,203	70
78	-	7,422	-	7,422	-	841	47
79	-	5,274	-	5,274	-	581	31
80	-	3,703	-	3,703	-	397	21
81	-	2,567	-	2,567	-	267	13
82	-	1,759	-	1,759	-	178	9
83	-	1,190	-	1,190	-	117	5
84	-	793	-	793	-	76	3
85	-	521	-	521	-	49	2
86	-	338	-	338	-	31	1
87	-	217	-	217	-	19	1
88	-	136	-	136	-	12	0
89	-	85	-	85	-	7	0
90	-	53	-	53	-	4	0
91	-	32	-	32	-	3	0
92	-	19	-	19	-	1	0
93	-	12	-	12	-	1	0
94	-	7	-	7	-	0	0
95	-	4	-	4	-	0	0
96	-	2	-	2	-	0	0
97	-	1	-	1	-	0	0
98	-	0	-	0	-	0	0
99	-	0	-	0	-	0	0
100	-	0	-	0	-	0	0
				Totals	$ 69,043,315	$ 18,290	$ 69,061,605


PROJECTION OF PLAN NET POSITION AND BENEFIT PAYMENTS
$ [thousands]
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85 88 91 94 97 100
Year
Projected Plan Net Position
Projected Benefit Payments for Current Members

SECTION H

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability (AAL)	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."
Actuarial Assumptions	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.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	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.
Actuarial Cost Method	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.
Actuarial Gain (Loss)	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.
Actuarial Present Value (APV)	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.
Actuarial Valuation	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.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.

GLOSSARY OF TERMS

Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	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.
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	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).
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	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.
Covered-Employee Payroll	The payroll of employees that are provided with pensions through the pension plan.
Deferred Inflows and Outflows	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.
Discount Rate	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: 1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

GLOSSARY OF TERMS

Entry Age Actuarial Cost Method (EAN)	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Fiduciary Net Position	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contributing Entities	Non-employer contributing entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.

GLOSSARY OF TERMS

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

Other Postemployment Benefits (OPEB)
All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.

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

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

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

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

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

Unfunded Actuarial Accrued Liability (UAAL)
The UAAL is the difference between actuarial accrued liability and valuation assets.

Valuation Assets
The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.