Gabriel Roeder Smith & Company
Consultants & Actuaries

CITY OF MANCHESTER EMPLOYEES' CONTRIBUTORY RETIREMENT SYSTEM

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

DECEMBER 31, 2014

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April 30, 2015

The Board of Trustees
City of Manchester Employees'
Contributory Retirement System
1045 Elm Street, Suite 403
Manchester, New Hampshire 03101-1824

Dear Board Members:

This report provides the 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 Manchester Employees' Contributory Retirement System (MECRS). These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

GASB Statement Nos. 67 and 68 are the accounting standards that apply to the stand-alone financial reports issued by retirement systems. This information is presented in draft form for review by the City's auditor. Please let us know if there are items that the auditor changes so that we may maintain consistency with the City's financial statements.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of assisting in the reporting and disclosure information that satisfies certain requirements of GASB Statement Nos. 67 and 68. The calculation of the City's liability for this report may not be applicable for funding purposes of the Retirement System. A calculation of the City'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 Manchester Employees' Contributory Retirement System and the Board of Trustees only in its entirety and only with the permission of the City and the Board.

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. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but was not otherwise audited. We are not responsible for the accuracy or completeness of such information.

This report complements the actuarial valuation report that was provided to the City of Manchester Employees' Contributory Retirement System and should be considered collectively as a combined report for the plan year ending December 31, 2014. Please refer to the December 31, 2014 actuarial valuation report 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 with this report is accurate and fairly represents the actuarial position of the City of Manchester Employees' Contributory 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. Mark Buis is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

This communication shall not be construed to provide tax advice, legal advice, accounting advice, or investment advice.

Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this communication (or any attachment) concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.

Respectfully submitted,

Kenneth G. Alberts

Mark Buis
FSA, EA, MAAA

KGA/MB:

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SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY
AS OF DECEMBER 31, 2014

		2015
Actuarial Valuation Date		December 31, 2014
Measurement Date of the Net Pension Liability		December 31, 2014
Employer's Fiscal Year Ending Date (Reporting Date)		June 30, 2015
Membership		
Number of		
- Retirees and Beneficiaries		756
- Inactive, Nonretired Members		99
- Active Members		1,200
- Total		2,055
Covered Payroll #	$	54,267,183
Net Pension Liability		
Total Pension Liability	$	297,090,927
Plan Fiduciary Net Position		192,562,665
Net Pension Liability	$	104,528,262
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		64.82%
Net Pension Liability as a Percentage of Covered Payroll		192.62%
Development of the Single Discount Rate		
Single Discount Rate		7.25%
Long-Term Expected Rate of Investment Return		7.25%
Long-Term Municipal Bond Rate*		3.65%
Last year ending December 31 in the 2015 to 2114 projection period for which projected benefit payments are fully funded		2114
Total Pension Expense	$	13,527,945

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	$	2,247,879	$	-
Changes in assumptions		-		-
Net difference between projected and actual earnings on pension plan investments		5,471,514		-
Total	$	7,719,393	$	-

 # Based on valuation payroll as of December 31, 2014.

** Source: "State & local bonds" rate from Federal Reserve statistical release (H.15) as of December 26, 2014. The statistical release describes this rate as "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.*

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.

DISCUSSION

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.

DISCUSSION

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, 2014 and a measurement date of December 31, 2014.

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 Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 3.65% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 7.25%.

Effective Date and Transition

GASB Statement Nos. 67 and 68 are effective for fiscal years beginning after June 15, 2013, and June 15, 2014 respectively; earlier application is encouraged by the GASB.

SECTION B

FINANCIAL STATEMENTS

Pension Expense Under GASB Statement No. 68
Plan Year Ended December 31, 2014

A. Expense

1. Service Cost	$	6,589,804
2. Interest on the Total Pension Liability		20,108,289
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(2,254,021)
5. Projected Earnings on Plan Investments (made negative for addition here)		(13,481,369)
6. Pension Plan Administrative Expense		679,116
7. Other Changes in Plan Fiduciary Net Position		50,008
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		468,240
9. Recognition of Outflow (Inflow) of Resources due to Assets		1,367,878
10. Total Pension Expense	**$**	**13,527,945**

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD PLAN YEAR ENDED DECEMBER 31, 2014

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	2,716,119
2. Assumption Changes (gains) or losses	$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		5.8007
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	$	468,240
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	$	468,240
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the Difference between expected and actual experience of the Total Pension Liability	$	2,247,879
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	$	2,247,879
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	6,839,392
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	1,367,878
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	5,471,514

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS PLAN YEAR ENDED DECEMBER 31

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	$ 468,240	$ 0	$ 468,240
2. Due to Assets	1,367,878	-	1,367,878
3. Total	$ 1,836,118	$ 0	$ 1,836,118

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	$ 468,240	$ 0	$ 468,240
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual earnings on pension plan investments	1,367,878	-	1,367,878
4. Total	$ 1,836,118	$ 0	$ 1,836,118

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	$ 2,247,879	$ 0	$ 2,247,879
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual earnings on pension plan investments	5,471,514	-	5,471,514
4. Total	$ 7,719,393	$ 0	$ 7,719,393

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

Year Ending December 31	Net Deferred Outflows of Resources
2016	$ 1,836,118
2017	1,836,118
2018	1,836,118
2019	1,836,118
2020	374,920
Thereafter	0
Total	$ 7,719,393

STATEMENT OF FIDUCIARY NET POSITION AS OF DECEMBER 31, 2014

Assets		
Cash and Deposits	$	5,647,037
Receivables		
Accounts Receivable	$	12,796
Accrued Interest and Other Dividends		45,929
Additional Contribution Account		857,994
Property, Plant, Equipment		78,408
Total Receivables	$	995,127
Investments	$	196,837,859
Total Assets	$	203,480,023
Liabilities		
Payables		
Accounts Payable and Accrued Expenses	$	192,587
Payable for Investments Purchased		143,766
Benefits Payable		1,077,970
Total Liabilities	$	1,414,323
Assets held for 401(h) Subtrust	$	9,503,035
Net Position Restricted for Pensions	$	192,562,665

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION FOR YEAR ENDED DECEMBER 31, 2014

Additions		
Contributions		
Employer (Including Buybacks, Upgrades and Enrollments)	$	10,959,998
Employee (Including Additional Contributions)		2,254,021
Total Contributions	$	13,214,019
Other	$	-
Investment Income		
Net Appreciation in Fair Value of Investments	$	7,492,556
Less Investment Expense		(738,159)
Net Investment Income	$	6,754,397
Total Additions	$	19,968,416
Deductions		
Benefit Payments, Additional Contribution Payments, and Refunds of Employee Contributions	$	12,543,344
Pension Plan Administrative Expense		679,116
Other: Custodial Fees and Foreign Taxes		50,008
Total Deductions	$	13,272,468
Net Increase in Net Position	$	6,695,948
Net Position Restricted for Pensions		
Beginning of Year	$	185,979,137
Prior Year Adjustment		(112,420)
End of Year	$	192,562,665

SCHEDULE OF PROPORTIONATE EMPLOYER SHARE
FOR YEAR ENDED DECEMBER 31, 2014

	City of Manchester Employees' Contributory Retirement System - Participating Employer Units						
	Airport	**Parking Control**	**Environmental Protection**	**School District**	**Water Works**	**General Fund City Departments**	**TOTAL MECRS**
Covered Payroll	$ 5,323,978	$ 387,895	$ 2,562,462	$ 10,454,644	$ 4,656,272	$ 30,881,932	**$ 54,267,183**
Proportion *	9.81%	0.71%	4.72%	19.27%	8.58%	56.91%	**100.00%**
Net Pension Liability	**$ 10,254,930**	**$ 747,155**	**$ 4,935,758**	**$ 20,137,507**	**$ 8,968,809**	**$ 59,484,103**	**$ 104,528,262**
Pension Expense	**$ 1,327,183**	**$ 96,696**	**$ 638,781**	**$ 2,606,176**	**$ 1,160,735**	**$ 7,698,374**	**$ 13,527,945**
Deferred Outflows (Inflows) of Resources							
Differences Between Expected and Actual Experience	$ 220,532	$ 16,068	$ 106,143	$ 433,057	$ 192,874	$ 1,279,205	**$ 2,247,879**
Net Difference Between Projected and Actual Investment Earnings	536,793	39,110	258,361	1,054,094	469,471	3,113,685	**5,471,514**
Changes of Assumptions	0	0	0	0	0	0	**0**
Total Deferred Outflows (Inflows) of Resources	**$ 757,325**	**$ 55,178**	**$ 364,504**	**$ 1,487,151**	**$ 662,345**	**$ 4,392,890**	**$ 7,719,393**

** Proportionate share determined using valuation payroll as of December 31, 2014. Breakdown of Employer Units and payroll were provided by the City.*

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios
Current Period
Plan Year Ended December 31, 2014

A. Total pension liability		
1. Service cost	$	6,589,804
2. Interest on the total pension liability		20,108,289
3. Changes of benefit terms		0
4. Difference between expected and actual experience of the total pension liability		2,603,699
5. Changes of assumptions		0
6. Benefit payments, including refunds of employee contributions		(12,543,344)
7. Net change in total pension liability	$	16,758,448
8. Total pension liability – beginning		280,332,479
9. Total pension liability – ending	**$**	**297,090,927**
B. Plan fiduciary net position		
1. Contributions – employer	$	10,959,998
2. Contributions – employee		2,254,021
3. Net investment income		6,754,397
4. Benefit payments, including refunds of employee contributions		(12,543,344)
5. Pension plan administrative expense		(679,116)
6. Other		(50,008)
7. Net change in plan fiduciary net position	$	6,695,948
8. Plan fiduciary net position – beginning		185,866,717
9. Plan fiduciary net position – ending	**$**	**192,562,665**
C. Net pension liability	**$**	**104,528,262**
D. Plan fiduciary net position as a percentage of the total pension liability		**64.82%**
E. Covered-employee payroll	**$**	**54,267,183**
F. Net pension liability as a percentage of covered employee payroll		**192.62%**

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE NET PENSION LIABILITY

Ultimately 10 Fiscal Years Will Be Displayed

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	$ 297,090,927	$ 192,562,665	$ 104,528,262	64.82%	$ 54,267,183	192.62%

** Based on valuation payroll as of December 31, 2014.*

SCHEDULE OF CONTRIBUTIONS

Ultimately 10 Fiscal Years Will Be Displayed

Plan Year Ending December 31,	Actuarially Determined Contribution (ADC) #	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll *	Actual Contribution as a % of Covered Payroll
2014	$ 10,959,998	$ 10,959,998	$ -	$ 54,267,183	20.20%

** Based on valuation payroll as of December 31, 2014.*

 # Employer contributes based on percent of payroll. Employer pays the ADC percentage.

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:	December 31, 2014
Notes	Actuarially determined contribution rates are calculated as of December 31, which is 6 months prior to the beginning of the fiscal year which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Percent-of-Payroll, Closed
Remaining Amortization Period	25 years
Asset Valuation Method	5-year smoothed market; 20% corridor
Wage Inflation	3.00%
Salary Increases	3.00% to 7.93% including inflation
Investment Rate of Return	7.25% (net of investestement expenses)
Long-Term Municipal Bond Rate	3.65%
Retirement Age	Age and Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Mortality Table projected to 2020 for males and females.
Expense Load	0.5% of payroll.
COLA Assumption	1.25% compounded annually.

Other Information:

Notes	There were no changes to actuarial assumptions or benefit provisions reflected in the TPL as of December 31, 2014.

SCHEDULE OF INVESTMENT RETURNS

Ultimately 10 Fiscal Years Will Be Displayed

FY Ending June 30,	Annual Return[1]
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	

[1] *Annual money-weighted rate of return, net of investment expenses.*

The figures in the above table are to be provided by your investment consultant. The chart is provided in this report for illustration purposes only.

SECTION D

NOTES TO 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. Additional information about the assumed rate of investment return is included in our actuarial valuation report as of December 31, 2014.

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, 2014, these best estimates are summarized in the following table:

Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return	Allocation-Weighted Long-Term Expected Real Rate of Return
Domestic Fixed Income			
International Fixed Income			
Domestic Equity			
International Equity			
Private Equity			
Real Estate			
Commodities			
Cash			
Total			
Expected Inflation			
Total Return			

The information in the above table is to be provided by your investment consultant.

Single Discount Rate

A Single Discount Rate of 7.25% 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 7.25%. 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 7.25%, 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

	1% Decrease 6.25%	Current Single Discount Rate Assumption 7.25%	1% Increase 8.25%
Total Pension Liability (TPL)	$333,129,983	$297,090,927	$266,479,753
Net Position Restricted for Pensions	$192,562,665	$192,562,665	$192,562,665
Net Pension Liability (NPL)	$140,567,318	$104,528,262	$73,917,088

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	756
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	99
Active Plan Members	1,200
Total Plan Members	2,055

SECTION E

SUMMARY OF BENEFITS

SUMMARY OF BENEFIT PROVISIONS AS OF DECEMBER 31, 2014

Eligibility	Amount
NORMAL RETIREMENT	
Members are eligible to retire at age 60.	Straight life pension equals 2.0% of 3-year Final Average Earnings (FAE) times service on and after January 1, 1999 *plus* 1.5% of FAE times service before January 1, 1999.
Members with at least 20 years of service at retirement are eligible for a minimum benefit if employed on or before January 1, 1974.	Minimum benefit for eligible members is 50% of FAE.
EARLY RETIREMENT	
Members are eligible to retire early if the sum of age and service is at least 80, or at age 55 with at least 20 years of service.	Computed as a normal retirement pension. If the early retirement occurs prior to the member attaining age 60, the benefit is reduced by 1/6 of 1% for each month that the early retirement precedes age 60.
DEFERRED RETIREMENT	
Members are eligible to retire with a deferred benefit after attaining at least 5 years of service, provided they do not take a refund of member contributions.	Pension is computed as a normal retirement pension, based on service and FAE on date of termination. Commencement of benefits begins at age 60.
NON-DUTY DISABILITY	
Members are eligible upon attainment of 15 years of service.	Pension is computed as a normal retirement pension based on service and FAE as of date of disability.
DUTY DISABILITY	
No age or service requirement.	Pension is computed as a normal retirement pension based on service and FAE as of date of disability. Minimum duty disability benefit is 50% of FAE.

SUMMARY OF BENEFIT PROVISIONS AS OF DECEMBER 31, 2014

ORDINARY DEATH-IN-SERVICE

Eligibility	Amount
(1) Any age with less than 5 years of service.	Beneficiary receives member's contributions and accumulated interest, and an additional lump sum equal to one year's salary.
(2) Any age with 5 or more years of service.	Beneficiary receives the option of (1) the greater of (a) 50% of the accrued service retirement benefit (without any early retirement reduction); or (b) pension computed as normal or early retirement benefit (depending on eligibility), actuarially reduced as if the member had elected the 100% Joint & Survivor benefit; or (2) lump sum equal to 100% of base salary plus the member's accumulated contributions (including interest).

DUTY DEATH-IN-SERVICE

Eligibility	Amount
Death as a result of a work-related accident; not caused by willful neglect of the member.	The option of (1) the greater of (a) 50% of FAE, or (b) pension computed as an early retirement benefit actuarially reduced as if the member had elected the 100% Joint & Survivor benefit; or (2) a lump sum as described below; options payable to the spouse or child(ren) under age 18. If no spouse or child(ren) are alive at the time of the member's death, a lump sum is payable to the member's estate in the amount of 100% of base salary plus the member's accumulated contributions (including interest) plus accrued fringe benefits not paid at the time of death.

MEMBER CONTRIBUTIONS

3.75% of pay for service on and after January 1, 1999. 2.5% of pay for service prior to January 1, 1999. Contributions are credited with 5.0% interest per annum. Members may elect to contribute additional contributions which are accounted for separately. At retirement the additional contribution balance is annuitized to provide an additional benefit, within certain limits.

Summary of Benefit Provisions as of December 31, 2014

OPTIONAL FORMS OF PAYMENT

In lieu of the straight life benefit, a member may elect an actuarially reduced benefit in one of the following forms:

100% Joint & Survivor with pop-up
66 2/3 % Joint & Survivor with pop-up
50% Joint & Survivor with pop-up
10-year Certain & Life Option

The actuarial factors for optional forms of payment are based on the 1983 Group Annuity Mortality Table and 7.5% interest.

SERVICE UPGRADE

Members may elect to purchase an increase in their benefit multiplier for service rendered before 1999 under Chapter 159 (or Senate Bill 402). The cost to the member is ½ of the actuarially determined increase in System costs and results in a benefit based on 2% of FAE for the time purchased.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

ACTUARIAL COST METHOD

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using the *individual entry-age actuarial cost method.* GASB Statement Nos. 67 and 68 require the use of this method having the following characteristics:

- the annual normal cost 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;

- each annual normal cost is a constant percentage of the member’s year-by-year projected covered pay;

- the use of Market Value of Assets for the Net Position Restricted for Pensions.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

The contribution requirements and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and member information furnished, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experience are:

- long-term rates of investment return to be generated by the assets of the System,
- patterns of pay increases to members,
- rates of mortality among members, retirees and beneficiaries,
- rates of withdrawal of active members,
- rates of disability among members, and
- the age patterns of actual retirement.

In a valuation, the monetary effect of each assumption is calculated for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience, regardless of the accuracy of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). The Board has established a policy of performing an Experience Study every 3-5 years to evaluate/modify valuation assumptions. Assumptions used in this report are based on the January 1, 2007 – December 31, 2011 experience study of the MECRS and were adopted by the Board. These assumptions were first used in the December 31, 2012 actuarial valuation.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

The rate of investment return was 7.25% per year, compounded annually (net of investment expenses). This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time. The assumed real rate of return (the net return in excess of the wage inflation rate) is 4.25%. Experience over the last 5 years has been as follows:

	Year Ended December 31					5-Year
	2014	2013	2012	2011	2010	Average
1) Nominal rate of return#	7.4 %	9.3 %	3.8 %	3.5 %	6.6 %	6.1 %
2) Increase in CPI	0.8 %	1.5 %	1.7 %	1.5 %	1.5 %	1.4 %
3) Average salary increase (ASI)	1.3 %	3.3 %	3.9 %	4.1 %	2.9 %	3.1 %
4) Real Return						
- Total: CPI (1) - (2)						4.7 %
- Total: ASI (1) - (3)						3.0 %
- Assumption	4.25 %	4.25 %	4.25 %	4.0 %	4.0 %	4.1 %

\# *The nominal rate of return was computed using the approximate formula: i = I divided by ½(A+B-I), where I is realized investment income net of expenses, A is the beginning of year asset funding value and B is the end of year funding asset value.*

The rate of assumed price inflation was 2.75% per year. This results in a real rate of return over price inflation of 4.5%.

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

	Salary Increase Assumptions For an Individual Member		
Service	Merit & Seniority	Base (Economic)	Increase Next Year
1	3.96%	3.00%	6.96%
2	4.93%	3.00%	7.93%
3	4.72%	3.00%	7.72%
4	4.20%	3.00%	7.20%
5	3.88%	3.00%	6.88%
6	3.43%	3.00%	6.43%
7	3.05%	3.00%	6.05%
8	2.76%	3.00%	5.76%
9	2.56%	3.00%	5.56%
10	2.35%	3.00%	5.35%
15	1.58%	3.00%	4.58%
20	1.27%	3.00%	4.27%
25	1.25%	3.00%	4.25%
30	1.25%	3.00%	4.25%
35	1.25%	3.00%	4.25%
40	1.25%	3.00%	4.25%
Ref:	280		

If the number of active members remains constant, then the total active member payroll will increase 3.0% annually, the base portion of the individual salary increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

The mortality table was the RP 2000 Mortality Table projected to 2020.

Sample Attained Ages	Single Life Retirement Values: Present Value of $1 Monthly for Life		Percent Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women	Men	Women
50	$148.84	$150.73	0.1487%	0.1189%	32.77	34.63
55	140.89	143.37	0.2469%	0.2314%	28.04	29.88
60	130.74	134.14	0.4887%	0.4573%	23.47	25.31
65	118.50	123.10	0.9607%	0.8780%	19.17	21.02
70	104.41	110.47	1.6413%	1.5145%	15.22	17.06
75	88.00	96.22	2.8538%	2.3935%	11.58	13.47
80	70.35	80.35	5.2647%	3.9866%	8.42	10.23
Ref:	454 x 1.00 sb 0	455 x 1.00 sb 0				

This assumption is used to measure the probabilities of members dying after retirement. Ninety percent of these rates are used to measure the probability of dying before retirement. The projection to 2020 is the margin for mortality improvement.

Post-retirement disabled mortality rates are based on the health mortality rates, set forward 10 years.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Active Members Retiring Next Year Under Normal Retirement			Active Members Retiring Next Year Under Early Retirement			
	% Retiring			% Retiring		
				Age and Service		
Ages	Men	Women	Ages	Men	Women	Rule of 80
60	10%	13%	50			5%
61	10%	15%	51			5%
62	20%	28%	52			5%
63	20%	15%	53			5%
64	15%	10%	54			5%
65	25%	25%	55	5%	7%	5%
66	20%	25%	56	5%	7%	5%
67	15%	25%	57	5%	7%	5%
68	15%	10%	58	5%	7%	5%
69	15%	20%	59	5%	7%	5%
70	15%	20%				
71	50%	20%				
72	50%	20%				
73	50%	20%				
74	50%	20%				
75	100%	20%				
76	100%	20%				
77	100%	20%				
78	100%	20%				
79	100%	20%				
80	100%	100%				
Ref.	2355	2356		2357	2358	2359

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

A member was assumed to be eligible for normal retirement after attaining age 60 regardless of service. A member was assumed to be eligible for early retirement after attaining age 55 with at least 20 years of service or if the sum of age and service is at least 80.

Rates of separation from active membership are shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample Ages	Service	% of Active Members Separating Within Next Year	
		Men	Women
	0-1	20.00%	30.00%
	1-2	17.00%	20.00%
	2-3	11.50%	15.00%
	3-4	9.00%	12.50%
	4-5	8.00%	11.00%
	5-6	n/a	8.00%
	5 & Up (Men)		
30	6 & Up (Women)	5.14%	5.30%
35		3.80%	4.45%
40		3.00%	3.85%
45		2.57%	3.40%
50		2.40%	2.95%
Ref.		830 77x0.45	831 37x1

Rates of disability were divided equally between duty and non-duty disability and are as follows:

Sample Ages	% of Active Members Becoming Disabled Within Next Year	
	Male	Female
20	0.002%	0.002%
25	0.002%	0.002%
30	0.002%	0.002%
35	0.011%	0.011%
40	0.043%	0.043%
45	0.088%	0.088%
50	0.144%	0.144%
55	0.214%	0.214%
60	0.318%	0.318%
Ref.	37 x 0.30	37 x 0.30

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:	Beginning of the year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and withdrawal decrements do not operate after member reaches retirement eligibility.
Expense Load:	0.50% of payroll.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form.
Benefit Service:	Exact fractional service as of the valuation date is used to determine the amount of benefit payable.
Incidence of Contributions:	For Manchester School District and enterprise funds of the City (Airport, Water Works, and the MECRS), contributions are assumed to be received continuously throughout the year based upon the actual payroll payable at the time contributions are made. For the remaining City group, contributions are assumed to be received on a semiannual basis in December and July.
COLA Assumption:	1.25% compounded annually.
Adjustments:	Normal and Early retirement costs were increased by 9% to reflect lump sums that are payable at retirement but not available in the active data. Retiree liabilities were increased 1% to account for pop-up retiree benefits.
Post-Retirement Subsidy:	55% of current actives and 25% of current terminated vested members were assumed to elect to receive the post-retirement health subsidy upon retirement.

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 (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 3.65%; and the resulting Single Discount Rate is 7.25%.

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

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities). Administrative expenses were assumed to be 1.25% of payroll.

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

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

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS ENDING DECEMBER 31, 2114

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAL Contributions	Total Contributions
0	$ 54,267,183					
1	57,067,230	$ 2,216,240	$ 4,815,337	$ 714,157	$ 6,899,800	$ 14,645,533
2	54,403,232	2,112,782	4,555,801	680,819	6,944,220	14,293,621
3	52,187,370	2,026,727	4,344,286	653,089	7,044,120	14,068,222
4	50,305,638	1,953,649	4,166,418	629,540	7,364,361	14,113,968
5	48,475,977	1,882,593	3,993,688	606,643	7,585,292	14,068,216
6	46,693,307	1,813,362	3,827,294	584,334	7,812,851	14,037,841
7	44,828,953	1,740,959	3,656,810	561,003	8,047,236	14,006,008
8	42,899,148	1,666,014	3,474,496	536,853	8,288,653	13,966,016
9	40,870,769	1,587,240	3,288,926	511,469	8,537,313	13,924,948
10	38,711,635	1,503,389	3,093,597	484,449	8,793,432	13,874,868
11	36,503,782	1,417,646	2,891,268	456,819	9,057,235	13,822,969
12	34,281,446	1,331,340	2,690,222	429,008	9,328,952	13,779,522
13	32,084,480	1,246,020	2,491,303	401,515	9,608,821	13,747,659
14	29,962,076	1,163,595	2,301,301	374,955	9,897,086	13,736,937
15	27,894,528	1,083,300	2,117,711	349,081	10,193,998	13,744,091
16	25,896,930	1,005,723	1,942,215	324,082	10,499,818	13,771,838
17	23,984,863	931,466	1,775,031	300,154	10,814,813	13,821,464
18	22,191,881	861,835	1,622,496	277,716	11,139,257	13,901,304
19	20,495,271	795,946	1,481,048	256,484	11,473,435	14,006,913
20	18,879,062	733,180	1,345,937	236,258	11,817,638	14,133,012
21	17,357,437	674,086	1,218,461	217,216	12,172,167	14,281,930
22	15,946,430	619,289	1,103,827	199,558	12,537,332	14,460,006
23	14,666,295	569,574	1,001,104	183,538	12,913,452	14,667,668
24	13,463,334	522,857	904,767	168,484	13,300,856	14,896,963
25	12,325,005	478,649	817,451	154,239	13,699,881	15,150,221
26	11,244,813	436,699	734,464	140,721	-	1,311,884
27	10,219,090	396,864	658,952	127,885	-	1,183,701
28	9,295,195	360,984	591,353	116,323	-	1,068,660
29	8,376,607	325,310	525,304	104,827	-	955,441
30	7,495,846	291,106	464,316	93,805	-	849,226
31	6,717,005	260,859	410,440	84,059	-	755,358
32	5,978,614	232,183	360,654	74,818	-	667,655
33	5,293,314	205,569	315,994	66,242	-	587,805
34	4,616,777	179,295	272,520	57,776	-	509,591
35	3,974,790	154,363	231,384	49,742	-	435,489
36	3,410,545	132,451	196,191	42,681	-	371,323
37	2,893,725	112,380	164,385	36,213	-	312,978
38	2,414,946	93,786	135,925	30,221	-	259,932
39	2,001,271	77,721	111,257	25,045	-	214,022
40	1,623,862	63,064	89,300	20,322	-	172,686
41	1,301,476	50,544	70,890	16,287	-	137,721
42	1,048,366	40,714	56,496	13,120	-	110,330
43	824,842	32,033	44,207	10,322	-	86,563
44	631,227	24,514	33,598	7,899	-	66,011
45	481,035	18,681	25,205	6,020	-	49,907
46	356,912	13,861	18,523	4,467	-	36,851
47	262,744	10,204	13,415	3,288	-	26,907
48	190,747	7,408	9,609	2,387	-	19,404
49	135,422	5,259	6,652	1,695	-	13,606
50	95,224	3,698	4,513	1,192	-	9,403

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS ENDING DECEMBER 31, 2114
(CONCLUDED)

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAL Contributions	Total Contributions
51	$ 65,988	$ 2,563	$ 3,117	$ 826	$ -	$ 6,506
52	37,448	1,454	1,743	469	-	3,667
53	22,575	877	1,056	283	-	2,216
54	13,641	530	648	171	-	1,349
55	7,550	293	333	94	-	721
56	3,574	139	157	45	-	341
57	2,144	83	97	27	-	207
58	1,083	42	48	14	-	104
59	-	-	-	-	-	-
60	-	-	-	-	-	-
61	-	-	-	-	-	-
62	-	-	-	-	-	-
63	-	-	-	-	-	-
64	-	-	-	-	-	-
65	-	-	-	-	-	-
66	-	-	-	-	-	-
67	-	-	-	-	-	-
68	-	-	-	-	-	-
69	-	-	-	-	-	-
70	-	-	-	-	-	-
71	-	-	-	-	-	-
72	-	-	-	-	-	-
73	-	-	-	-	-	-
74	-	-	-	-	-	-
75	-	-	-	-	-	-
76	-	-	-	-	-	-
77	-	-	-	-	-	-
78	-	-	-	-	-	-
79	-	-	-	-	-	-
80	-	-	-	-	-	-
81	-	-	-	-	-	-
82	-	-	-	-	-	-
83	-	-	-	-	-	-
84	-	-	-	-	-	-
85	-	-	-	-	-	-
86	-	-	-	-	-	-
87	-	-	-	-	-	-
88	-	-	-	-	-	-
89	-	-	-	-	-	-
90	-	-	-	-	-	-
91	-	-	-	-	-	-
92	-	-	-	-	-	-
93	-	-	-	-	-	-
94	-	-	-	-	-	-
95	-	-	-	-	-	-
96	-	-	-	-	-	-
97	-	-	-	-	-	-
98	-	-	-	-	-	-
99	-	-	-	-	-	-
100	-	-	-	-	-	-

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING DECEMBER 31, 2114

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.25%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	$ 192,562,665	$ 14,645,533	$ 14,282,428	$ 714,157	$ 13,948,290	$ 206,159,903
2	206,159,903	14,293,621	15,461,193	680,819	14,880,761	219,192,273
3	219,192,273	14,068,222	16,618,910	653,089	15,777,335	231,765,831
4	231,765,831	14,113,968	17,782,228	629,540	16,649,953	244,117,985
5	244,117,985	14,068,216	18,973,599	606,643	17,502,239	256,108,198
6	256,108,198	14,037,841	20,259,219	584,334	18,325,454	267,627,939
7	267,627,939	14,006,008	21,595,771	561,003	19,112,730	278,589,904
8	278,589,904	13,966,016	22,963,822	536,853	19,858,184	288,913,429
9	288,913,429	13,924,948	24,390,003	511,469	20,555,286	298,492,192
10	298,492,192	13,874,868	25,823,244	484,449	21,197,879	307,257,245
11	307,257,245	13,822,969	27,241,016	456,819	21,781,986	315,164,366
12	315,164,366	13,779,522	28,631,742	429,008	22,305,164	322,188,302
13	322,188,302	13,747,659	29,961,696	401,515	22,766,876	328,339,626
14	328,339,626	13,736,937	31,207,562	374,955	23,169,039	333,663,085
15	333,663,085	13,744,091	32,404,240	349,081	23,513,546	338,167,401
16	338,167,401	13,771,838	33,485,572	324,082	23,803,474	341,933,058
17	341,933,058	13,821,464	34,479,403	300,154	24,043,708	345,018,674
18	345,018,674	13,901,304	35,341,614	277,716	24,240,350	347,540,997
19	347,540,997	14,006,913	36,044,908	256,484	24,402,687	349,649,205
20	349,649,205	14,133,012	36,628,871	236,258	24,539,946	351,457,034
21	351,457,034	14,281,930	37,075,593	217,216	24,661,085	353,107,241
22	353,107,241	14,460,006	37,372,979	199,558	24,777,105	354,771,815
23	354,771,815	14,667,668	37,518,909	183,538	24,900,555	356,637,591
24	356,637,591	14,896,963	37,556,700	168,484	25,043,181	358,852,551
25	358,852,551	15,150,221	37,423,705	154,239	25,218,030	361,642,857
26	361,642,857	1,311,884	37,165,577	140,721	24,937,139	350,585,582
27	350,585,582	1,183,701	36,827,719	127,885	24,143,411	338,957,090
28	338,957,090	1,068,660	36,390,756	116,323	23,312,223	326,830,895
29	326,830,895	955,441	35,856,450	104,827	22,448,480	314,273,540
30	314,273,540	849,226	35,173,765	93,805	21,558,996	301,414,192
31	301,414,192	755,358	34,413,685	84,059	20,650,768	288,322,574
32	288,322,574	667,655	33,601,904	74,818	19,727,744	275,041,251
33	275,041,251	587,805	32,715,004	66,242	18,793,897	261,641,707
34	261,641,707	509,591	31,772,740	57,776	17,853,505	248,174,287
35	248,174,287	435,489	30,771,785	49,742	16,910,414	234,698,663
36	234,698,663	371,323	29,681,811	42,681	15,970,218	221,315,712
37	221,315,712	312,978	28,547,441	36,213	15,038,508	208,083,543
38	208,083,543	259,932	27,378,393	30,221	14,119,136	195,053,996
39	195,053,996	214,022	26,166,459	25,045	13,216,207	182,292,721
40	182,292,721	172,686	24,939,579	20,322	12,333,407	169,838,913
41	169,838,913	137,721	23,680,661	16,287	11,474,241	157,753,926
42	157,753,926	110,330	22,401,938	13,120	10,642,760	146,091,958
43	146,091,958	86,563	21,140,568	10,322	9,841,445	134,869,076
44	134,869,076	66,011	19,893,140	7,899	9,071,568	124,105,617
45	124,105,617	49,907	18,662,285	6,020	8,334,549	113,821,768
46	113,821,768	36,851	17,456,595	4,467	7,631,502	104,029,058
47	104,029,058	26,907	16,279,441	3,288	6,963,143	94,736,379
48	94,736,379	19,404	15,136,338	2,387	6,329,901	85,946,959
49	85,946,959	13,606	14,029,718	1,695	5,731,900	77,661,051
50	77,661,051	9,403	12,961,582	1,192	5,169,082	69,876,761

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING DECEMBER 31, 2114
(CONCLUDED)

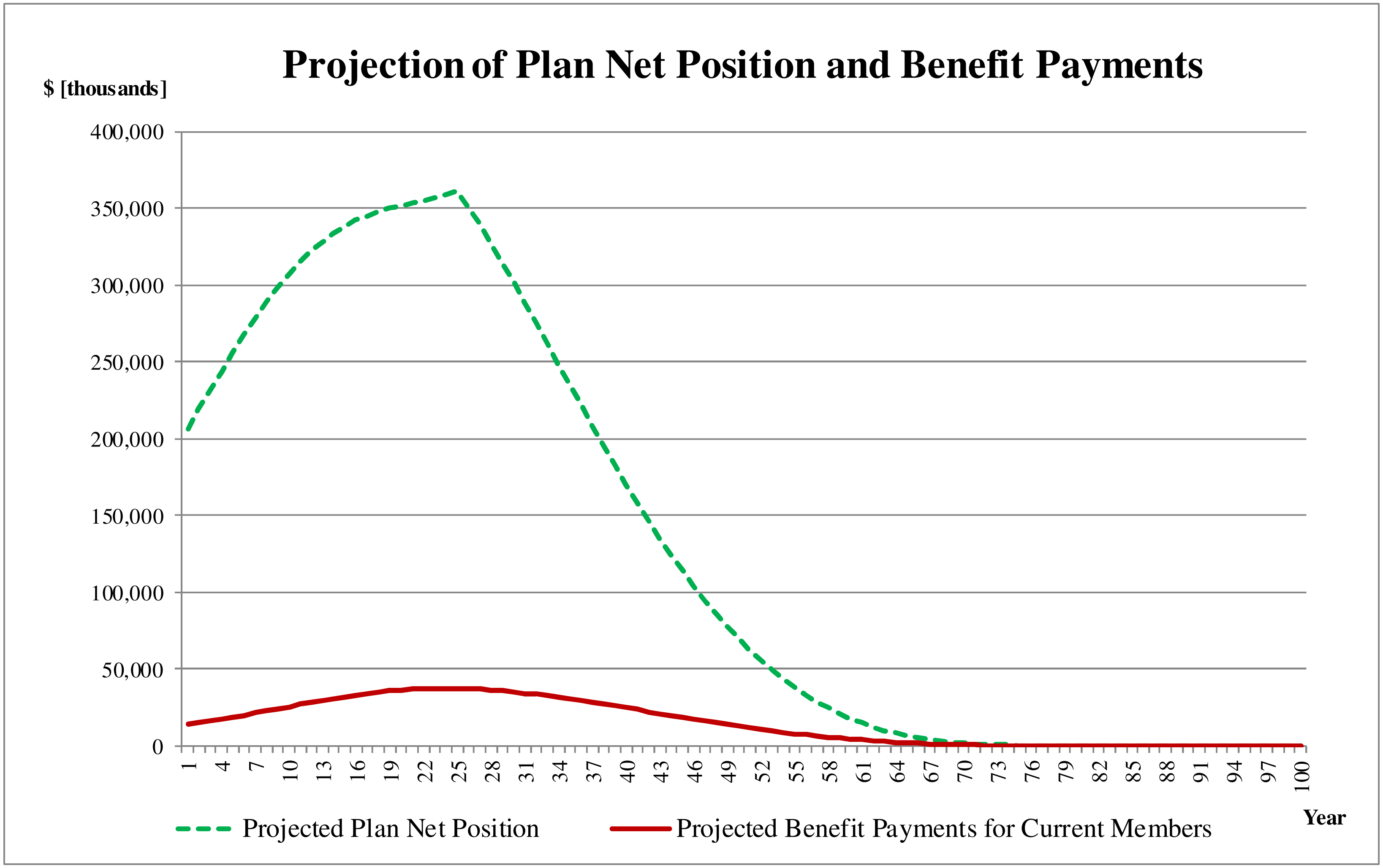
Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.25%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	$ 69,876,761	$ 6,506	$ 11,937,761	$ 826	$ 4,641,095	$ 62,585,775
52	62,585,775	3,667	10,955,446	469	4,147,396	55,780,923
53	55,780,923	2,216	10,010,756	283	3,687,645	49,459,745
54	49,459,745	1,349	9,108,225	171	3,261,477	43,614,174
55	43,614,174	721	8,249,265	94	2,868,246	38,233,782
56	38,233,782	341	7,433,509	45	2,507,210	33,307,778
57	33,307,778	207	6,661,596	27	2,177,563	28,823,924
58	28,823,924	104	5,935,365	14	1,878,345	24,766,994
59	24,766,994	-	5,254,696	-	1,608,457	21,120,756
60	21,120,756	-	4,619,686	-	1,366,721	17,867,791
61	17,867,791	-	4,031,076	-	1,151,845	14,988,561
62	14,988,561	-	3,489,014	-	962,407	12,461,954
63	12,461,954	-	2,993,764	-	796,866	10,265,056
64	10,265,056	-	2,545,087	-	653,571	8,373,541
65	8,373,541	-	2,142,302	-	530,782	6,762,021
66	6,762,021	-	1,784,704	-	426,683	5,404,000
67	5,404,000	-	1,470,872	-	339,404	4,272,531
68	4,272,531	-	1,198,544	-	267,071	3,341,059
69	3,341,059	-	965,243	-	207,849	2,583,665
70	2,583,665	-	768,084	-	159,960	1,975,540
71	1,975,540	-	603,771	-	121,723	1,493,492
72	1,493,492	-	468,793	-	91,582	1,116,281
73	1,116,281	-	359,486	-	68,127	824,923
74	824,923	-	272,300	-	50,109	602,731
75	602,731	-	203,767	-	36,441	435,404
76	435,404	-	150,597	-	26,203	311,010
77	311,010	-	109,964	-	18,632	219,678
78	219,678	-	79,362	-	13,100	153,417
79	153,417	-	56,593	-	9,107	105,931
80	105,931	-	39,875	-	6,260	72,316
81	72,316	-	27,762	-	4,254	48,809
82	48,809	-	19,094	-	2,859	32,573
83	32,573	-	12,975	-	1,899	21,498
84	21,498	-	8,714	-	1,248	14,031
85	14,031	-	5,787	-	811	9,055
86	9,055	-	3,802	-	521	5,774
87	5,774	-	2,467	-	331	3,639
88	3,639	-	1,582	-	207	2,264
89	2,264	-	1,004	-	128	1,389
90	1,389	-	630	-	78	837
91	837	-	389	-	47	495
92	495	-	236	-	28	287
93	287	-	142	-	16	161
94	161	-	83	-	9	87
95	87	-	47	-	5	45
96	45	-	26	-	2	22
97	22	-	14	-	1	9
98	9	-	7	-	0	3
99	3	-	3	-	0	0
100	0	-	2	-	-	-

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS ENDING DECEMBER 31, 2114

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	$ 192,562,665	$ 14,282,428	$ 14,282,428	$ -	$ 13,791,243	$ -	$ 13,791,243
2	206,159,903	15,461,193	15,461,193	-	13,920,251	-	13,920,251
3	219,192,273	16,618,910	16,618,910	-	13,951,127	-	13,951,127
4	231,765,831	17,782,228	17,782,228	-	13,918,602	-	13,918,602
5	244,117,985	18,973,599	18,973,599	-	13,847,197	-	13,847,197
6	256,108,198	20,259,219	20,259,219	-	13,785,977	-	13,785,977
7	267,627,939	21,595,771	21,595,771	-	13,702,072	-	13,702,072
8	278,589,904	22,963,822	22,963,822	-	13,585,149	-	13,585,149
9	288,913,429	24,390,003	24,390,003	-	13,453,485	-	13,453,485
10	298,492,192	25,823,244	25,823,244	-	13,281,173	-	13,281,173
11	307,257,245	27,241,016	27,241,016	-	13,063,262	-	13,063,262
12	315,164,366	28,631,742	28,631,742	-	12,802,029	-	12,802,029
13	322,188,302	29,961,696	29,961,696	-	12,491,084	-	12,491,084
14	328,339,626	31,207,562	31,207,562	-	12,130,991	-	12,130,991
15	333,663,085	32,404,240	32,404,240	-	11,744,674	-	11,744,674
16	338,167,401	33,485,572	33,485,572	-	11,316,173	-	11,316,173
17	341,933,058	34,479,403	34,479,403	-	10,864,363	-	10,864,363
18	345,018,674	35,341,614	35,341,614	-	10,383,257	-	10,383,257
19	347,540,997	36,044,908	36,044,908	-	9,874,017	-	9,874,017
20	349,649,205	36,628,871	36,628,871	-	9,355,697	-	9,355,697
21	351,457,034	37,075,593	37,075,593	-	8,829,649	-	8,829,649
22	353,107,241	37,372,979	37,372,979	-	8,298,809	-	8,298,809
23	354,771,815	37,518,909	37,518,909	-	7,768,031	-	7,768,031
24	356,637,591	37,556,700	37,556,700	-	7,250,214	-	7,250,214
25	358,852,551	37,423,705	37,423,705	-	6,736,168	-	6,736,168
26	361,642,857	37,165,577	37,165,577	-	6,237,488	-	6,237,488
27	350,585,582	36,827,719	36,827,719	-	5,762,970	-	5,762,970
28	338,957,090	36,390,756	36,390,756	-	5,309,643	-	5,309,643
29	326,830,895	35,856,450	35,856,450	-	4,878,027	-	4,878,027
30	314,273,540	35,173,765	35,173,765	-	4,461,681	-	4,461,681
31	301,414,192	34,413,685	34,413,685	-	4,070,179	-	4,070,179
32	288,322,574	33,601,904	33,601,904	-	3,705,518	-	3,705,518
33	275,041,251	32,715,004	32,715,004	-	3,363,835	-	3,363,835
34	261,641,707	31,772,740	31,772,740	-	3,046,107	-	3,046,107
35	248,174,287	30,771,785	30,771,785	-	2,750,716	-	2,750,716
36	234,698,663	29,681,811	29,681,811	-	2,473,923	-	2,473,923
37	221,315,712	28,547,441	28,547,441	-	2,218,532	-	2,218,532
38	208,083,543	27,378,393	27,378,393	-	1,983,852	-	1,983,852
39	195,053,996	26,166,459	26,166,459	-	1,767,864	-	1,767,864
40	182,292,721	24,939,579	24,939,579	-	1,571,071	-	1,571,071
41	169,838,913	23,680,661	23,680,661	-	1,390,923	-	1,390,923
42	157,753,926	22,401,938	22,401,938	-	1,226,867	-	1,226,867
43	146,091,958	21,140,568	21,140,568	-	1,079,522	-	1,079,522
44	134,869,076	19,893,140	19,893,140	-	947,154	-	947,154
45	124,105,617	18,662,285	18,662,285	-	828,486	-	828,486
46	113,821,768	17,456,595	17,456,595	-	722,574	-	722,574
47	104,029,058	16,279,441	16,279,441	-	628,297	-	628,297
48	94,736,379	15,136,338	15,136,338	-	544,690	-	544,690
49	85,946,959	14,029,718	14,029,718	-	470,739	-	470,739
50	77,661,051	12,961,582	12,961,582	-	405,501	-	405,501

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS ENDING DECEMBER 31, 2114
(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	$ 69,876,761	$ 11,937,761	$ 11,937,761	$ -	$ 348,224	$ -	$ 348,224
52	62,585,775	10,955,446	10,955,446	-	297,968	-	297,968
53	55,780,923	10,010,756	10,010,756	-	253,868	-	253,868
54	49,459,745	9,108,225	9,108,225	-	215,367	-	215,367
55	43,614,174	8,249,265	8,249,265	-	181,871	-	181,871
56	38,233,782	7,433,509	7,433,509	-	152,807	-	152,807
57	33,307,778	6,661,596	6,661,596	-	127,682	-	127,682
58	28,823,924	5,935,365	5,935,365	-	106,072	-	106,072
59	24,766,994	5,254,696	5,254,696	-	87,560	-	87,560
60	21,120,756	4,619,686	4,619,686	-	71,775	-	71,775
61	17,867,791	4,031,076	4,031,076	-	58,396	-	58,396
62	14,988,561	3,489,014	3,489,014	-	47,127	-	47,127
63	12,461,954	2,993,764	2,993,764	-	37,704	-	37,704
64	10,265,056	2,545,087	2,545,087	-	29,886	-	29,886
65	8,373,541	2,142,302	2,142,302	-	23,456	-	23,456
66	6,762,021	1,784,704	1,784,704	-	18,220	-	18,220
67	5,404,000	1,470,872	1,470,872	-	14,001	-	14,001
68	4,272,531	1,198,544	1,198,544	-	10,637	-	10,637
69	3,341,059	965,243	965,243	-	7,988	-	7,988
70	2,583,665	768,084	768,084	-	5,926	-	5,926
71	1,975,540	603,771	603,771	-	4,344	-	4,344
72	1,493,492	468,793	468,793	-	3,145	-	3,145
73	1,116,281	359,486	359,486	-	2,248	-	2,248
74	824,923	272,300	272,300	-	1,588	-	1,588
75	602,731	203,767	203,767	-	1,108	-	1,108
76	435,404	150,597	150,597	-	764	-	764
77	311,010	109,964	109,964	-	520	-	520
78	219,678	79,362	79,362	-	350	-	350
79	153,417	56,593	56,593	-	233	-	233
80	105,931	39,875	39,875	-	153	-	153
81	72,316	27,762	27,762	-	99	-	99
82	48,809	19,094	19,094	-	64	-	64
83	32,573	12,975	12,975	-	40	-	40
84	21,498	8,714	8,714	-	25	-	25
85	14,031	5,787	5,787	-	16	-	16
86	9,055	3,802	3,802	-	10	-	10
87	5,774	2,467	2,467	-	6	-	6
88	3,639	1,582	1,582	-	3	-	3
89	2,264	1,004	1,004	-	2	-	2
90	1,389	630	630	-	1	-	1
91	837	389	389	-	1	-	1
92	495	236	236	-	0	-	0
93	287	142	142	-	0	-	0
94	161	83	83	-	0	-	0
95	87	47	47	-	0	-	0
96	45	26	26	-	0	-	0
97	22	14	14	-	0	-	0
98	9	7	7	-	0	-	0
99	3	3	3	-	0	-	0
100	0	2	2	-	0	-	0
				Totals	$ 354,102,106	$ -	$ 354,102,106


Projection of Plan Net Position and Benefit Payments
$ [thousands]
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
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.

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.

GLOSSARY OF TERMS

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 covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
Deferred Retirement Option Program (DROP)	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.
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 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.
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 contribution entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contribution Entities	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.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. The Normal Cost may also be referred to as “Service Cost.”

GLOSSARY OF TERMS

Other Postemployment Benefits (OPEB)	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. The Service Cost may also be referred to as the "Normal Cost."
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.

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April 30, 2015

Mr. Gerard Fleury
Executive Director
City of Manchester Employees'
Contributory Retirement System
1045 Elm Street, Suite 403
Manchester, New Hampshire 03101-1824

Dear Mr. Fleury:

Please find enclosed copies of the GASB Statement Nos. 67 and 68 Employer Reporting Accounting Schedules report of the City of Manchester Employees' Contributory Retirement System.

Sincerely,

Kenneth G. Alberts

KGA:bd
Enclosures