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, 2016

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April 24, 2017

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

Dear Board Members:

The purpose of this report is to provide 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. This report should not be relied upon for any other purpose than described herein.

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 Net Pension Liability is not an appropriate measure for determining 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 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. Statement Nos. 67 and 68 cover pension benefits provided by the Retirement System. The Retirement System also provides post-retirement health benefits through a Section 401(h) sub-trust. The assets and liabilities of the sub-trust have not been included in this report. Please refer to the actuarial valuation for information concerning the liabilities and assets of the sub-trust.

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 Board. Authorized or unauthorized use of this report does not create a liability between GRS and the other party. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by the Retirement System, 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 audited. We are not responsible for the accuracy or completeness of such information.

This report complements the actuarial valuation report 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, 2016. Please refer to the December 31, 2016 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 for the purposes of GASB Statements No. 67 and No. 68 reporting. 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 individuals are independent of the plan sponsor.

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

Respectfully submitted,

Kenneth G. Alberts

Mark Buis, FSA, EA, FCA, MAAA

KGA/MB:ah

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SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY
AS OF DECEMBER 31, 2016

Actuarial Valuation Date	December 31, 2016
Measurement Date of the Net Pension Liability	December 31, 2016
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2017

Membership		
Number of		
- Retirees and Beneficiaries		856
- Inactive, Nonretired Members		96
- Active Members		1,180
- Total		2,132
Covered Payroll #	$	52,888,074
Net Pension Liability		
Total Pension Liability	$	321,887,981
Plan Fiduciary Net Position		191,930,272
Net Pension Liability	$	129,957,709
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		59.63%
Net Pension Liability as a Percentage of Covered Payroll		245.72%
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*		3.78%
Last year ending December 31 in the 2017 to 2116 projection period for which projected benefit payments are fully funded		2116
Total Pension Expense	$	19,703,239

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

		Deferred Outflows of Resources		Deferred Inflows of Resources
Difference between expected and actual experience	$	4,278,492	$	4,282,329
Changes in assumptions		-		-
Net difference between projected and actual earnings on pension plan investments		15,311,034		-
Total	$	19,589,526	$	4,282,329

 # Based on valuation payroll as of December 31, 2016.

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

DISCUSSION

Accounting Standard

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

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

Financial Statements

GASB Statement No. 68 requires State or local governments to recognize the Net Pension Liability and the pension expense on their financial statements. The Net Pension Liability is the difference between the Total Pension Liability and the Plan's Fiduciary Net Position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

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 MECRS subsequent to the measurement date of December 31, 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
- 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 7.25% on the actuarial value of assets), then the following outcomes are expected:

1. The employer normal cost as a percentage of pay is expected to remain level as a percentage of payroll.
2. The unfunded liability is expected to be paid off in approximately 23 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability.
3. The funded status of the plan is expected to reach a 100% funded ratio in approximately 23 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability.

This funding policy results in the expectation that the plan’s assets will be able to fully pay for promised benefits through at least 2116. 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 December 31, 2016 and a measurement date of December 31, 2016.

Single Discount Rate

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 3.78% (based on the weekly rate closest to but not later than the measurement date of the 20-Year Bond Buyer Index); and the resulting Single Discount Rate is 7.25%.

SECTION B

FINANCIAL STATEMENTS

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

A. Expense		
1. Service Cost	$	6,327,991
2. Interest on the Total Pension Liability		22,438,990
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(2,389,882)
5. Projected Earnings on Plan Investments (made negative for addition here)		(13,299,387)
6. Pension Plan Administrative Expense		791,762
7. Other Changes in Plan Fiduciary Net Position		61,856
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		329,363
9. Recognition of Outflow (Inflow) of Resources due to Assets		5,442,546
10. Total Pension Expense	**$**	**19,703,239**

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

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	(5,201,876)
2. Assumption Changes (gains) or losses	$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		5.6570
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	$	(919,547)
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	$	(919,547)
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	$	(4,282,329)
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	$	(4,282,329)
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	1,756,370
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	$	351,274
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	1,405,096

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS PLAN YEAR ENDED DECEMBER 31, 2016

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	$ 1,248,910	$ 919,547	$ 329,363
2. Due to Assets	5,442,546	-	5,442,546
3. Total	$ 6,691,456	$ 919,547	$ 5,771,909

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	$ 1,248,910	$ 919,547	$ 329,363
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual earnings on pension plan investments	5,442,546	-	5,442,546
4. Total	$ 6,691,456	$ 919,547	$ 5,771,909

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	$ 4,278,492	$ 4,282,329	$ (3,837)
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual earnings on pension plan investments	15,311,034	-	15,311,034
4. Total	$ 19,589,526	$ 4,282,329	$ 15,307,197

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
2017	$ 5,771,909
2018	5,771,909
2019	4,310,711
2020	56,810
2021	(604,142)
Thereafter	0
Total	$ 15,307,197

STATEMENT OF FIDUCIARY NET POSITION AS OF DECEMBER 31, 2016

Assets		
Cash and Deposits	$	3,158,371
Receivables		
Accounts Receivable	$	308,275
Accrued Interest and Other Dividends		35,853
Additional Contribution Account		894,303
Property, Plant, Equipment		3,338
Total Receivables	$	1,241,769
Investments	$	199,669,533
Total Assets	$	204,069,673
Liabilities		
Payables		
Accounts Payable and Accrued Expenses	$	248,656
Payable for Investments Purchased		93,985
Benefits Payable		1,340,095
Total Liabilities	$	1,682,736
Assets held for 401(h) Subtrust	$	10,456,665
Net Position Restricted for Pensions	$	191,930,272

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

Additions		
Contributions		
Employer (Including Buybacks, Upgrades and Enrollments)	$	8,391,456
Employee (Including Additional Contributions)		2,389,882
Total Contributions	$	10,781,338
Other	$	-
Investment Income		
Net Appreciation in Fair Value of Investments	$	12,291,250
Less Investment Expense		(748,233)
Net Investment Income	$	11,543,017
Total Additions	$	22,324,355
Deductions		
Benefit Payments, Additional Contribution Payments, and Refunds of Employee Contributions	$	16,032,864
Pension Plan Administrative Expense		791,762
Other: Custodial Fees and Foreign Taxes		61,856
Total Deductions	$	16,886,482
Net Increase in Net Position	$	5,437,873
Net Position Restricted for Pensions		
Beginning of Year	$	186,492,399
Prior Year Adjustment		-
End of Year	$	191,930,272

SCHEDULE OF PROPORTIONATE EMPLOYER SHARE
FOR YEAR ENDED DECEMBER 31, 2016

Covered Payroll	Employer	Prop. Share	Net Pension Liability	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
$ 4,979,129	Airport	9.41%	$ 12,229,020	$ 402,606	$ 1,440,770	$ -	$ 304,230	$ 2,147,606
571,285	Parking Control	1.08%	1,403,543	46,208	165,359	-	367,945	579,512
2,243,781	Environmental Protection	4.24%	5,510,207	181,408	649,188	-	2,592	833,188
9,793,708	School District	18.52%	24,068,169	792,377	2,835,603	-	796,962	4,424,942
4,564,895	Water Works	8.63%	11,215,350	369,234	1,321,342	-	323,819	2,014,395
30,735,276	General Fund City Departments	58.12%	75,531,420	2,486,659	8,898,772	-	1,120,695	12,506,126
$ 52,888,074	***Total for All Employers***	**100.00%**	**$ 129,957,709**	**$ 4,278,492**	**$ 15,311,034**	**$ -**	**$ 2,916,243**	**$ 22,505,769**

SCHEDULE OF PROPORTIONATE EMPLOYER SHARE
FOR YEAR ENDED DECEMBER 31, 2016
(CONCLUDED)

	Deferred Inflows of Resources					Pension Expense		
Employer	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributins and Proportionate Share of Contributions	Total Employer Pension Expense
Airport	$ 402,967	$ -	$ -	$ (290,210)	$ 112,757	$ 1,854,075	$ 3,011	$ 1,857,086
Parking Control	46,249	-	-	(8,070)	38,179	212,795	63,746	276,541
Environmental Protection	181,571	-	-	66,074	247,645	835,416	(78,781)	756,635
School District	793,087	-	-	923,563	1,716,650	3,649,040	(83,582)	3,565,458
Water Works	369,565	-	-	76,564	446,129	1,700,390	53,093	1,753,483
General Fund City Departments	2,488,890	-	-	922,711	3,411,601	11,451,523	42,513	11,494,036
Total for All Employers	**$ 4,282,329**	**$ -**	**$ -**	**$ 1,690,632**	**$ 5,972,961**	**$ 19,703,239**	**$ -**	**$ 19,703,239**

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios
Current Period
Plan Year Ended December 31, 2016

A. Total Pension Liability		
1. Service cost	$	6,327,991
2. Interest on the Total Pension Liability	$	22,438,990
3. Changes of benefit terms	$	-
4. Difference between expected and actual experience of the Total Pension Liability	$	(5,201,876)
5. Changes of assumptions	$	-
6. Benefit payments, including refunds of employee contributions	$	(16,032,864)
7. Net change in Total Pension Liability	$	7,532,241
8. Total Pension Liability – Beginning		314,355,740
9. Total Pension Liability – Ending	**$**	**321,887,981**
B. Plan fiduciary net position		
1. Contributions – Employer	$	8,391,456
2. Contributions – Employee		2,389,882
3. Net investment income		11,543,017
4. Benefit payments, including refunds of employee contributions		(16,032,864)
5. Pension plan administrative expense		(791,762)
6. Other		(61,856)
7. Net change in Plan Fiduciary Net Position	$	5,437,873
8. Plan Fiduciary Net Position – Beginning		186,492,399
9. Plan Fiduciary Net Position – Ending	**$**	**191,930,272**
C. Net Pension Liability	**$**	**129,957,709**
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability		**59.63%**
E. Covered-Employee Payroll	**$**	**52,888,074**
F. Net Pension Liability as a percentage of Covered-Employee Payroll		**245.72%**

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS (MULTIYEAR)

(Ultimately 10 Years Will Be Displayed)

Fiscal Year Ending June 30,	2017	2016	2015
Total Pension Liability			
Service Cost	$ 6,327,991	$ 6,468,648	$ 6,589,804
Interest on the Total Pension Liability	22,438,990	21,231,157	20,108,289
Benefit Changes: Buybacks and COLA	-	-	-
Difference between Expected and Actual Experience	(5,201,876)	4,528,433	2,716,119
Assumption Changes	-	-	-
Benefit Payments	(15,812,395)	(14,516,835)	(12,335,397)
Refunds	(220,469)	(446,590)	(207,947)
Net Change in Total Pension Liability	7,532,241	17,264,813	16,870,868
Total Pension Liability - Beginning	314,355,740	297,090,927	280,332,479
Prior Year Adjustment	-	-	(112,420)
Total Pension Liability - Ending (a)	$ 321,887,981	$ 314,355,740	$ 297,090,927
Plan Fiduciary Net Position			
Employer and Other Contributions	$ 8,391,456	$ 11,613,137	$ 10,959,998
Employee and Add'l Contributions	2,389,882	2,744,956	2,254,021
Pension Plan Net Investment Income	11,543,017	(4,783,148)	6,754,397
Benefit Payments	(15,812,395)	(14,516,835)	(12,335,397)
Refunds	(220,469)	(446,590)	(207,947)
Pension Plan Administrative Expense	(791,762)	(693,329)	(679,116)
Other	(61,856)	(65,963)	(50,008)
Net Change in Plan Fiduciary Net Position	5,437,873	(6,147,772)	6,695,948
Plan Fiduciary Net Position - Beginning	186,492,399	192,562,665	185,979,137
Adjustment	-	77,506	(112,420)
Plan Fiduciary Net Position - Ending (b)	$ 191,930,272	$ 186,492,399	$ 192,562,665
Net Pension Liability - Ending (a) - (b)	129,957,709	127,863,341	104,528,262
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.63 %	59.33 %	64.82 %
Covered-Employee Payroll	$ 52,888,074	$ 52,953,903	$ 54,267,183
Net Pension Liability as a Percentage of Covered-Employee Payroll	245.72 %	241.46 %	192.62 %
Notes to Schedule:	N/A	N/A	N/A

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE NET PENSION LIABILITY

(Ultimately 10 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%
2015	$ 314,355,740	$ 186,492,399	$ 127,863,341	59.33%	$ 52,953,903	241.46%
2016	$ 321,887,981	$ 191,930,272	$ 129,957,709	59.63%	$ 52,888,074	245.72%

** Based on valuation payroll as of plan year ending December 31.*

SCHEDULE OF CONTRIBUTIONS

(Ultimately 10 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%
2015	$ 11,613,137	$ 11,613,137	$ -	$ 52,953,903	21.93%
2016	$ 8,391,456	$ 8,391,456	$ -	$ 52,888,074	15.87%

** Based on valuation payroll as of plan year ending December 31.*

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

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:	December 31, 2016
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	23 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 investement expenses)
Long-Term Municipal Bond Rate	3.78%
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, 2016.

SECTION D

NOTES TO FINANCIAL STATEMENTS

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)	$359,478,187	$321,887,981	$289,908,866
Net Position Restricted for Pensions	$191,930,272	$191,930,272	$191,930,272
Net Pension Liability (NPL)	$167,547,915	$129,957,709	$ 97,978,594

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	856
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	96
Active Plan Members	1,180
Total Plan Members	2,132

SECTION E

SUMMARY OF BENEFITS

SUMMARY OF BENEFIT PROVISIONS AS OF DECEMBER 31, 2016

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, 2016

Eligibility	Amount
ORDINARY DEATH-IN-SERVICE	
(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	
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, 2016

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; and

- 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. We believe the assumptions are reasonable individually and in the aggregate. Assumptions are forward-looking.

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
	2016	2015	2014	2013	2012	Average
1) Nominal rate of return#	6.3 %	4.8 %	7.4 %	9.3 %	3.8 %	6.3 %
2) Increase in CPI	2.1 %	0.7 %	0.8 %	1.5 %	1.7 %	1.4 %
3) Average Salary Increase (ASI)	1.1 %	(2.0)%	1.3 %	3.3 %	3.9 %	1.5 %
4) Real Return						
- Total: CPI (1) - (2)						4.9 %
- Total: ASI (1) - (3)						4.8 %
- Assumption	4.25 %	4.25 %	4.25 %	4.25 %	4.3 %	4.3 %

\# *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 years 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	Years of 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%
30	5 & Up (Men) 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	
	Men	Women
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.

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 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 3.78%; and the resulting SDR is 7.25%.

The tables in this section provide background for the development of the SDR.

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 1.50% 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 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, 2116

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAL Contributions	Total Contributions
0	$ 52,888,074					
1	55,675,670	$ 2,087,838	$ 4,931,117	$ 833,494	$ 8,109,343	$ 15,961,791
2	52,845,063	1,981,690	4,814,156	791,118	8,765,014	16,351,978
3	50,880,755	1,908,028	3,638,921	761,711	9,379,075	15,687,735
4	49,067,207	1,840,020	4,583,978	734,562	9,710,216	16,868,776
5	47,302,555	1,773,846	4,427,043	708,144	10,001,523	16,910,556
6	45,507,216	1,706,521	3,245,471	681,267	10,301,569	15,934,827
7	43,732,876	1,639,983	3,163,270	654,704	10,610,616	16,068,572
8	41,723,340	1,564,625	4,115,676	624,620	10,928,934	17,233,855
9	39,670,177	1,487,632	3,969,560	593,883	11,256,802	17,307,878
10	37,586,072	1,409,478	2,798,818	562,683	11,594,506	16,365,485
11	35,472,963	1,330,236	2,729,320	531,049	11,942,341	16,532,947
12	33,431,589	1,253,685	2,657,132	500,488	12,300,612	16,711,917
13	31,444,411	1,179,165	1,557,125	470,739	12,669,630	15,876,659
14	29,489,061	1,105,840	3,607,656	441,467	13,049,719	18,204,682
15	27,625,880	1,035,970	1,402,841	413,574	13,441,210	16,293,596
16	25,824,373	968,414	1,396,027	386,604	13,844,447	16,595,492
17	24,106,765	904,004	2,411,856	360,891	14,259,780	17,936,531
18	22,463,550	842,383	1,739,160	336,291	14,687,574	17,605,408
19	20,893,367	783,501	1,688,203	312,785	15,128,201	17,912,690
20	19,392,147	727,206	1,088,782	290,311	15,582,047	17,688,346
21	17,989,246	674,597	1,284,835	269,308	16,049,508	18,278,248
22	16,678,090	625,428	1,173,313	249,680	16,530,994	18,579,415
23	15,436,921	578,885	1,071,730	231,099	17,026,923	18,908,637
24	14,252,709	534,477	975,000	213,370	-	1,722,846
25	13,098,518	491,194	883,013	196,092	-	1,570,300
26	12,048,752	451,828	800,874	180,376	-	1,433,078
27	11,012,714	412,977	721,385	164,866	-	1,299,228
28	10,014,402	375,540	647,078	149,921	-	1,172,539
29	9,095,209	341,070	579,246	136,160	-	1,056,477
30	8,240,376	309,014	517,768	123,363	-	950,145
31	7,430,304	278,636	461,086	111,236	-	850,958
32	6,626,946	248,511	406,483	99,209	-	754,203
33	5,865,544	219,958	355,087	87,810	-	662,855
34	5,160,508	193,519	308,471	77,255	-	579,245
35	4,508,252	169,059	266,011	67,491	-	502,561
36	3,890,401	145,890	227,228	58,241	-	431,359
37	3,318,782	124,454	191,271	49,684	-	365,409
38	2,780,983	104,287	158,825	41,633	-	304,745
39	2,306,372	86,489	130,459	34,528	-	251,476
40	1,897,626	71,161	106,231	28,408	-	205,800
41	1,527,985	57,299	84,746	22,875	-	164,920
42	1,209,996	45,375	66,582	18,114	-	130,071
43	946,658	35,500	51,574	14,172	-	101,246
44	725,661	27,212	39,288	10,864	-	77,365
45	564,537	21,170	30,282	8,451	-	59,903
46	427,758	16,041	22,637	6,404	-	45,082
47	319,992	12,000	16,726	4,790	-	33,515
48	231,885	8,696	11,918	3,471	-	24,085
49	163,702	6,139	8,260	2,451	-	16,849
50	102,040	3,826	5,083	1,528	-	10,438

Single Discount Rate Development
Projection of Contributions Ending December 31, 2116
(Concluded)

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAL Contributions	Total Contributions
51	$ 67,239	$ 2,521	$ 3,299	$ 1,007	$ -	$ 6,828
52	44,184	1,657	2,130	661	-	4,448
53	26,048	977	1,249	390	-	2,616
54	14,415	541	694	216	-	1,451
55	9,629	361	459	144	-	964
56	4,719	177	220	71	-	468
57	1,141	43	52	17	-	111
58	731	27	33	11	-	72
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, 2116

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	$ 191,930,272	$ 15,961,791	$ 17,999,256	$ 833,494	$ 13,812,693	$ 202,872,007
2	202,872,007	16,351,978	18,669,918	791,118	14,597,489	214,360,438
3	214,360,438	15,687,735	19,299,411	761,711	15,385,370	225,372,422
4	225,372,422	16,868,776	19,938,400	734,562	16,204,012	237,772,248
5	237,772,248	16,910,556	22,597,550	708,144	17,010,720	248,387,830
6	248,387,830	15,934,827	23,091,361	681,267	17,728,968	258,278,997
7	258,278,997	16,068,572	24,653,651	654,704	18,396,145	267,435,360
8	267,435,360	17,233,855	24,037,005	624,620	19,124,518	279,132,109
9	279,132,109	17,307,878	27,561,684	593,883	19,850,729	288,135,149
10	288,135,149	16,365,485	27,805,393	562,683	20,462,317	296,594,875
11	296,594,875	16,532,947	29,067,428	531,049	21,037,790	304,567,134
12	304,567,134	16,711,917	30,240,870	500,488	21,581,448	312,119,140
13	312,119,140	15,876,659	33,013,799	470,739	22,001,520	316,512,780
14	316,512,780	18,204,682	32,478,593	441,467	22,423,077	324,220,479
15	324,220,479	16,293,596	33,415,886	413,574	22,881,432	329,566,046
16	329,566,046	16,595,492	34,256,255	386,604	23,250,768	334,769,447
17	334,769,447	17,936,531	35,963,398	360,891	23,615,891	339,997,580
18	339,997,580	17,605,408	35,483,123	336,291	24,001,119	345,784,693
19	345,784,693	17,912,690	36,981,141	312,785	24,379,113	350,782,570
20	350,782,570	17,688,346	36,284,228	290,311	24,759,090	356,655,466
21	356,655,466	18,278,248	37,588,464	269,308	25,160,182	362,236,124
22	362,236,124	18,579,415	36,710,429	249,680	25,607,477	369,462,906
23	369,462,906	18,908,637	37,843,926	231,099	26,103,435	376,399,953
24	376,399,953	1,722,846	36,814,012	213,370	26,031,599	367,127,016
25	367,127,016	1,570,300	36,794,339	196,092	25,355,194	357,062,078
26	357,062,078	1,433,078	36,702,518	180,376	24,624,429	346,236,690
27	346,236,690	1,299,228	35,550,402	164,866	23,876,407	335,697,056
28	335,697,056	1,172,539	36,437,176	149,921	23,076,720	323,359,219
29	323,359,219	1,056,477	34,181,493	136,160	22,258,921	312,356,964
30	312,356,964	950,145	35,063,222	123,363	21,426,523	299,547,048
31	299,547,048	850,958	32,806,017	111,236	20,575,096	288,055,848
32	288,055,848	754,203	33,696,353	99,209	19,707,256	274,721,746
33	274,721,746	662,855	31,450,601	87,810	18,817,670	262,663,860
34	262,663,860	579,245	31,344,713	77,255	17,944,643	249,765,780
35	249,765,780	502,561	30,196,958	67,491	17,048,027	237,051,919
36	237,051,919	431,359	29,089,799	58,241	16,163,498	224,498,736
37	224,498,736	365,409	28,020,233	49,684	15,289,441	212,083,669
38	212,083,669	304,745	26,984,986	41,633	14,424,346	199,786,141
39	199,786,141	251,476	25,980,726	34,528	13,566,899	187,589,262
40	187,589,262	205,800	25,004,086	28,408	12,716,000	175,478,567
41	175,478,567	164,920	24,051,680	22,875	11,870,636	163,439,569
42	163,439,569	130,071	22,108,932	18,114	11,065,930	152,508,523
43	152,508,523	101,246	21,268,640	14,172	10,302,470	141,629,427
44	141,629,427	77,365	20,443,570	10,864	9,542,389	130,794,747
45	130,794,747	59,903	18,620,133	8,451	8,821,281	121,047,347
46	121,047,347	45,082	18,903,407	6,404	8,104,051	110,286,669
47	110,286,669	33,515	16,406,775	4,790	7,412,467	101,321,086
48	101,321,086	24,085	15,782,946	3,471	6,784,391	92,343,145
49	92,343,145	16,849	14,721,788	2,451	6,171,063	83,806,819
50	83,806,819	10,438	13,684,719	1,528	5,588,920	75,719,929

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING DECEMBER 31, 2116
(CONCLUDED)

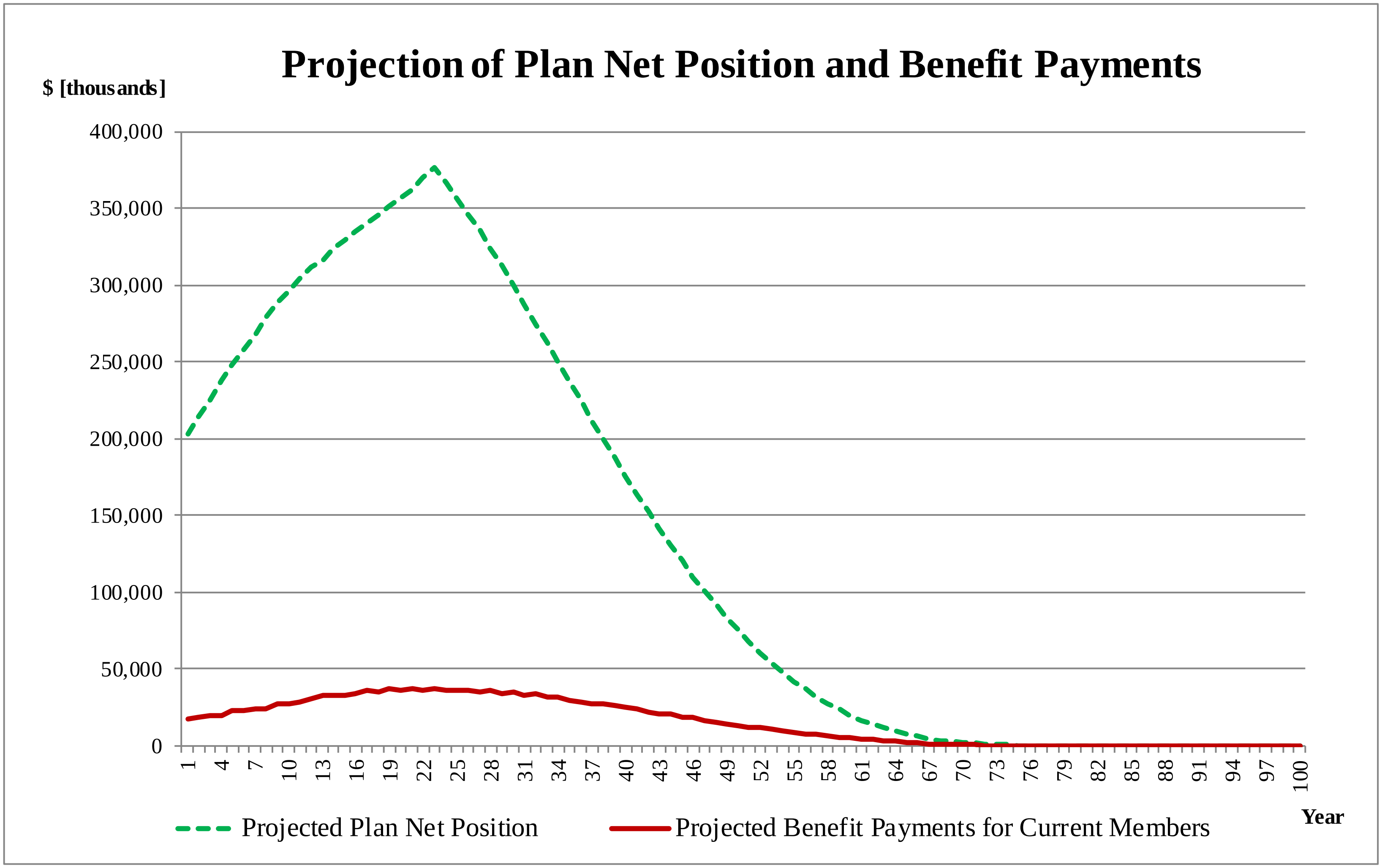
Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.25%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	$ 75,719,929	$ 6,828	$ 12,667,958	$ 1,007	$ 5,038,723	$ 68,096,515
52	68,096,515	4,448	11,681,692	661	4,521,080	60,939,689
53	60,939,689	2,616	10,728,403	390	4,036,107	54,249,619
54	54,249,619	1,451	9,807,349	216	3,583,845	48,027,349
55	48,027,349	964	8,922,538	144	3,164,229	42,269,860
56	42,269,860	468	8,077,840	71	2,776,881	36,969,299
57	36,969,299	111	7,272,458	17	2,421,263	32,118,198
58	32,118,198	72	6,508,290	11	2,096,774	27,706,743
59	27,706,743	-	5,787,400	-	1,802,616	23,721,959
60	23,721,959	-	5,110,578	-	1,537,825	20,149,206
61	20,149,206	-	4,479,534	-	1,301,275	16,970,948
62	16,970,948	-	3,895,054	-	1,091,668	14,167,562
63	14,167,562	-	3,357,636	-	907,564	11,717,490
64	11,717,490	-	2,867,824	-	747,378	9,597,045
65	9,597,045	-	2,425,593	-	609,396	7,780,849
66	7,780,849	-	2,030,203	-	491,804	6,242,450
67	6,242,450	-	1,680,681	-	392,719	4,954,488
68	4,954,488	-	1,375,547	-	310,209	3,889,150
69	3,889,150	-	1,112,549	-	242,339	3,018,939
70	3,018,939	-	888,959	-	187,212	2,317,192
71	2,317,192	-	701,665	-	143,006	1,758,533
72	1,758,533	-	547,073	-	108,009	1,319,470
73	1,319,470	-	421,271	-	80,658	978,856
74	978,856	-	320,363	-	59,557	718,050
75	718,050	-	240,701	-	43,486	520,835
76	520,835	-	178,725	-	31,395	373,505
77	373,505	-	131,116	-	22,409	264,798
78	264,798	-	95,039	-	15,813	185,572
79	185,572	-	68,079	-	11,029	128,522
80	128,522	-	48,162	-	7,603	87,963
81	87,963	-	33,649	-	5,179	59,493
82	59,493	-	23,226	-	3,486	39,753
83	39,753	-	15,829	-	2,318	26,243
84	26,243	-	10,650	-	1,523	17,116
85	17,116	-	7,076	-	989	11,029
86	11,029	-	4,640	-	634	7,023
87	7,023	-	3,004	-	402	4,421
88	4,421	-	1,923	-	252	2,750
89	2,750	-	1,215	-	156	1,691
90	1,691	-	758	-	96	1,028
91	1,028	-	468	-	58	618
92	618	-	286	-	35	367
93	367	-	172	-	21	216
94	216	-	102	-	12	126
95	126	-	59	-	7	75
96	75	-	31	-	4	48
97	48	-	16	-	3	35
98	35	-	8	-	2	29
99	29	-	4	-	2	27
100	27	-	3	-	2	26

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS ENDING DECEMBER 31, 2116

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	$ 191,930,272	$ 17,999,256	$ 17,999,256	$ -	$ 17,380,245	$ -	$ 17,380,245
2	202,872,007	18,669,918	18,669,918	-	16,809,177	-	16,809,177
3	214,360,438	19,299,411	19,299,411	-	16,201,335	-	16,201,335
4	225,372,422	19,938,400	19,938,400	-	15,606,293	-	15,606,293
5	237,772,248	22,597,550	22,597,550	-	16,492,006	-	16,492,006
6	248,387,830	23,091,361	23,091,361	-	15,713,191	-	15,713,191
7	258,278,997	24,653,651	24,653,651	-	15,642,234	-	15,642,234
8	267,435,360	24,037,005	24,037,005	-	14,220,033	-	14,220,033
9	279,132,109	27,561,684	27,561,684	-	15,202,979	-	15,202,979
10	288,135,149	27,805,393	27,805,393	-	14,300,614	-	14,300,614
11	296,594,875	29,067,428	29,067,428	-	13,939,107	-	13,939,107
12	304,567,134	30,240,870	30,240,870	-	13,521,514	-	13,521,514
13	312,119,140	33,013,799	33,013,799	-	13,763,511	-	13,763,511
14	316,512,780	32,478,593	32,478,593	-	12,625,066	-	12,625,066
15	324,220,479	33,415,886	33,415,886	-	12,111,338	-	12,111,338
16	329,566,046	34,256,255	34,256,255	-	11,576,618	-	11,576,618
17	334,769,447	35,963,398	35,963,398	-	11,331,966	-	11,331,966
18	339,997,580	35,483,123	35,483,123	-	10,424,832	-	10,424,832
19	345,784,693	36,981,141	36,981,141	-	10,130,485	-	10,130,485
20	350,782,570	36,284,228	36,284,228	-	9,267,669	-	9,267,669
21	356,655,466	37,588,464	37,588,464	-	8,951,791	-	8,951,791
22	362,236,124	36,710,429	36,710,429	-	8,151,687	-	8,151,687
23	369,462,906	37,843,926	37,843,926	-	7,835,323	-	7,835,323
24	376,399,953	36,814,012	36,814,012	-	7,106,841	-	7,106,841
25	367,127,016	36,794,339	36,794,339	-	6,622,884	-	6,622,884
26	357,062,078	36,702,518	36,702,518	-	6,159,773	-	6,159,773
27	346,236,690	35,550,402	35,550,402	-	5,563,090	-	5,563,090
28	335,697,056	36,437,176	36,437,176	-	5,316,416	-	5,316,416
29	323,359,219	34,181,493	34,181,493	-	4,650,161	-	4,650,161
30	312,356,964	35,063,222	35,063,222	-	4,447,659	-	4,447,659
31	299,547,048	32,806,017	32,806,017	-	3,880,037	-	3,880,037
32	288,055,848	33,696,353	33,696,353	-	3,715,933	-	3,715,933
33	274,721,746	31,450,601	31,450,601	-	3,233,826	-	3,233,826
34	262,663,860	31,344,713	31,344,713	-	3,005,071	-	3,005,071
35	249,765,780	30,196,958	30,196,958	-	2,699,332	-	2,699,332
36	237,051,919	29,089,799	29,089,799	-	2,424,580	-	2,424,580
37	224,498,736	28,020,233	28,020,233	-	2,177,561	-	2,177,561
38	212,083,669	26,984,986	26,984,986	-	1,955,345	-	1,955,345
39	199,786,141	25,980,726	25,980,726	-	1,755,316	-	1,755,316
40	187,589,262	25,004,086	25,004,086	-	1,575,134	-	1,575,134
41	175,478,567	24,051,680	24,051,680	-	1,412,716	-	1,412,716
42	163,439,569	22,108,932	22,108,932	-	1,210,821	-	1,210,821
43	152,508,523	21,268,640	21,268,640	-	1,086,062	-	1,086,062
44	141,629,427	20,443,570	20,443,570	-	973,361	-	973,361
45	130,794,747	18,620,133	18,620,133	-	826,614	-	826,614
46	121,047,347	18,903,407	18,903,407	-	782,461	-	782,461
47	110,286,669	16,406,775	16,406,775	-	633,211	-	633,211
48	101,321,086	15,782,946	15,782,946	-	567,958	-	567,958
49	92,343,145	14,721,788	14,721,788	-	493,960	-	493,960
50	83,806,819	13,684,719	13,684,719	-	428,124	-	428,124

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS ENDING DECEMBER 31, 2116
(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	$ 75,719,929	$ 12,667,958	$ 12,667,958	$ -	$ 369,524	$ -	$ 369,524
52	68,096,515	11,681,692	11,681,692	-	317,720	-	317,720
53	60,939,689	10,728,403	10,728,403	-	272,068	-	272,068
54	54,249,619	9,807,349	9,807,349	-	231,897	-	231,897
55	48,027,349	8,922,538	8,922,538	-	196,714	-	196,714
56	42,269,860	8,077,840	8,077,840	-	166,052	-	166,052
57	36,969,299	7,272,458	7,272,458	-	139,391	-	139,391
58	32,118,198	6,508,290	6,508,290	-	116,311	-	116,311
59	27,706,743	5,787,400	5,787,400	-	96,436	-	96,436
60	23,721,959	5,110,578	5,110,578	-	79,402	-	79,402
61	20,149,206	4,479,534	4,479,534	-	64,893	-	64,893
62	16,970,948	3,895,054	3,895,054	-	52,611	-	52,611
63	14,167,562	3,357,636	3,357,636	-	42,287	-	42,287
64	11,717,490	2,867,824	2,867,824	-	33,676	-	33,676
65	9,597,045	2,425,593	2,425,593	-	26,558	-	26,558
66	7,780,849	2,030,203	2,030,203	-	20,726	-	20,726
67	6,242,450	1,680,681	1,680,681	-	15,998	-	15,998
68	4,954,488	1,375,547	1,375,547	-	12,208	-	12,208
69	3,889,150	1,112,549	1,112,549	-	9,207	-	9,207
70	3,018,939	888,959	888,959	-	6,859	-	6,859
71	2,317,192	701,665	701,665	-	5,048	-	5,048
72	1,758,533	547,073	547,073	-	3,670	-	3,670
73	1,319,470	421,271	421,271	-	2,635	-	2,635
74	978,856	320,363	320,363	-	1,868	-	1,868
75	718,050	240,701	240,701	-	1,309	-	1,309
76	520,835	178,725	178,725	-	906	-	906
77	373,505	131,116	131,116	-	620	-	620
78	264,798	95,039	95,039	-	419	-	419
79	185,572	68,079	68,079	-	280	-	280
80	128,522	48,162	48,162	-	185	-	185
81	87,963	33,649	33,649	-	120	-	120
82	59,493	23,226	23,226	-	77	-	77
83	39,753	15,829	15,829	-	49	-	49
84	26,243	10,650	10,650	-	31	-	31
85	17,116	7,076	7,076	-	19	-	19
86	11,029	4,640	4,640	-	12	-	12
87	7,023	3,004	3,004	-	7	-	7
88	4,421	1,923	1,923	-	4	-	4
89	2,750	1,215	1,215	-	2	-	2
90	1,691	758	758	-	1	-	1
91	1,028	468	468	-	1	-	1
92	618	286	286	-	0	-	0
93	367	172	172	-	0	-	0
94	216	102	102	-	0	-	0
95	126	59	59	-	0	-	0
96	75	31	31	-	0	-	0
97	48	16	16	-	0	-	0
98	35	8	8	-	0	-	0
99	29	4	4	-	0	-	0
100	27	3	3	-	0	-	0
				Totals	$ 378,191,062	$ -	$ 378,191,062


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 24, 2017

Mr. Gerard E. 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 10 copies of the GASB Statement Nos. 67 and 68 Employer Reporting Accounting and Financial Reporting for Pensions report of the City of Manchester Employees' Contributory Retirement System.

Sincerely,

Kenneth G. Alberts

KGA:clh:ah
Enclosures