Gabriel Roeder Smith & Company
Consultants & Actuaries

CITY OF CHARLESTON, WEST VIRGINIA FIREMEN'S PENSION AND RELIEF FUND

GASB STATEMENT NOS. 67 AND 68 PLAN REPORTING AND ACCOUNTING SCHEDULES

JUNE 30, 2016

GRS
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November 10, 2016

Mr. Victor Grigoraci, City Treasurer
City of Charleston
501 Virginia Street, East
Charleston, WV 25301

Deputy Chief Robert "Scott" S. Fisher
Pension Board Secretary
City of Charleston Firemen's Pension and Relief Fund

Dear Mr. Grigoraci and Deputy Chief Fisher:

This report provides accounting and financial information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statements No. 67 and 68 for the City of Charleston, West Virginia Firemen's Pension and Relief Fund ("Plan"). These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

GASB Statement No. 67 is the accounting standard that applies to the stand-alone financial reports issued by retirement systems, on behalf of fiscal years beginning after June 15, 2013. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust, and applies to fiscal years beginning after June 15, 2014.

This report contains GASB Statement Nos. 67 and 68 reporting information applicable to the plan year ending June 30, 2016, and the sponsor's fiscal year ending June 30, 2016.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 67 and 68. The calculation of the Plan's liability for this report may not be applicable for funding purposes of the Plan. A calculation of the Plan's liability for purposes other than satisfying the requirements of GASB Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the City of Charleston, West Virginia Firemen's Pension and Relief Fund ("Plan") only in its entirety and only with the permission of the Plan.

West Virginia Code §8-22-20 (c)(4), requires a review of the actuarial assumptions and methods at least once every five years and that the Actuary shall provide a report to the oversight board with recommendations on any changes to the actuarial process. Consequently, an experience review was performed for the period July 1, 2009, through June 30, 2014. The actuarial assumptions and methods were recommended by the Actuary in the report *2016 Experience Review for the Years July 1, 2009, to July 1, 2014,* and approved by the Municipal Pensions Oversight Board, and are first being applied in this actuarial valuation. For a more detailed explanation of how the new actuarial assumptions affect your pension plan, please see the section Assumption Changes in the Discussion section.

Our valuation and projections assume the sponsor will make the contributions required by state statute. To the extent the sponsor does not make the statutory required contribution the results contained in this report could be significantly different.

This report is based upon information, furnished to us by the Plan, 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 it was not audited.

To the best of our knowledge, the information contained in this report is accurate and fairly represents the actuarial position of the City of Charleston, West Virginia Firemen's Pension and Relief Fund for GASB Statement Nos. 67 and 68 accounting purposes. 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.

Alex Rivera and Lance J. Weiss are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

By Alex Rivera

Alex Rivera
FSA, EA, MAAA, FCA

By Lance J. Weiss

Lance J. Weiss
EA, MAAA, FCA

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

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SECTION A

EXECUTIVE SUMMARY

Executive Summary
as of June 30, 2016

		2016
Actuarial Valuation Date		June 30, 2015
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)		June 30, 2016
Membership[a]		
Number of		
- Retirees and Beneficiaries		230
- Inactive, Nonretired Members		2
- Active Members		134
- Total		366
Covered Payroll	$	7,273,171
Net Pension Liability		
Total Pension Liability[b]	$	201,522,698
Plan Fiduciary Net Position		14,985,517
Net Pension Liability	$	186,537,181
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		7.44%
Net Pension Liability as a Percentage of Covered Payroll		2,564.73%
Development of the Single Discount Rate		
Single Discount Beginning of Year		4.3980%
Single Discount Rate End of Year		3.7852%
Long-Term Expected Rate of Return before 2046		4.5000%
Long-Term Expected Rate of Return after 2046		6.0000%
Long-Term Municipal Bond Rate Beginning of Year[c]		3.8000%
Long-Term Municipal Bond Rate End of Year[c]		2.8500%
Year Plan is projected to be fully funded		2046
Year assets are expected to be depleted for closed plan		N/A
GASB No. 68 Pension Expense	$	19,197,383

Deferred Outflows and Deferred Inflows of Resources to be recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred (Inflows) of Resources
Difference between expected and actual experience	$ -	$ (2,099,645)
Changes in assumptions	21,933,061	-
Net difference between projected and actual earnings on pension plan investments	39,260	-
Total	$ 21,972,321	$ (2,099,645)

[a] Census data measured as of June 30, 2015.

[b] Total pension liability projected from July 1, 2015, to June 30, 2016, based on the results of July 1, 2015, actuarial valuation.

[c] Based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of the weekly rate closest to but not later than 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 additional non-actuarial required 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.

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 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, in the notes of the employer's financial statements, a disclosure of the total pension expense, the pension plan's liabilities and assets and deferred outflows and inflows of resources related to pensions.

Both GASB Statements, No. 67 and 68, require the notes of the financial statements for the employers and pension plans, to include certain additional information. The list of additional 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 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

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;
- Comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- The annual money-weighted rate of return on pension plan investments for each year.

These tables may be built prospectively as the information becomes available.

Measurement of the Net Pension Liability

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In traditional actuarial terms, this will be the accrued liability less the market value of assets.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least once every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total pension liability is required to be rolled forward from the actuarial valuation date to the pension plan's fiscal year end.

The total pension liability shown in this report is based on an actuarial valuation performed as of July 1, 2015, and projected to the measurement date of June 30, 2016.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a single discount rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be available and sufficient to pay benefits) and (2) a 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 4.500% before 2046 and 6.000% after 2046, the municipal bond rate is 2.85% (based on the weekly rate closest to but not later than the measurement date of the 20-Year Bond Buyer Index as published by the Federal Reserve); and the resulting single discount rate is 3.7852%.

Effective Date and Transition

GASB Statement No. 67 is effective for a pension plan’s fiscal years beginning after June 15, 2013, and GASB Statement No. 68 is effective for a pension plan’s fiscal years beginning after June 15, 2014; however, earlier application is encouraged by the GASB.

Assumption Changes

- The actuarial assumptions and methods were recommended by the Actuary, in the report *2016 Experience Review for the Years July 1, 2009, to July 1, 2014*, and approved by the Municipal Pensions Oversight Board. The actuarial assumption update is summarized below, and the actuarial assumptions are fully disclosed in Section G of the report.

    - For purposes of the funding actuarial valuation, the interest rate used to discount liabilities and project assets was changed from 5.000% to 4.500%. For purposes of the accounting actuarial valuation, the blended interest rate used to discount liabilities was changed from 4.3980% to 3.7852%. For purposes of the accounting valuation, we calculated a discount rate based on the municipal bond rate of 2.85% prior to 2047 and a discount rate of 6.000% for plan years after 2046, which resulted in a blended discount rate of 3.7852%.
    - The post-retirement mortality assumption was updated from the 1994 Group Annuity Mortality table to the RP-2014 Blue Collar Total Healthy Annuitant Mortality table, with projected generational mortality improvement using the MP-2014 2-dimensional mortality improvement scales. The disabled mortality assumption was updated to the RP-2014 Blue Collar Total Healthy Annuitant Mortality table, set forward 4 years, with projected generational mortality improvement using the MP-2014 2-dimensional mortality improvement scales. The pre-retirement mortality assumption was updated to the RP-2014 Blue Collar Total Employee Mortality table, with generational mortality improvement using the MP-2014 2-dimensional mortality improvement scales.
    - The wage inflation assumption used to project compensation was decreased from 4.00% to 3.75%.
    - The service based compensation increase assumption was updated based on observed experience.
    - General inflation, post-retirement COLA and the increase in State Insurance Premium Tax Allocation changed from 3.00% to 2.75%.
    - Turnover, retirement rates and disability assumptions were updated based on observed experience.

SECTION B

FINANCIAL STATEMENTS

Statement of Fiduciary Net Position
as of June 30, 2016

		2016
Assets		
Cash and Deposits	$	2,470,109
Receivables		
Contributions		-
Accounts Receivable - Other		16,420
Total Receivables	**$**	**16,420**
Investment		
Government Securities	$	1,754,029
Corporate Bonds		1,517,355
Corporate Stocks		9,830,571
Alternative Investments		-
Other		-
Total Investments	**$**	**13,101,955**
Total Assets	**$**	**15,588,484**
Liabilities		
Payables		602,967
Total Liabilities	**$**	**602,967**
Net Position Restricted for Pensions	**$**	**14,985,517**

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2016

	Benefit Account	Accumulation Account	Total 2016
Additions			
Contributions			
Employer	$ 5,300,143	$ -	$ 5,300,143
State	1,264,882	341,777	1,606,659
Employee	471,402	108,786	580,188
Receivable	-	-	-
Other	-	-	-
Total Contributions	**$ 7,036,427**	**$ 450,563**	**$ 7,486,990**
Net investment gain (loss) from			
Net Appreciation (Depreciation)	$ -	$ 505,646	$ 505,646
Net Realized Gain (Loss) on Sale or Exchange	-	-	-
Interest and Dividends	53	256,214	256,267
Other income	-	-	-
Investment Expense	-	(66,234)	(66,234)
Net Investment Income	**$ 53**	**$ 695,626**	**$ 695,679**
Other Revenue	$ -	$ -	$ -
Total Additions	**$ 7,036,480**	**$ 1,146,189**	**$ 8,182,669**
Deductions			
Benefit payments	$ 7,018,296	$ -	$ 7,018,296
Refunds	-	57,609	57,609
Pension Plan Administrative Expense	9,741	-	9,741
Other	-	-	-
Total Deductions	**$ 7,028,037**	**$ 57,609**	**$ 7,085,646**
Receivable (other than contributions)	$ -	$ -	$ -
Payable	$ -	$ -	$ -
Net Increase in Net Position	$ 8,443	$ 1,088,580	$ 1,097,023
Net Position Restricted for Pensions			
Beginning of Year	**$ (340,619)**	**$ 14,229,113**	**$ 13,888,494**
End of Year	**$ (332,176)**	**$ 15,317,693**	**$ 14,985,517**

Long-Term Expected Return on Plan Assets

The investment policy covering the allocation of invested assets for the City of Charleston, West Virginia Firemen's Pension and Relief Fund is established by the Board of Trustees and is subject to the limitations defined in West Virginia Code §8-22-22 and §8-22-22a.

GASB Statement Nos. 67 and 68 require the disclosure of certain information contained in the investment policy including the target asset allocation by major asset class and the long-term expected real rate of return by major asset class. This information is generally available from the investment consultant, investment manager or plan trustee.

Information on the target asset allocation and long-term real return by major asset class was not provided to the actuary.

The discount rate used by the actuary for the purpose of developing the statutory contribution requirement, including the statutory solvency requirement, is shown in the Actuarial Assumptions Section of this report. This same discount rate is also used by the actuary to determine the GASB Statement Nos. 67 and 68 single discount rate.

Money-Weighted Rate of Return

GASB Statement Nos. 67 and 68 also require the disclosure of the money weighted rate of return, net of investment expenses, using monthly data. This information was not provided to the actuary, but should be available from the investment consultant, investment manager or plan trustee.

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Fiscal year ending June 30	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Total Pension Liability										
Service Cost	$ 3,402,390	$ 3,160,914	$ 3,139,576							
Interest on the Total Pension Liability	7,426,782	7,516,367	7,715,345							
Benefit Changes	-	-	-							
Difference between Expected and Actual Experience	(1,147,647)	(3,217,247)	-							
Assumption Changes	27,065,406	8,277,173	6,693,189							
Benefit Payments	(7,018,296)	(6,842,553)	(6,822,654)							
Refunds	(57,609)	(17,231)	(121,104)							
Net Change in Total Pension Liability	29,671,026	8,877,423	10,604,352							
Total Pension Liability - Beginning	171,851,672	162,974,249	152,369,897							
Total Pension Liability - Ending (a)	$ 201,522,698	$ 171,851,672	$ 162,974,249							
Plan Fiduciary Net Position										
Employer Contributions	$ 6,906,802	$ 6,561,849	$ 6,735,846							
Employee Contributions	580,188	592,996	603,333							
Pension Plan Net Investment Income	695,679	622,444	1,317,995							
Benefit Payments	(7,018,296)	(6,842,553)	(6,822,654)							
Refunds	(57,609)	(17,231)	(121,104)							
Pension Plan Administrative Expense	(9,741)	(5,864)	(8,132)							
Other	-	-	-							
Net Change in Plan Fiduciary Net Position	1,097,023	911,641	1,705,284							
Plan Fiduciary Net Position - Beginning	13,888,494	12,976,853	11,271,569							
Plan Fiduciary Net Position - Ending (b)	$ 14,985,517	$ 13,888,494	$ 12,976,853							
Net Pension Liability - Ending (a) - (b)	186,537,181	157,963,178	149,997,396							
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	7.44 %	8.08 %	7.96 %							
Covered Employee Payroll	$ 7,273,171	$ 7,364,910	$ 7,872,875							
Net Pension Liability as a Percentage of Covered Employee Payroll	2,564.73 %	2,144.81 %	1,905.24 %							

Notes to Schedule:

Schedules of Required Supplementary Information
Schedule of the Net Pension Liability Multiyear

Last 10 Fiscal Years (which may be built prospectively)

FY Ending June 30	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2007						
2008						
2009						
2010						
2011						
2012						
2013						
2014	$ 162,974,249	$ 12,976,853	$ 149,997,396	7.96%	$ 7,872,875	1905.24%
2015	$ 171,851,672	$ 13,888,494	$ 157,963,178	8.08%	$ 7,364,910	2144.81%
2016	$ 201,522,698	$ 14,985,517	$ 186,537,181	7.44%	$ 7,273,171	2564.73%

Schedule of Contributions Multiyear

Fiscal Year Ended	Actuarially Determined Contribution (a)	Employer Contribution (b)	State Contribution (c)	Percentage Contributed [(b)+(c)]/(a)	Covered Payroll (f)	Actual Contribution as a % of Covered Payroll [(b)+(c)]/(f)
6/30/2013	$ 8,644,534	$ 4,935,630	$ 1,958,353	80%	$ 8,867,736	78%
6/30/2014	$ 8,544,824	$ 5,191,340	$ 1,544,506	79%	$ 7,872,875	86%
6/30/2015	$ 8,533,617	$ 5,004,065	$ 1,557,784	77%	$ 7,364,910	89%
6/30/2016	$ 10,373,813	$ 5,300,143	$ 1,606,659	67%	$ 7,273,171	95%

Notes to Schedule of Contributions

The information requested in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Measurement Date	June 30, 2016, measurement date based on actuarial liabilities as of July 1, 2015
Actuarial Cost Method	Entry Age Normal, Level-Percentage-of-Pay
Actuarial Value of Assets	Market value used for GASB Nos. 67 and 68 reporting
Contribution Policy and Amortization Method	The sponsor finances benefits using the Conservation funding policy as defined in state statutes. The sponsor makes contributions to two separate accounts – the Benefit Payment Account and the Accumulation Account. The Benefit Payment Account is used to finance benefits and expenses on a pay-as-you-go basis. Sources to pay current year benefits and expenses include minimum employee contributions of 6.5% of pay, any remaining state premium tax allocation as described below, and employer contributions. The Accumulation Account cannot be used to pay benefits and expenses until assets exceed actuarial liabilities. Contributions to the Accumulation Account include employee contributions of 1.5% of pay and the percentage of premium tax allocation which is projected to fully finance the projected liability in 35 years, since the adoption of the Conservation funding policy in 2011. Any remaining state premium tax allocation can be used to finance benefits and expenses during the year. The plan is closed to new members as of the adoption of the Conservation funding policy.

Actuarial Assumptions:

Investment Rate of Return	4.500% per year before 2047 and 6.000% per year after 2046
GASB 67/68 Discount Rate	3.7852% per year at June 30, 2016, and 4.3980% at June 30, 2015

Projected Salary Increases	Service-based increases: 20.00% in year 1, 6.50% in year 2, reducing over years of service down to 1.25% in years 30-34. 0% increases for service over 34
Cost of Living Increases	2.75% on first $15,000 of Annual Benefit and on the accumulated supplemental pension amounts for prior years

SECTION D

NOTES TO FINANCIAL STATEMENTS

Single Discount Rate

A GASB Nos. 67 and 68 single discount rate of 3.7852% was used to measure the total pension liability as of June 30, 2016. This single discount rate was based on the expected rate of return on pension plan investments of 4.500% before 2047 and 6.000% after 2046, and the municipal bond rate of 2.85%. The projection of cash flows used to determine this single discount rate assumed that the Plan sponsor would make the statutory required contribution as defined by the funding policy. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make projected future benefit payments, on behalf of current plan members after plan year 2046. Therefore, the single discount rate of 3.7852% 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 3.7852%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

1% Decrease 2.785%	Current Single Discount Rate Assumption 3.785%	1% Increase 4.785%
$221,572,277	$186,537,181	$158,953,119

SECTION E

GASB NO. 68 PENSION EXPENSE

Net Pension Liability
for Fiscal Year ending June 30, 2016

A. Total Pension Liability		
1. Service Cost	$	3,402,390
2. Interest on the Total Pension Liability		7,426,782
3. Changes of benefit terms		-
4. Difference between expected and actual experience of the Total Pension Liability		(1,147,647)
5. Changes of assumptions		27,065,406
6. Benefit payments, including refunds of employee contributions		(7,075,905)
7. Net change in total pension liability	$	29,671,026
8. Total pension liability – beginning (July 1, 2015)		171,851,672
9. Total pension liability – ending (June 30, 2016)	**$**	**201,522,698**
B. Plan Fiduciary Net Position		
1. Contributions – employer	$	6,906,802
2. Contributions – employee		580,188
3. Net investment income		695,679
4. Benefit payments, including refunds of employee contributions		(7,075,905)
5. Pension Plan Administrative Expense		(9,741)
6. Other		-
7. Net change in plan fiduciary net position	$	1,097,023
8. Plan fiduciary net position – beginning (July 1, 2015)		13,888,494
9. Plan fiduciary net position – ending (June 30, 2016)	**$**	**14,985,517**
C. Net pension liability as of June 30, 2016	**$**	**186,537,181**
D. Plan Fiduciary Net Position as a Percentageof the Total Pension Liability		**7.44%**
E. Covered-employee Payroll	**$**	**7,273,171**
F. Net Pension Liability as a Percentage of Covered Employee Payroll		**2,564.73%**

Pension Expense
(for Fiscal Year ending June 30, 2016)

A. Expense

1. Service Cost	$	3,402,390
2. Interest on the Total Pension Liability		7,426,782
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		(580,188)
5. Projected Earnings on Plan Investments (made negative for addition here)		(719,532)
6. Pension Plan Administrative Expense		9,741
7. Other Changes in Plan Fiduciary Net Position		-
8. Recognition of Outflow/(Inflow) due to Non-investment Experience		(1,313,047)
9. Recognition of Outflow/(Inflow) due to Assumption Changes		10,959,741
10. Recognition of Outflow/(Inflow) due to Investment Experience		11,496
11. Total Pension Expense	**$**	**19,197,383**

B. Reconciliation of Net Pension Liability

1. Net Pension Liability beginning of year	**$**	**157,963,178**
2. Pension Expense		19,197,383
3. Employer Contributions		(6,906,802)
4. Change in Outflow/(Inflow) due to Non-investment Experience		165,400
5. Change in Outflow/(Inflow) due to Assumption Changes		16,105,665
6. Change in Outflow/(Inflow) due to Investment Experience		12,357
7. Net Pension Liability End of year	**$**	**186,537,181**

C. Deferred Outflows/(Inflows) Recognized in Future Pension Expense

		Outflows		(Inflows)		Net
6/30/2017	$	10,971,238	$	(1,313,047)	$	9,658,190
6/30/2018		9,449,304		(721,488)		8,727,816
6/30/2019		1,547,009		(65,110)		1,481,899
6/30/2020		4,771		-		4,771
6/30/2021		-		-		-
6/30/2022		-		-		-
	$	21,972,321	$	(2,099,645)	$	19,872,676

Schedule of Outflows and Inflows of Resources

	Non-Investment Experience			Assumption Changes			Investment Experience		
Plan Year Beginning	**7/1/2014**	**7/1/2015**		**7/1/2014**	**7/1/2015**		**7/1/2014**	**7/1/2015**	
Initial (Gain)/Loss	$ (3,217,247)	$ (1,147,647)		$ 8,277,173	$ 27,065,406		$ 33,629	$ 23,853	
Initial Amortization Factor	3.378746	3.180437		3.378746	3.180437		5.000000	5.000000	
Amortization Amount in Initial Year [A/B]	$ (952,201)	$ (360,846)		$ 2,449,777	$ 8,509,965		$ 6,726	$ 4,771	
Remaining Amortization Factor at 7/1/2015	2.378746	3.180437		2.378746	3.180437		4.000000	5.000000	
Amortization Amount in Current Year [C x D][1]	$ (952,201)	$ (360,846)		$ 2,449,777	$ 8,509,965		$ 6,726	$ 4,771	

[1] *D limited to a maximum value of 1.0*

Amortization for Plan Year End			**Total**			**Total**			**Total**
6/30/2015	$ (952,201)		$ (952,201)	$ 2,449,777		$ 2,449,777	$ 6,726		$ 6,726
6/30/2016	**(952,201)**	**$ (360,846)**	**(1,313,047)**	**2,449,777**	**$ 8,509,965**	**10,959,741**	**6,726**	**$ 4,771**	**11,496**
6/30/2017	(952,201)	(360,846)	(1,313,047)	2,449,777	8,509,965	10,959,741	6,726	4,771	11,496
6/30/2018	(360,643)	(360,846)	(721,488)	927,843	8,509,965	9,437,808	6,726	4,771	11,496
6/30/2019	-	(65,110)	(65,110)	-	1,535,512	1,535,512	6,726	4,771	11,496
6/30/2020	-	-	-	-	-	-	-	4,771	4,771
6/30/2021	-	-	-	-	-	-	-	-	-
6/30/2022	-	-	-	-	-	-	-	-	-
Total	**$ (3,217,247)**	**$ (1,147,647)**		**$ 8,277,173**	**$ 27,065,406**		**$ 33,629**	**$ 23,853**	

Deferred Outflows/(Inflows) Recognized in Pension Expense for Current Plan Year End	**Outflows**	**(Inflows)**	**Net**	**Outflows**	**(Inflows)**	**Net**	**Outflows**	**(Inflows)**	**Net**
6/30/2016	$ -	$ (1,313,047)	$ (1,313,047)	$ 10,959,741	$ -	$ 10,959,741	$ 11,496	$ -	$ 11,496
Deferred Outflows/(Inflows) Recognized in Pension Expense for Future Plan Years Ending									
6/30/2017	$ -	$ (1,313,047)	$ (1,313,047)	$ 10,959,741	$ -	$ 10,959,741	$ 11,496	$ -	$ 11,496
6/30/2018	-	(721,488)	(721,488)	9,437,808	-	9,437,808	11,496	-	11,496
6/30/2019	-	(65,110)	(65,110)	1,535,512	-	1,535,512	11,496	-	11,496
6/30/2020	-	-	-	-	-	-	4,771	-	4,771
6/30/2021	-	-	-	-	-	-	-	-	-
6/30/2022	-	-	-	-	-	-	-	-	-
Total	$ -	$ (2,099,645)	$ (2,099,645)	$ 21,933,061	$ -	$ 21,933,061	$ 39,260	$ -	$ 39,260
Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End									
6/30/2016			$ 165,400			$ 16,105,665			$ 12,357

SECTION F

SUMMARY OF BENEFITS

Employee Eligibility — All compensated employees of the Fire Department hired before June 1, 2011, are eligible to participate in the Firemen's Pension and Relief Fund.

Average Annual Compensation — The average of any three twelve-consecutive-month periods of employment which produces the highest average annual compensation.

Each twelve-consecutive-month annual compensation is limited to 120% of the *Average Adjusted Salary* received by the member in the two consecutive twelve-consecutive-month periods immediately preceding the twelve-consecutive-month period used in determining benefits.

The *Average Adjusted Salary* is base salary (exclusive of all overtime and other pay) of the year used in determining benefits multiplied by the ratio of total salary (includes all overtime and other pay) to base salary from the respective preceding twelve-consecutive-month period.

Determining Years of Service Credit (Credited Service**)** — The number of years that the member has contributed to the employees retirement and benefit fund.

Prior Military Service — A city may provide that members who have been honorably discharged from the military shall receive up to two years prior service credit for military service prior to their employment with the city.

Current Military Service — Any current member who has been on qualified military service in the armed forces of the United States with an honorable discharge may, within six months from his or her date of discharge, be given credit for continuous service in the paid police or fire department.

Any member who has served in active duty with the armed forces of the United States, whether prior to or subsequent to becoming a member of a paid police or fire department, shall receive one additional percent for each year so served in active military duty, up to a maximum of four additional percent.

Absence from the service because of sickness or injury for a period of two years or less shall not be construed as time out of service.

Contributions — Participating employees contribute 8.0% of compensation. Participating employees hired on or after January 1, 2010, contribute 9.5% of pay. The municipality has elected to contribute the minimum employer contribution under the Conservation Method.

Normal Retirement — Members are eligible at the earlier of age 50 with 20 years of credited service or age 65.

Benefit Commencement — Annual retirement pension benefits commence upon retirement or upon the member attaining age fifty, whichever is later, payable in twelve monthly installments.

Accrued Benefit — The annual retirement benefit equals 60% of average annual compensation, not less than $6,000, plus an additional percentage of average annual compensation for service over 20 years equal to 2% for each year of service between 20 and 25 and 1% for each year of service between 25 and 30 years. Employees serving in the military are eligible for an additional 1% of average annual compensation for each year of military service up to four years. The maximum benefit is limited to 75% of average annual compensation. Benefits continue for life.

Disability Retirement — Members are eligible after earning five years of service. No service requirement if disability is service related.

The monthly disability benefit equals the greater of 60% of monthly salary at disability or $500. Employees serving in the military are eligible for an additional benefit of 1% of monthly salary at disability for each year of military service up to four years. Disability benefits, when aggregated with monthly state workers compensation benefits, shall not exceed 100% of the member's monthly compensation at the time of disability. Benefits continue for life or until recovery.

Death Benefits — Members are eligible after earning five years of service. No service requirement if death is service related. Retirees and terminated vested participants are also eligible.

The benefit is equal to 60% of the participant's benefit, but not less than $300 per month, payable to the spouse until death or remarriage. Other dependents (children, parents, brothers and sisters) are also eligible for death benefits. To each dependent child, twenty percent of the participant's benefit until the child attains eighteen or marries; to each dependent orphaned child, twenty-five percent of the participant's benefit until the child attains eighteen or marries; to each dependent parent, ten percent of the participant's benefit for life, and to each dependent brother or sister, the sum of fifty dollars per month (but a total not to exceed $100 per month) until such individual attains the age of eighteen years or marries.

In no case shall the payments to the surviving spouse and children be reduced below sixty-five percent of the total amount paid to all dependents.

Supplemental Pension Benefits — All retirees, surviving beneficiaries and disability pensioners are eligible for automatic cost-of-living benefits commencing on the first day of July following two years of retirement. The benefits equal the percentage increase in the Consumer Price Index, limited to 4% (2% for some disability retirees), multiplied by the sum of the allowable amount which is the first $15,000 of the total annual benefits paid and the accumulated supplemental pension amounts for prior years.

Termination Benefits — Any member who terminates employment prior to retirement will be entitled to a refund of contributions without interest.

Refunds — Any member who terminates from their department without receiving a retirement pension shall be refunded all deductions made from his salary, without interest. Any member who receives such a refund and subsequently wishes to reenter the department must repay to the pension fund all sums refunded with interest at the rate of eight percent annual.

SECTION G

ACTUARIAL VALUATION ASSUMPTIONS

ACTUARIAL VALUATION ASSUMPTIONS

Investment return 7/1/2015 7/1/2016 to 6/30/2046 After 6/30/2046	5.000% 4.500% 6.000% for GASB 67/68 ,4.500% for Funding
General Inflation	2.75%
Expected Salary Increase	General Inflation: 2.75% *plus* Wage Inflation: 1.00% *plus* Service Based Increase: Years of Service — Increase 1 — 20.00% 2 — 6.50% 3 — 3.50% 4 — 2.75% 5-9 — 2.50% 10-29 — 2.00% 30-34 — 1.25% after 34 years of service — 0.00%
Post-retirement COLA	2.75% on first $15,000 of Annual Benefit and on the accumulated supplemental pension amounts for prior years.
Increase in State Insurance Premium Tax Allocation	2.75% on and after year 1

VALUATION ASSUMPTIONS (CONTINUED)

Cost Method	Entry-Age Normal Level-Percentage-of-Pay The sponsor finances benefits using the Conservation policy as defined by state statute. This policy does not directly amortize the unfunded actuarial liability. The policy is projected to fully finance the closed group actuarial liability by 2046. 30 – Year Closed Level-Percentage-of-Pay Amortization for Actuarially Determined Contribution (from July 1, 2010). 25 years remaining as of July 1, 2015.
Asset Method	Market Value
Turnover	Sample Rates – Age / Rates 25 / 9% 35 / 4% 45 / 2% 50 / 0%
Retirement	Age / Rates 50 / 45% 51-55 / 30% 56-59 / 35% 60 / 100%

VALUATION ASSUMPTIONS (CONTINUED)

Mortality	Active: RP-2014 Blue Collar Healthy Employee Post-Retirement: RP-2014 Blue Collar Healthy Annuitant Disabled: RP-2014 Blue Collar Healthy Annuitant set forward four years Tables above incorporate generational mortality improvement using MP-2014 two-dimensional mortality improvement scales
Disability	Sample Rates – Age — Rates[a] 30 — 0.22% 40 — 0.50% 50 — 0.79% [a] Assumes 60% duty related and 40% non-duty related.
Percent Married	90%
Spouse Age	Females 3 years younger than males

Discount Rate

The following table outlines the factors used to determine the discount rate:

Funded Ratio as of Valuation Date [1]	Liquidity Ratio [2]	Equity Exposure [3]	Projected Funded Ratio after 15 Years [1]	Discount Rate
60% or more	10	50% or more	70% or more	6.5%
40% or more	8	40% or more	60% or more	6.0%
30% or more	6	30% or more	50% or more	5.5%
15% or more	4	n/a	40% or more	5.0%
Less than 15%	n/a	n/a	15% or more	4.5%
Less than 15%	n/a	n/a	Less than 15%	4.0%

[1] Funded ratios based on a 6.0% investment return assumption for plans using an actuarially sound policy (standard or optional) and a 5.5% investment return assumption for other plans (alternative or conservation).

[2] Liquidity ratio equals assets as of the valuation date divided by expected benefit payments for the year.

[3] Based on investment policy.

As of June 30, 2015 *	
Assets	$13,888,494
Liabilities using a 5.5% discount rate	$153,522,121
Funded Ratio	9%
Expected Benefit Payments	$7,069,237
Liquidity Ratio	1.96
Equity Exposure	54%
Projected Funded Ratio after 15 years	24%

* Based on funding valuation results as of June 30, 2015.

Discount Rate	4.500%

SECTION H

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

GASB Statement Nos. 67 and 68 include specific requirements 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 available or 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) a 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).

The sponsor finances benefits using the Conservation funding policy as defined in state statutes. The sponsor makes contributions to two separate accounts – the Benefit Payment Account and the Accumulation Account. The Benefit Payment Account is used to finance benefits and expenses on a pay-as-you-go basis. Sources to pay current year benefits and expenses include minimum employee contributions of 6.5% of pay, any remaining state premium tax allocation as described below, and employer contributions. The Accumulation Account cannot be used to pay benefits and expenses until assets exceed actuarial liabilities. Contributions to the Accumulation Account include employee contributions of 1.5% of pay and the percentage of premium tax allocation which is projected to fully finance the projected liability in 35 years, since the adoption of the Conservation funding policy in 2011. Any remaining state premium tax allocation, not assigned to the Accumulation Account, can be used to finance benefits and expenses during the year. The plan is closed to new members as of the adoption of the Conservation funding policy.

For purposes of developing the single equivalent discount rate, we have assumed benefits are discounted at the municipal bond rate if paid from the pay-as-you-go Benefit Account, or at the long-term expected rate of return if paid from the Accumulation Account. We have assumed a long-term expected rate of return after 2046 of 6.0%. The long-term rate of return assumes assets in the Accumulation Account are invested in a well-diversified portfolio with 40% to 50% allocated to equities.

For the purpose of this valuation, the municipal bond rate is 2.85%, the long-term expected rate of return is 6.000% after 2046, and the resulting single discount rate is 3.7852%.

The following tables show the projection of assets and funded status for current members as of the valuation date. Our projections assume the sponsor will make the required statutory contributions.

The projections are based on the statutory funding actuarial valuation and projection report as of June 30, 2015.

GASB Nos. 67 and 68 - Conservation Funding Policy
Projection of assets and funded status

	Benefit Payment Account						Accumulation Account [c]				Funded Status		
Plan Year End 30-Jun	Assets (boy)	Benefits Payments	Expenses	Employer Contributions	6.50% of Pay Employee Contributions	47.19% of Premium Tax Allocation	Assets (boy)	1.50% of Pay Employee Contributions	52.81% of Premium Tax Allocation	Investment Income	Actuarial Accrued Liability (boy)	Funded Ratio [a]	Funded Ratio [b]
2017	$0	$7,278,081	$8,583	$6,013,941	$465,633	$807,089	$14,902,114	$107,454	$903,240	$693,085	$181,234,448	0%	8.2%
2018	0	7,526,145	8,701	6,231,350	461,041	842,455	16,605,893	106,394	942,819	770,613	185,840,300	0%	8.9%
2019	0	7,806,748	8,822	6,499,258	448,514	867,798	18,425,719	103,503	971,182	853,072	190,320,022	0%	9.7%
2020	0	8,193,751	8,948	6,870,418	436,350	895,930	20,353,475	100,696	1,002,665	940,459	194,605,137	0%	10.5%
2021	0	8,614,835	9,075	7,285,707	413,128	925,075	22,397,296	95,337	1,035,283	1,033,037	198,538,252	0%	11.3%
2022	0	9,008,850	9,203	7,676,443	386,661	954,950	24,560,953	89,229	1,068,716	1,131,010	202,006,300	0%	12.2%
2023	0	9,421,496	9,336	8,082,921	362,327	985,583	26,849,908	83,614	1,102,999	1,234,651	205,004,082	0%	13.1%
2024	0	9,824,317	9,467	8,484,855	332,938	1,015,991	29,271,172	76,832	1,137,030	1,344,214	207,480,309	0%	14.1%
2025	0	10,150,703	9,600	8,808,177	307,075	1,045,051	31,829,247	70,863	1,169,552	1,459,918	209,415,219	0%	15.2%
2026	0	10,519,995	9,732	9,162,306	289,590	1,077,831	34,529,581	66,829	1,206,236	1,582,160	210,912,237	0%	16.4%
2027	0	10,929,814	9,865	9,571,675	257,015	1,110,990	37,384,805	59,311	1,243,346	1,711,303	211,886,774	0%	17.6%
2028	0	11,238,884	9,999	9,877,057	228,332	1,143,494	40,398,765	52,692	1,279,722	1,847,594	212,228,957	0%	19.0%
2029	0	11,493,451	10,133	10,119,988	207,049	1,176,547	43,578,773	47,781	1,316,713	1,991,408	212,056,091	0%	20.6%
2030	0	11,775,473	10,266	10,389,984	185,215	1,210,541	46,934,674	42,742	1,354,756	2,143,158	211,428,028	0%	22.2%
2031	0	12,070,115	10,397	10,677,429	156,897	1,246,186	50,475,331	36,207	1,394,649	2,303,230	210,269,230	0%	24.0%
2032	0	12,319,821	10,525	10,918,616	131,099	1,280,630	54,209,416	30,254	1,433,196	2,471,989	208,528,107	0%	26.0%
2033	0	12,560,151	10,647	11,145,006	108,438	1,317,353	58,144,854	25,024	1,474,294	2,649,882	206,250,771	0%	28.2%
2034	0	12,762,580	10,764	11,336,222	83,094	1,354,027	62,294,055	19,176	1,515,337	2,837,379	203,429,931	0%	30.6%
2035	0	12,877,520	10,875	11,434,251	64,588	1,389,555	66,665,946	14,905	1,555,098	3,034,904	200,098,996	0%	33.3%
2036	0	12,947,197	10,978	11,479,784	51,517	1,426,875	71,270,853	11,888	1,596,863	3,242,987	196,374,511	0%	36.3%
2037	0	12,982,594	11,075	11,490,483	39,083	1,464,103	76,122,592	9,019	1,638,527	3,462,178	192,311,803	0%	39.6%
2038	0	12,979,770	11,163	11,457,845	29,776	1,503,312	81,232,316	6,871	1,682,407	3,693,045	187,947,030	0%	43.2%
2039	0	12,939,059	11,243	11,385,129	21,388	1,543,784	86,614,639	4,936	1,727,701	3,936,214	183,322,016	0%	47.2%
2040	0	12,869,204	11,313	11,278,629	15,954	1,585,934	92,283,489	3,682	1,774,872	4,192,334	178,478,773	0%	51.7%
2041	0	12,774,562	11,373	11,145,587	10,253	1,630,095	98,254,377	2,366	1,824,294	4,462,095	173,448,151	0%	56.6%
2042	0	12,645,005	11,423	10,973,934	6,855	1,675,639	104,543,132	1,582	1,875,263	4,746,205	168,255,199	0%	62.1%
2043	0	12,494,393	11,461	10,778,269	4,548	1,723,038	111,166,182	1,049	1,928,309	5,045,411	162,940,411	0%	68.2%
2044	0	12,324,186	11,488	10,561,086	2,679	1,771,908	118,140,952	618	1,983,002	5,360,483	157,525,417	0%	75.0%
2045	0	12,134,995	11,502	10,322,745	1,697	1,822,054	125,485,055	392	2,039,122	5,692,212	152,030,531	0%	82.5%
2046	0	11,931,222	11,503	9,599,275	1,089	1,873,883	133,216,781	251	2,097,125	6,041,427	146,476,279	0%	90.9%
2047	0	0	0	0	0	0	140,876,680	750	0	6,078,856	140,876,684	0%	100.0%

[a] Funded ratio based on assets available to pay benefits. After plan year end June 30, 2046, assets in Accumulation Account will be available to pay benefits.
[b] Funded ratio based on all assets in trust, including the Benefit Payment Account and the Accumulation Account.
[c] Includes plan year end 2047 Benefit Payments of $11,713,921, Expenses of $11,491, and Employer Contributions of $13,835.

GASB Nos. 67 and 68 - Conservation Funding Policy
Development of single equivalent discount rate

Plan Year End 6/30	Benefit Payments	Discount Rate	Discounted Benefit Payment	Single Discount Rate	Discounted Benefit Payment
2016	$7,069,237	2.850%	$6,971,210	3.7852%	$6,939,924
2017	7,278,081	2.850%	6,978,276	3.7852%	6,884,360
2018	7,526,145	2.850%	7,016,161	3.7852%	6,859,364
2019	7,806,748	2.850%	7,076,082	3.7852%	6,855,609
2020	8,193,751	2.850%	7,221,064	3.7852%	6,933,032
2021	8,614,835	2.850%	7,381,780	3.7852%	7,023,474
2022	9,008,850	2.850%	7,505,492	3.7852%	7,076,832
2023	9,421,496	2.850%	7,631,772	3.7852%	7,131,058
2024	9,824,317	2.850%	7,737,552	3.7852%	7,164,749
2025	10,150,703	2.850%	7,773,078	3.7852%	7,132,788
2026	10,519,995	2.850%	7,832,640	3.7852%	7,122,678
2027	10,929,814	2.850%	7,912,270	3.7852%	7,130,256
2028	11,238,884	2.850%	7,910,560	3.7852%	7,064,478
2029	11,493,451	2.850%	7,865,570	3.7852%	6,961,004
2030	11,775,473	2.850%	7,835,267	3.7852%	6,871,703
2031	12,070,115	2.850%	7,808,769	3.7852%	6,786,752
2032	12,319,821	2.850%	7,749,456	3.7852%	6,674,512
2033	12,560,151	2.850%	7,681,701	3.7852%	6,556,538
2034	12,762,580	2.850%	7,589,213	3.7852%	6,419,227
2035	12,877,520	2.850%	7,445,368	3.7852%	6,240,811
2036	12,947,197	2.850%	7,278,224	3.7852%	6,045,735
2037	12,982,594	2.850%	7,095,889	3.7852%	5,841,164
2038	12,979,770	2.850%	6,897,760	3.7852%	5,626,904
2039	12,939,059	2.850%	6,685,586	3.7852%	5,404,677
2040	12,869,204	2.850%	6,465,233	3.7852%	5,179,446
2041	12,774,562	2.850%	6,239,851	3.7852%	4,953,843
2042	12,645,005	2.850%	6,005,413	3.7852%	4,724,760
2043	12,494,393	2.850%	5,769,455	3.7852%	4,498,218
2044	12,324,186	2.850%	5,533,164	3.7852%	4,275,118
2045	12,134,995	2.850%	5,297,251	3.7852%	4,055,963
2046	11,931,222	2.850%	5,063,976	3.7852%	3,842,412
2047	11,713,921	6.000%	1,897,388	3.7852%	3,634,845
2048	11,483,549	6.000%	1,754,786	3.7852%	3,433,399
2049	11,240,486	6.000%	1,620,418	3.7852%	3,238,156
2050	10,985,461	6.000%	1,494,013	3.7852%	3,049,267
2051	10,719,080	6.000%	1,375,269	3.7852%	2,866,813
2052	10,441,407	6.000%	1,263,815	3.7852%	2,690,701
2077	2,060,723	6.000%	58,116	3.7852%	209,768
2102	2,615	6.000%	17	3.7852%	105
Total Present Value			**$239,865,400**		**$239,865,400**

SECTION I

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability (AAL)	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
Actuarial Assumptions	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
Actuarial Gain (Loss)	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
Actuarial Present Value (APV)	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
Actuarial Valuation	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability and related actuarial present value of projected benefit payments for pensions.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.

GLOSSARY OF TERMS

Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.
Amortization 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.
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
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 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.
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.

GLOSSARY OF TERMS

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.

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.

Fiduciary Net Position

The fiduciary net position is the value of the assets of the trust.

GASB

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

Long-Term Expected Rate of Return

The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.

Money-Weighted Rate of Return

The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

Multiple-Employer Defined Benefit Pension Plan

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

GLOSSARY OF TERMS

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 statement 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.

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

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

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

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

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

GLOSSARY OF TERMS

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 the GASB Statement No. 67, the valuation asset is equal to the market value of assets.