City of Bluefield, West Virginia
Firemen's Pension and Relief Fund

GASB Statement Nos. 67 and 68 Plan Reporting and Accounting Schedules

June 30, 2018

GRS Retirement Consulting
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October 16, 2018

Ms. Kelly Davis, City Treasurer
City of Bluefield
200 Rogers Street
Bluefield, WV 24701

Captain Adrian Conner
Pension Board Secretary
City of Bluefield Firemen's Pension and Relief Fund

Dear Ms. Davis and Captain Conner:

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 Bluefield, 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, 2018, and the sponsor's fiscal year ending June 30, 2018.

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 Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the City of Bluefield, West Virginia Firemen's Pension and Relief Fund ("Plan") only in its entirety and only with the permission of the Plan. GRS is not responsible for unauthorized use of this report.

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 were first applied beginning with the actuarial valuation for the plan year ending June 30, 2016.

Our actuarial 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 does not evaluate the plan sponsor's ability or willingness to make contributions to the Pension and Relief Fund.

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 Bluefield, 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.

This report complements the actuarial valuation report that was provided to the plan sponsor and should be considered in conjunction with that report. Please see the actuarial valuation report as of June 30, 2017, for additional discussion of the nature of actuarial calculations and additional information related to participant data, economic and demographic assumptions and benefit provisions.

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

The signing individuals are independent of the plan sponsor.

Respectfully submitted,

Heidi G Barry

Heidi G. Barry, ASA, MAAA, FCA

Judith A. Kermans

Judith A. Kermans, 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.

This actuarial valuation report assumes the following:

- The Plan Sponsor first adopted GASB Statement No. 68 effective for the fiscal year end June 30, 2015.
- The Net Pension Liability as of the first year of adoption, i.e., fiscal year end June 30, 2015, was based on a projection of actuarial liabilities from July 1, 2014, to June 30, 2015, and the market value of assets as of June 30, 2015.
- The Pension Expense for fiscal year end June 30, 2015, recognizes deferred inflows and outflows for the fiscal year end June 30, 2015.
- The Pension Expense for fiscal years after June 30, 2015, recognizes deferred inflows and outflows beginning with the fiscal year end June 30, 2015.

The Plan Sponsor may need to adjust the results in this report if a different policy is implemented. Examples of different policies include:

- Adopting GASB Statement No. 68 effective for fiscal years ending prior to June 30, 2015.
- Using an earlier measurement date, such as using a measurement date of June 30, 2014, for purposes of completing financial reporting for the fiscal year end June 30, 2015.
- Recognizing deferred inflows and outflows prior to the initial year of adoption, such as recognizing deferred inflows and outflows starting with the fiscal year end June 30, 2014.

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SECTION A

EXECUTIVE SUMMARY

Executive Summary
as of June 30, 2018

Actuarial Valuation Date		June 30, 2017
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)		June 30, 2018
Membership[a]		
Number of		
- Retirees and Beneficiaries		40
- Inactive, Nonretired Members		1
- Active Members		16
- Total		57
Expected Payroll	$	657,549
Net Pension Liability		
Total Pension Liability[b]	$	17,975,426
Plan Fiduciary Net Position		4,404,012
Net Pension Liability	$	13,571,414
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		24.50%
Net Pension Liability as a Percentage of Covered Payroll		2,063.94%
Development of the Single Discount Rate		
Single Discount Beginning of Year		4.50%
Single Discount Rate End of Year		5.00%
Long-Term Expected Rate of Return		5.00%
Long-Term Municipal Bond Rate Beginning of Year[c]		3.56%
Long-Term Municipal Bond Rate End of Year[c]		3.62%
Year Plan is projected to be fully funded		2045
Year assets are expected to be depleted for closed plan		**N/A**
GASB No. 68 Pension Expense	$	1,324,600

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 non-investment experience	$ 220,483	$ (257,642)
Changes in assumptions	326,029	(932,666)
Net difference between projected and actual earnings on pension plan investments	75,575	(211,051)
Total	$ 622,087	$ (1,401,359)

[a] *Census data measured as of June 30, 2017.*

[b] *Total pension liability projected from July 1, 2017, to June 30, 2018, based on the results of July 1, 2017, actuarial valuation.*

[c] *Based on the 20-Year Municipal GO Index of mixed maturity 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 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 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 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

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, 2017, and projected to the measurement date of June 30, 2018.

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 mixed maturity general obligation bonds with an average AA credit rating (which is published by Fidelity) 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 5.00%, the municipal bond rate is 3.62% (based on the weekly rate closest to but not later than the measurement date of the "20-Year Municipal GO Index" as published by Fidelity), and the resulting single discount rate is 5.00%.

Please see important comments about the Alternative Funding Policy in the actuarial valuation report (used for funding) including its inability to fund for expected benefit payments in an already severely underfunded plan.

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,* approved by the Municipal Pension Oversight Board and became effective beginning with the actuarial valuation applicable to plan year end June 30, 2016. Since the last valuation as of June 30, 2017, and for purposes of the accounting actuarial valuation, the blended interest rate used to discount liabilities was changed from 4.50% to 5.00%. The actuarial assumptions are disclosed in Section G of the report.

SECTION B

FINANCIAL STATEMENTS

Statement of Fiduciary Net Position
as of June 30, 2018

Assets		
Cash and Deposits	$	153,861
Receivables		
Contributions		-
Investment Income		-
Total Receivables	**$**	**-**
Investment		
Government Securities	$	544,644
Corporate Bonds		1,046,113
Corporate Stocks		2,659,394
Alternative Investments		-
Other		-
Total Investments	**$**	**4,250,151**
Total Assets	**$**	**4,404,012**
Liabilities		
Payables		-
Total Liabilities	**$**	**-**
Net Position Restricted for Pensions*	**$**	**4,404,012**

**Totals may not add due to rounding*

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2018

Additions		
Contributions		
Employer	$	416,086
State		214,635
Employee		57,693
Receivable Employer		-
Receivable State		-
Receivable Employee		-
Other		-
Total Contributions	**$**	**688,414**
Net investment gain (loss) from		
Net Appreciation (Depreciation)	$	152,821
Net Realized Gain (Loss) on Sale or Exchange		(31,209)
Interest and Dividends		106,768
Other income		77,984
Investment Expense		-
Receivable Investment Income		-
Payable Investment Expenses		-
Net Investment Income	**$**	**306,364**
Other Revenue	$	6,746
Total Additions	**$**	**1,001,524**
Deductions		
Benefit payments	$	817,337
Refunds		-
Pension Plan Administrative Expense		86
Other		-
Payable Benefits and Withdrawals		-
Payable Administrative Expenses		-
Total Deductions	**$**	**817,423**
Net Increase in Net Position	$	184,101
Net Position Restricted for Pensions *		
Beginning of Year	**$**	**4,219,912**
End of Year	**$**	**4,404,012**

**Totals may not add due to rounding*

Long-Term Expected Return on Plan Assets

The investment policy covering the allocation of invested assets for the City of Bluefield, 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	2018	2017	2016	2015	2014	2013	2012
Total Pension Liability							
Service Cost	$ 334,513	$ 343,894	$ 198,351	$ 261,956	$ 248,401		
Interest on the Total Pension Liability	841,226	840,313	809,292	780,962	763,367		
Benefit Changes	-	-	-	-	-		
Difference between Expected and Actual Experience	(347,114)	526,188	(117,054)	152,857	-		
Assumption Changes	(1,318,293)	-	3,162,943	(1,026,161)	-		
Benefit Payments	(817,337)	(806,910)	(785,233)	(711,815)	(658,888)		
Refunds	-	-	(28,508)	(19,901)	-		
Net Change in Total Pension Liability	(1,307,005)	903,485	3,239,791	(562,102)	352,880		
Total Pension Liability - Beginning	19,282,431	18,378,946	15,139,155	15,701,257	15,348,377		
Total Pension Liability - Ending (a)	$ 17,975,426	$ 19,282,431	$ 18,378,946	$ 15,139,155	$ 15,701,257		
Plan Fiduciary Net Position							
Employer Contributions (Local and State)	$ 630,721	$ 622,496	$ 568,649	$ 730,967	$ 524,943		
Employee Contributions	57,693	54,175	54,875	55,668	55,381		
Pension Plan Net Investment Income	306,364	368,996	88,757	81,671	515,010		
Benefit Payments	(817,337)	(806,910)	(785,233)	(711,815)	(658,888)		
Refunds	-	-	(28,508)	(19,901)	-		
Pension Plan Administrative Expense	(86)	-	(150)	(670)	-		
Other	6,746	836	1,342	-	-		
Net Change in Plan Fiduciary Net Position	184,101	239,593	(100,268)	135,920	436,446		
Plan Fiduciary Net Position - Beginning	4,219,912	3,980,319	4,080,587	3,944,667	3,503,157		
Plan Fiduciary Net Position - Ending* (b)	$ 4,404,012	$ 4,219,912	$ 3,980,319	$ 4,080,587	$ 3,939,603		
Net Pension Liability - Ending (a) - (b)	13,571,414	15,062,519	14,398,627	11,058,568	11,761,654		
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	24.50 %	21.88 %	21.66 %	26.95 %	25.09 %		
Covered Employee Payroll	$ 657,549	$ 684,729	$ 597,873	$ 707,540	$ 672,836		
Net Pension Liability as a Percentage of Covered Employee Payroll	2,063.94 %	2,199.78 %	2,408.31 %	1,562.96 %	1,748.07 %		

Notes to Schedule:

**Totals may not add due to rounding*

Market value of assets as of July 1, 2014, includes $5,064, excluded from the market value of assets as of June 30, 2014, used for the actuarial valuation report for the fiscal year end June 30, 2014.

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
2009						
2010						
2011						
2012						
2013						
2014	$ 15,701,257	$ 3,939,603	$ 11,761,654	25.09%	$ 672,836	1,748.07 %
2015	$ 15,139,155	$ 4,080,587	$ 11,058,568	26.95%	$ 707,540	1,562.96 %
2016	$ 18,378,946	$ 3,980,319	$ 14,398,627	21.66%	$ 597,873	2,408.31 %
2017	$ 19,282,431	$ 4,219,912	$ 15,062,519	21.88%	$ 684,729	2,199.78 %
2018	$ 17,975,426	$ 4,404,012	$ 13,571,414	24.50%	$ 657,549	2,063.94 %

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	$ 716,841	$ 296,663	$ 210,734	71%	$ 719,372	71%
6/30/2014	$ 702,186	$ 315,699	$ 209,244	75%	$ 672,836	78%
6/30/2015	$ 683,027	$ 366,101	$ 364,866	107%	$ 707,540	103%
6/30/2016	$ 865,329	$ 333,140	$ 235,509	66%	$ 597,873	95%
6/30/2017	$ 965,489	$ 419,150	$ 203,346	64%	$ 684,729	91%
6/30/2018	$ 904,672	$ 416,086	$ 214,635	70%	$ 657,549	96%

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, 2018, measurement date based on actuarial liabilities as of July 1, 2017
Actuarial Cost Method	Entry Age Normal, Level-Percentage-of-Pay
Actuarial Value of Assets	Market value used for GASB Statement Nos. 67 and 68 reporting
Contribution Policy and Amortization Method	The sponsor finances benefits using the Alternative funding policy as defined in state statute. Sponsor contributions are equal to 107 percent of the prior year contribution. The plan also receives state contributions based on an allocation of premium tax that depends on the number of active and retired members. This funding policy does not directly amortize the unfunded actuarial liability. However, projected sponsor, state and member contributions along with projected investment earnings are expected to fully fund the projected actuarial liability for current plan members by 2045.

Actuarial Assumptions:

Investment Rate of Return	5.00% per year
GASB 67/68 Discount Rate	5.00% per year at June 30, 2018, and 4.50% at June 30, 2017
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. Assumed to be payable to all members receiving payments.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Single Discount Rate

A GASB Statement Nos. 67 and 68 single discount rate of 5.00% was used to measure the total pension liability as of June 30, 2018. This single discount rate was based on the expected rate of return on pension plan investments of 5.00%, and the municipal bond rate 3.62%. 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 for all future plan years. Therefore, the single discount rate of 5.00% was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

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 5.00%, 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:

1% Decrease 4.0000%	Current Single Discount Rate Assumption 5.0000%	1% Increase 6.0000%
$16,374,374	$13,571,414	$11,344,821

SECTION E

GASB STATEMENT NO. 68 PENSION EXPENSE

Net Pension Liability
For Fiscal Year Ending June 30, 2018

A. Total Pension Liability		
1. Service Cost	$	334,513
2. Interest on the Total Pension Liability		841,226
3. Changes of benefit terms		-
4. Difference between expected and actual experience of the Total Pension Liability		(347,114)
5. Changes of assumptions		(1,318,293)
6. Benefit payments, including refunds of employee contributions		(817,337)
7. Net change in total pension liability	$	(1,307,005)
8. Total pension liability – beginning (July 1, 2017)		19,282,431
9. Total pension liability – ending (June 30, 2018)	**$**	**17,975,426**
B. Plan Fiduciary Net Position		
1. Contributions – employer	$	630,721
2. Contributions – employee		57,693
3. Net investment income		306,364
4. Benefit payments, including refunds of employee contributions		(817,337)
5. Pension Plan Administrative Expense		(86)
6. Other		6,746
7. Net change in plan fiduciary net position	$	184,101
8. Plan fiduciary net position – beginning (July 1, 2017)		4,219,912
9. Plan fiduciary net position – ending (June 30, 2018)*	**$**	**4,404,012**
C. Net pension liability as of June 30, 2018	**$**	**13,571,414**
D. Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		**24.50%**
E. Covered-employee Payroll	**$**	**657,549**
F. Net Pension Liability as a Percentage of Covered Employee Payroll		**2,063.94%**

**Totals may not add due to rounding*

Pension Expense
For Fiscal Year Ending June 30, 2018

A. Expense		
1. Service Cost	$	334,513
2. Interest on the Total Pension Liability		841,226
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		(57,693)
5. Projected Earnings on Plan Investments (made negative for addition here)		(187,145)
6. Pension Plan Administrative Expense		86
7. Other Changes in Plan Fiduciary Net Position		(6,746)
8. Recognition of Outflow/(Inflow) due to Non-investment Experience		44,857
9. Recognition of Outflow/(Inflow) due to Assumption Changes		368,425
10. Recognition of Outflow/(Inflow) due to Investment Experience		(12,923)
11. Total Pension Expense	**$**	**1,324,600**

B. Reconciliation of Net Pension Liability		
1. Net Pension Liability beginning of year	**$**	**15,062,519**
2. Pension Expense		1,324,600
3. Employer Contributions		(630,721)
4. Change in Outflow/(Inflow) due to Non-investment Experience		(391,971)
5. Change in Outflow/(Inflow) due to Assumption Changes		(1,686,718)
6. Change in Outflow/(Inflow) due to Investment Experience		(106,296)
7. Net Pension Liability End of year*	**$**	**13,571,414**

**Totals may not add due to rounding*

Schedule of Outflows and Inflows of Resources

	Non-Investment Experience					Assumption Changes					Investment Experience				
Plan Year Beginning	**7/1/2014**	**7/1/2015**	**7/1/2016**	**7/1/2017**		**7/1/2014**	**7/1/2015**	**7/1/2016**	**7/1/2017**		**7/1/2014**	**7/1/2015**	**7/1/2016**	**7/1/2017**	
(Gain)/Loss	$ 152,857	$ (117,054)	$ 526,188	$ (347,114)		$ (1,026,161)	$ 3,162,943	$ -	$ (1,318,293)		$ 116,919	$ 130,477	$ (192,793)	$ (119,219)	
Amortization Factor	3.688682	3.344772	3.442455	3.418569		3.688682	3.344772	3.442455	3.418569		5.000000	5.000000	5.000000	5.000000	
Amortization Amount	$ 41,439	$ (34,996)	$ 152,853	$ (101,538)		$ (278,192)	$ 945,638	$ -	$ (385,627)		$ 23,384	$ 26,095	$ (38,559)	$ (23,844)	
Amortization for Plan Year End					**Total**					**Total**					**Total**
6/30/2014															
6/30/2015	$ 41,439				$ 41,439	$ (278,192)				$ (278,192)	$ 23,384				$ 23,384
6/30/2016	41,439	$ (34,996)			6,443	(278,192)	$ 945,638			667,446	23,384	$ 26,095			49,479
6/30/2017	41,439	(34,996)	$ 152,853		159,296	(278,192)	945,638	$ -		667,446	23,384	26,095	$ (38,559)		10,921
6/30/2018	**28,539**	**(34,996)**	**152,853**	**$ (101,538)**	**44,857**	**(191,586)**	**945,638**	**-**	**$ (385,627)**	**368,425**	**23,384**	**26,095**	**(38,559)**	**$ (23,844)**	**(12,923)**
6/30/2019	-	(12,066)	152,853	(101,538)	39,249	-	326,029	-	(385,627)	(59,598)	23,384	26,095	(38,559)	(23,844)	(12,923)
6/30/2020	-	-	67,630	(101,538)	(33,907)	-	-	-	(385,627)	(385,627)	-	26,095	(38,559)	(23,844)	(36,307)
6/30/2021	-	-	-	(42,501)	(42,501)	-	-	-	(161,412)	(161,412)	-	-	(38,559)	(23,844)	(62,402)
6/30/2022	-	-	-	-	-	-	-	-	-	-	-	-	-	(23,844)	(23,844)
6/30/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/30/2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**$ 152,857**	**$ (117,054)**	**$ 526,188**	**$ (347,114)**		**$ (1,026,161)**	**$ 3,162,943**	**$ -**	**$ (1,318,293)**		**$ 116,919**	**$ 130,477**	**$ (192,793)**	**$ (119,219)**	

Deferred Outflows/(Inflows) Recognized in Pension Expense for Current Plan Year End	**Outflows**	**(Inflows)**	**Net**	**Outflows**	**(Inflows)**	**Net**	**Outflows**	**(Inflows)**	**Net**
6/30/2018	$ 181,391	$ (136,534)	$ 44,857	$ 945,638	$ (577,213)	$ 368,425	$ 49,479	$ (62,402)	$ (12,923)

Deferred Outflows/(Inflows) Recognized in Pension Expense for Future Plan Years Ending									
6/30/2019	$ 152,853	$ (113,603)	$ 39,249	$ 326,029	$ (385,627)	$ (59,598)	$ 49,479	$ (62,402)	$ (12,923)
6/30/2020	67,630	(101,538)	(33,907)	-	(385,627)	(385,627)	26,095	(62,402)	(36,307)
6/30/2021	-	(42,501)	(42,501)	-	(161,412)	(161,412)	-	(62,402)	(62,402)
6/30/2022	-	-	-	-	-	-	-	(23,844)	(23,844)
6/30/2023	-	-	-	-	-	-	-	-	-
6/30/2024	-	-	-	-	-	-	-	-	-
Total	$ 220,483	$ (257,642)	$ (37,159)	$ 326,029	$ (932,666)	$ (606,636)	$ 75,575	$ (211,051)	$ (135,476)

Change In Deferred Outflows/(Inflows) Recognized in Liability and Assets for Current Plan Year End	Non-Investment Experience	Assumption Changes	Investment Experience
6/30/2018	$ (391,971)	$ (1,686,718)	$ (106,296)

SECTION F

SUMMARY OF BENEFITS

Employee Eligibility — All compensated employees of the Fire Department 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 7.0% 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 Alternative 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

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. Assumed to be payable to all members receiving payments.
Increase in State Insurance Premium Tax Allocation	2.75% on and after year 1

Actuarial Valuation Assumptions

Cost Method	Entry-Age Normal Level-Percentage-of-Pay **The sponsor finances benefits using the Alternative funding 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 2045.** 30-Year Closed Level-Percentage-of-Pay Amortization for Actuarially Determined Contribution (from July 1, 2010). 23 years remaining as of July 1, 2017.
Asset Method	Market Value
Turnover	Sample Rates – Age / Rates 25 9% 35 4% 45 2% 50 0%
Retirement	Age / Rates[a] 50 45% 51-55 30% 56-59 35% 60 100% [a] *Terminated vested participants are assumed to retire at age 50*

Actuarial Valuation Assumptions

Mortality	Active: RP-2014 Blue Collar Healthy Employee[b] 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 [b] *Assumes 10% of deaths are duty-related and 90% are non-duty-related.*
Disability	Sample Rates – <u>Age</u> <u>Rates</u>[c] 30 0.22% 40 0.50% 50 0.79% [c] *Assumes 60% duty related and 40% non-duty related. Also assumes 10% of non-duty disabled members receive a 20% reduction in benefits due to gainful employment.*
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	6.50%
40% or more	8	40% or more	60% or more	6.00%
30% or more	6	30% or more	50% or more	5.50%
15% or more	4	n/a	40% or more	5.00%
Less than 15%	n/a	n/a	15% or more	4.50%
Less than 15%	n/a	n/a	Less than 15%	4.00%

[1] *Funded ratios based on a 6.00% investment return assumption for plans using an actuarially sound policy (standard or optional) and a 5.50% 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, 2017 [*]	
Assets	$4,219,912
Liabilities using a 5.50% discount rate	$16,470,903
Funded Ratio	26%
Expected Benefit Payments	$845,428
Liquidity Ratio	4.99
Equity Exposure	48%
Projected Funded Ratio after 15 years	43%

[*] *Based on funding valuation results as of June 30, 2017.*

Discount Rate	5.00%

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 mixed maturity general obligation bonds with an average AA credit rating (which is published by Fidelity) 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 5.00%, the municipal bond rate is 3.62%, and the resulting single discount rate is 5.00%.

The sponsor finances benefits using the Alternative funding policy as defined in State statute. Sponsor contributions are equal to 107 percent of the prior year contribution. The plan also receives State contributions based on an allocation of premium tax that depends on the number of actives and retired members. This funding policy does not directly amortize the unfunded actuarial liability. The statutory contribution does not explicitly separate projected employer contributions between current plan members and future plan members. **Please see important comments about the Alternative Funding Policy in the actuarial valuation report (used for funding) including its inability to fund for expected benefit payments in an already severely underfunded plan.**

For purposes of developing the single equivalent discount rate, we have assumed the actuarial liability for future members will be fully financed, to the extent that assets are available, and any remaining asset will be assigned to current plan members. **Based on this assignment of assets and employer contributions, the projected actuarial liability for current plan members is projected to be fully financed by 2045.**

The tables on the following pages show the assignment of assets and employer contributions and the projection of assets 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, 2017.

GASB Statement Nos. 67 and 68 - Alternative Funding Policy
Assignment of assets which provides 100% financing of future member actuarial liability

Plan Year End 6/30	Open Group Actuarial Liability (a)	Closed Group Actuarial Liability (b)	Future Member Actuarial Liability (c) = (a)-(b)	Open Group Assets (d)	Future Member Assigned Assets (e)=min[(c), (d)]	Closed Group Assigned Assets (f)=(d)-(e)	Funded Ratio Current Members (g)=(f)/(b)	Funded Ratio Future Members (h)=(e)/(c)
2017	$ 17,632,108	$ 17,632,108	$ 0	$ 4,219,912	$ 0	$ 4,219,912	23.9%	100.0%
2018	17,946,954	17,946,954	0	4,262,812	0	4,262,812	23.8%	100.0%
2019	18,267,867	18,250,416	17,451	4,328,269	17,451	4,310,818	23.6%	100.0%
2020	18,562,294	18,509,664	52,630	4,392,081	52,630	4,339,451	23.4%	100.0%
2021	18,831,945	18,721,139	110,806	4,453,156	110,806	4,342,350	23.2%	100.0%
2022	19,106,716	18,917,443	189,273	4,540,849	189,273	4,351,576	23.0%	100.0%
2023	19,392,720	19,105,223	287,497	4,663,266	287,497	4,375,769	22.9%	100.0%
2024	19,695,433	19,289,634	405,799	4,828,433	405,799	4,422,634	22.9%	100.0%
2025	20,020,766	19,476,452	544,314	5,045,062	544,314	4,500,748	23.1%	100.0%
2026	20,372,517	19,669,060	703,457	5,320,473	703,457	4,617,016	23.5%	100.0%
2027	20,755,073	19,870,831	884,242	5,663,785	884,242	4,779,543	24.1%	100.0%
2028	21,172,036	20,083,578	1,088,458	6,082,690	1,088,458	4,994,232	24.9%	100.0%
2029	21,630,379	20,313,607	1,316,772	6,589,111	1,316,772	5,272,339	26.0%	100.0%
2030	22,120,736	20,549,833	1,570,903	7,184,307	1,570,903	5,613,404	27.3%	100.0%
2031	22,648,688	20,789,239	1,859,449	7,878,680	1,859,449	6,019,231	29.0%	100.0%
2032	23,222,972	21,041,582	2,181,390	8,686,067	2,181,390	6,504,677	30.9%	100.0%
2033	23,820,894	21,282,469	2,538,425	9,601,614	2,538,425	7,063,189	33.2%	100.0%
2034	24,437,926	21,492,718	2,945,208	10,629,843	2,945,208	7,684,635	35.8%	100.0%
2035	25,091,978	21,689,379	3,402,599	11,794,459	3,402,599	8,391,860	38.7%	100.0%
2036	25,760,301	21,849,267	3,911,034	13,090,231	3,911,034	9,179,197	42.0%	100.0%
2037	26,434,113	21,951,305	4,482,808	14,522,565	4,482,808	10,039,757	45.7%	100.0%
2038	27,085,409	21,963,432	5,121,977	16,083,770	5,121,977	10,961,793	49.9%	100.0%
2039	27,708,280	21,866,648	5,841,632	17,781,517	5,841,632	11,939,885	54.6%	100.0%
2040	28,315,966	21,679,888	6,636,078	19,645,160	6,636,078	13,009,082	60.0%	100.0%
2041	28,909,161	21,404,793	7,504,368	21,692,567	7,504,368	14,188,199	66.3%	100.0%
2042	29,505,236	21,059,090	8,446,146	23,954,043	8,446,146	15,507,897	73.6%	100.0%
2043	30,122,559	20,665,005	9,457,554	26,463,992	9,457,554	17,006,438	82.3%	100.0%
2044	30,770,598	20,233,919	10,536,679	29,252,117	10,536,679	18,715,438	92.5%	100.0%
2045	31,455,702	19,775,481	11,680,221	31,455,702	11,680,221	19,775,481	100.0%	100.0%
2046	32,181,117	19,295,439	12,885,678	32,181,117	12,885,678	19,295,439	100.0%	100.0%
2047	32,948,530	18,799,223	14,149,307	32,948,530	14,149,307	18,799,223	100.0%	100.0%
2048	33,759,764	18,289,629	15,470,135	33,759,764	15,470,135	18,289,629	100.0%	100.0%
2049	34,618,920	17,769,812	16,849,108	34,618,920	16,849,108	17,769,812	100.0%	100.0%
2050	35,530,780	17,242,973	18,287,807	35,530,780	18,287,807	17,242,973	100.0%	100.0%
2051	36,499,511	16,710,564	19,788,947	36,499,511	19,788,947	16,710,564	100.0%	100.0%
2052	37,530,253	16,174,359	21,355,894	37,530,253	21,355,894	16,174,359	100.0%	100.0%
2053	38,628,287	15,635,742	22,992,545	38,628,287	22,992,545	15,635,742	100.0%	100.0%
2054	39,796,762	15,095,370	24,701,392	39,796,762	24,701,392	15,095,370	100.0%	100.0%
2055	41,038,573	14,554,018	26,484,555	41,038,573	26,484,555	14,554,018	100.0%	100.0%
2056	42,356,857	14,012,587	28,344,270	42,356,857	28,344,270	14,012,587	100.0%	100.0%
2057	43,754,020	13,472,082	30,281,938	43,754,020	30,281,938	13,472,082	100.0%	100.0%

Projected amounts from 2018 and beyond come directly from the June 30, 2017 actuarial valuation and do not reflect actual experience for the plan year ended June 30, 2018.

GASB Statement Nos. 67 and 68 - Alternative Funding Policy
Current member projection of assets and assignment of employer contributions

Plan Year End 6/30	Closed Group Assets (boy)	Member Contributions	Administrative Expenses	Benefit Payments	Assigned Employer/State Contribution	Income on Cash Flow	Income on Assigned Contribution	Total Investment Income	Assets (eoy)
2017	$ 3,980,319	$ 54,175	$ 0	$ 806,910	$ 622,496	$ 369,832	$ 0	$ 369,832	$ 4,219,912
2018	4,219,912	54,419	3,757	845,428	630,771	191,126	15,769	206,896	4,262,812
2019	4,262,812	53,325	3,794	864,866	654,228	192,757	16,356	209,113	4,310,818
2020	4,310,818	51,727	3,833	912,014	681,772	193,938	17,044	210,982	4,339,451
2021	4,339,451	50,169	3,874	960,696	705,548	194,113	17,639	211,751	4,342,350
2022	4,342,350	49,656	3,915	981,831	733,269	193,715	18,332	212,047	4,351,576
2023	4,351,576	49,598	3,956	998,586	764,275	193,755	19,107	212,862	4,375,769
2024	4,375,769	49,915	3,997	1,012,061	798,413	194,635	19,960	214,595	4,422,634
2025	4,422,634	50,641	4,038	1,021,971	835,840	196,747	20,896	217,643	4,500,748
2026	4,500,748	51,647	4,079	1,030,245	876,560	200,470	21,914	222,384	4,617,016
2027	4,617,016	52,730	4,119	1,035,866	920,597	206,169	23,015	229,184	4,779,543
2028	4,779,543	54,021	4,159	1,041,401	967,843	214,189	24,196	238,385	4,994,232
2029	4,994,232	55,550	4,197	1,042,622	1,018,972	224,930	25,474	250,404	5,272,339
2030	5,272,339	56,343	4,235	1,050,087	1,073,538	238,667	26,838	265,506	5,613,404
2031	5,613,404	56,870	4,272	1,058,709	1,128,216	255,517	28,205	283,723	6,019,231
2032	6,019,231	58,001	4,308	1,062,369	1,188,660	275,745	29,717	305,461	6,504,677
2033	6,504,677	57,225	4,341	1,079,362	1,254,067	299,572	31,352	330,924	7,063,189
2034	7,063,189	54,945	4,373	1,106,168	1,317,338	326,770	32,933	359,703	7,684,635
2035	7,684,635	53,676	4,403	1,121,045	1,386,887	357,437	34,672	392,110	8,391,860
2036	8,391,860	51,050	4,430	1,150,962	1,463,117	391,984	36,578	428,562	9,179,197
2037	9,179,197	46,471	4,454	1,189,882	1,539,671	430,263	38,492	468,755	10,039,757
2038	10,039,757	39,615	4,476	1,247,680	1,622,344	471,674	40,559	512,233	10,961,793
2039	10,961,793	31,510	4,494	1,314,987	1,707,486	515,890	42,687	558,577	11,939,885
2040	11,939,885	24,477	4,506	1,364,041	1,804,756	563,392	45,119	608,511	13,009,082
2041	13,009,082	17,629	4,514	1,408,739	1,911,392	615,564	47,785	663,348	14,188,199
2042	14,188,199	12,271	4,517	1,439,275	2,026,924	673,622	50,673	724,295	15,507,897
2043	15,507,897	8,684	4,516	1,452,609	2,153,950	739,184	53,849	793,033	17,006,438
2044	17,006,438	6,048	4,511	1,456,990	2,293,188	813,936	57,330	871,265	18,715,438
2045	18,715,438	4,183	4,501	1,453,961	1,575,518	899,415	39,388	938,803	19,775,481
2046	19,775,481	2,791	4,488	1,446,159	14,865	952,578	372	952,949	19,295,439
2047	19,295,439	1,825	4,472	1,434,051	11,343	928,855	284	929,138	18,799,223
2048	18,799,223	1,066	4,452	1,419,401	8,588	904,391	215	904,606	18,289,629
2049	18,289,629	545	4,430	1,402,154	6,724	879,330	168	879,499	17,769,812
2050	17,769,812	261	4,406	1,382,368	5,703	853,828	143	853,970	17,242,973
2051	17,242,973	73	4,379	1,361,262	5,025	828,009	126	828,135	16,710,564
2052	16,710,564	-	4,350	1,338,674	4,747	801,953	119	802,071	16,174,359
2053	16,174,359	-	4,317	1,314,865	4,709	775,738	118	775,856	15,635,742
2054	15,635,742	-	4,282	1,290,296	4,667	749,423	117	749,539	15,095,370
2055	15,095,370	-	4,243	1,264,884	4,619	723,040	115	723,156	14,554,018
2056	14,554,018	-	4,199	1,238,546	4,567	696,632	114	696,746	14,012,587
2057	14,012,587	-	4,151	1,211,223	4,512	670,245	113	670,358	13,472,082

Projected amounts from 2018 and beyond come directly from the June 30, 2017 actuarial valuation and do not reflect actual experience for the plan year ended June 30, 2018.

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

Plan Year End 6/30	Benefit Payments	Discount Rate	Discounted Benefit Payments	Single Discount Rate	Discounted Benefit Payments
2018	$845,428	5.00%	$825,210	5.0000%	$825,210
2019	864,866	5.00%	803,984	5.0000%	803,984
2020	912,014	5.00%	807,441	5.0000%	807,441
2021	960,696	5.00%	810,039	5.0000%	810,039
2022	981,831	5.00%	788,438	5.0000%	788,438
2023	998,586	5.00%	763,707	5.0000%	763,707
2024	1,012,061	5.00%	737,155	5.0000%	737,155
2025	1,021,971	5.00%	708,927	5.0000%	708,927
2026	1,030,245	5.00%	680,635	5.0000%	680,635
2027	1,035,866	5.00%	651,760	5.0000%	651,760
2028	1,041,401	5.00%	624,041	5.0000%	624,041
2029	1,042,622	5.00%	595,021	5.0000%	595,021
2030	1,050,087	5.00%	570,744	5.0000%	570,744
2031	1,058,709	5.00%	548,029	5.0000%	548,029
2032	1,062,369	5.00%	523,737	5.0000%	523,737
2033	1,079,362	5.00%	506,775	5.0000%	506,775
2034	1,106,168	5.00%	494,630	5.0000%	494,630
2035	1,121,045	5.00%	477,411	5.0000%	477,411
2036	1,150,962	5.00%	466,811	5.0000%	466,811
2037	1,189,882	5.00%	459,616	5.0000%	459,616
2038	1,247,680	5.00%	458,992	5.0000%	458,992
2039	1,314,987	5.00%	460,717	5.0000%	460,717
2040	1,364,041	5.00%	455,146	5.0000%	455,146
2041	1,408,739	5.00%	447,677	5.0000%	447,677
2042	1,439,275	5.00%	435,601	5.0000%	435,601
2043	1,452,609	5.00%	418,701	5.0000%	418,701
2044	1,456,990	5.00%	399,966	5.0000%	399,966
2045	1,453,961	5.00%	380,128	5.0000%	380,128
2046	1,446,159	5.00%	360,084	5.0000%	360,084
2047	1,434,051	5.00%	340,066	5.0000%	340,066
2048	1,419,401	5.00%	320,563	5.0000%	320,563
2049	1,402,154	5.00%	301,589	5.0000%	301,589
2050	1,382,368	5.00%	283,174	5.0000%	283,174
2051	1,361,262	5.00%	265,572	5.0000%	265,572
2052	1,338,674	5.00%	248,729	5.0000%	248,729
2053	1,314,865	5.00%	232,672	5.0000%	232,672
2054	1,290,296	5.00%	217,452	5.0000%	217,452
2055	1,264,884	5.00%	203,018	5.0000%	203,018
2056	1,238,546	5.00%	189,324	5.0000%	189,324
2057	1,211,223	5.00%	176,331	5.0000%	176,331
2058	1,182,895	5.00%	164,007	5.0000%	164,007
2059	1,153,608	5.00%	152,330	5.0000%	152,330
2069	834,942	5.00%	67,685	5.0000%	67,685
2079	525,715	5.00%	26,163	5.0000%	26,163
2109	102	5.00%	1	5.0000%	1
Total Present Value			**$21,349,300**		**$21,349,300**

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: 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; 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.