



**Municipal Pensions
Oversight Board**

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

GASB68 Actuarial Information for the
Measurement Period Ending
06/30/2019

Bolton

Submitted by:

James Ritchie, ASA, EA, FCA, MAA

Senior Consulting Actuary

443.573.3924

jritchie@boltonusa.com

Jordan McClane, FSA, EA

Actuary

667.218.6935

jmcclane@boltonusa.com

October 28, 2019

Mrs. Kimberly Karakiozis
Finance Director
City of Clarksburg
465 W. Main Street
Clarksburg, WV 26301

Lieutenant Gino Gallo
Pension Board Secretary
City of Clarksburg, West Virginia
Firemen's Pension and Relief Fund

Re: City of Clarksburg, West Virginia Firemen's Pension and Relief Fund - GASB68 Actuarial Information for the Measurement Period Ending June 30, 2019

Dear Kimberly,

The following report contains the GASB 67 and GASB 68 actuarial information for the City of Clarksburg Firemen's Pension and Relief Fund to be included in the City's financial statements for FY2019. The GASB67 information has been provided as of the June 30, 2019 (the GASB 68 measurement date for FY2019).

Methodology, Reliance and Certification

This report is prepared for the City. The report contains the actuarial information to be included with the City's financial statements for the year ending June 30, 2019 (the City's fiscal year end date) as required by GASB68. This information has been prepared for use in the financial statements of the City. This information is not intended for, nor should it be used for, any additional purposes.

The total pension liability is based on the July 1, 2018 actuarial valuation rolled forward to June 30, 2019. The methods, assumptions, and participant data used are detailed in the July 1, 2018 actuarial valuation report with the exception of the actuarial cost method. These calculations are based on the Entry Age Normal cost method as required by GASB67. The calculation of the Actuarially Determined Contribution for the fiscal year ended June 30, 2019 is contained in the July 1, 2018 actuarial valuation report.

The included calculations are based on a blended discount rate of 5.00%. The plan's expected gross rate of investment return of 5.0% has been blended with the 3.13% yield corresponding to the 20-year maturity on a municipal general obligation AA bond yield curve published on Fidelity's Fixed Income Market Data webpage as of June 30, 2019. The development of the blended discount rate is included within this report.

The included calculations assume that the members and the City will continue to make all required contributions in accordance with the City's funding policy.

The long-term nominal expected rate of return on pension plan investments was determined using a methodology approved by the Municipal Pensions Oversight Board (MPOB.) The long-term nominal expected rate of return is based on the fund's current funding ratio, liquidity ratio, equity exposure and expected funded status in 15 years.

Methodology, Reliance and Certification (cont.)

These calculations and comparisons with assets are applicable for the valuation date only. The future is uncertain, and the plan may become better funded or more poorly funded in the future. This valuation does not provide any guarantee that the plan will be able to provide the promised benefits in the future.

This is a deterministic valuation in that it is based on a single set of assumptions. This set of assumptions is one possible basis for our calculations. Other assumptions may be equally valid. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions. We may consider that some factors are not material to the valuation of the plan and may not provide a specific assumption for those factors. We may have used other assumptions in the past. We will likely consider changes in assumptions at a future date.

The City is responsible for selecting the plan's funding policy based on four methods allowed for under state law. The actuarial valuation methods are chosen by the actuary in accordance with actuarial standards of practice promulgated by the actuarial standards board of the American Academy of Actuaries and as required by GASB 67 & 68. The MPOB selects the asset valuation methods and assumptions; these selections are reviewed by a qualified actuary no less than every five years. The actuary shall provide a report to the oversight board with recommendations on any changes to the actuarial process. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in this report. The City and MPOB are solely responsible for communicating to Bolton Partners, Inc. any changes required thereto.

The City could reasonably ask how the valuation would change if we used a different assumption set or if plan experience exhibited variations from our assumptions. This report does not contain such an analysis. This type of analysis would be a separate assignment.

The cost of this plan is determined by the benefits promised by the plan, the plan's participant population, the investment experience of the plan and many other factors. An actuarial valuation is a budgeting tool for the City or in this case a measure of accounting expense. It does not affect the cost of the plan. As the experience of the plan evolves, it is normal for the level of contributions and expense of the plan to change.

We make every effort to ensure that our calculations are accurately performed. These calculations are complex. Despite our best efforts, we may make a mistake. We reserve the right to correct any potential errors by amending the results of this report or by including the corrections in a future valuation report.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.



Methodology, Reliance and Certification (cont.)

This report is based on plan provisions, census data, and asset data submitted by the City. We have relied on this information for purposes of preparing this report, but have not performed an audit. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information. The plan sponsor is solely responsible for the validity and completeness of this information.

The City is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Bolton Partners, Inc.'s actuaries have not provided any investment advice to the City.

The information in this report was prepared for the internal use of the City, the plan and their auditors in connection with our actuarial valuations of the pension plan as required by GASB68. This report may not be used for any other purpose; Bolton Partners, Inc. is not responsible for the consequences of any unauthorized use or the reliance on this information by any other party.

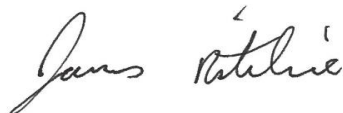
The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the "present value" of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, an assumption based on the expected long-term rate of return on plan investments is used. If the plan is expected to become insolvent, the return assumption is blended with a long-term municipal bond rate. Using a lower discount rate assumption, such as a rate solely based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

This report provides certain financial calculations for use by the auditor. These values have been computed in accordance with our understanding of generally accepted actuarial principles and practices and fairly reflect the actuarial position of the Plan. The various actuarial assumptions and methods which have been used are, in our opinion, appropriate for the purposes of this report.

The report is conditioned on the assumption of an ongoing plan and is not meant to present the actuarial position of the Plan in the case of Plan termination. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status), and changes in plan provisions or applicable law.

The undersigned enrolled actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The July 1, 2018 actuarial valuation report contains information that is integral to the results contained herein and a copy may be provided upon request.

Sincerely,



James Ritchie, ASA, EA, FCA, MAAA



Jordan McClane, FSA, EA, MAAA



City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Net Pension Liability of the Employer

The components of the net pension liability of the Employer at June 30, 2019, were as follows:

Total pension liability	\$ 35,522,255
Plan fiduciary net position	(9,953,711)
Employer's net pension liability	<u>\$ 25,568,544</u>
Plan fiduciary net position as a percentage of the total pension liability	28.02%

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of July 1, 2018 rolled forward to June 30, 2019 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75 percent
Salary increases	Rates vary by years of service
Single discount rate (BOY)	5.0000%
Single discount rate (EOY)	5.0000%
Investment rate of return	5.00 percent, net of pension plan investment expense, including inflation
Long-term municipal bond rate (BOY)	3.62%
Long-term municipal bond rate (EOY)	3.13%
Mortality	RP-2014 Blue Collar Mortality Table with generational projection using Scale MP-2014
Year Fund is projected to be fully funded	2044
Year assets are expected to be depleted for a closed plan	#N/A

The above is a summary of key actuarial assumptions. Full descriptions of the actuarial assumptions are available in the July 1, 2018 actuarial valuation report.

Sensitivity of the net pension liability to changes in the discount rate

	1% Decrease 4.00%	Current Discount Rate 5.00%	1% Increase 6.00%
Employer's net pension liability	\$ 31,107,219	\$ 25,568,544	\$ 21,138,050

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Changes in the Net Pension Liability

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at 6/30/18	\$ 33,550,617	\$ 8,484,043	\$ 25,066,574
Changes for the year:			
Service cost	906,710		906,710
Interest	1,646,488		1,646,488
Changes of benefit terms	-		-
Differences between expected and actual experience	660,159		660,159
Changes of assumptions	-		-
Contributions - employer (including Premium Tax Allocation)		2,034,183	(2,034,183)
Contributions - member		167,038	(167,038)
Net investment income		517,666	(517,666)
Benefit payments, including refunds of member contributions	(1,241,719)	(1,241,719)	-
Administrative expense		-	-
Other		(7,500)	7,500
Net Changes	<u>1,971,638</u>	<u>1,469,668</u>	<u>501,970</u>
Balances at 6/30/19	<u>\$ 35,522,255</u>	<u>\$ 9,953,711</u>	<u>\$ 25,568,544</u>
Return on Investments		5.8%	

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Components of Employer's Pension Expense for the Fiscal Year Ended June 30, 2019

Note	Description	Amount
A	Service Cost	\$ 906,710
B	Interest on the total pension liability	1,646,488
A	Changes of benefit terms	-
C	Differences between expected and actual experience	(486,755)
C	Changes of assumptions	388,113
A	Employee contributions	(167,038)
D	Projected earnings on pension plan investments	(448,002)
C	Differences between expected and actual earnings on plan investments	(115,086)
A	Pension plan administrative expense	-
A	Other changes in fiduciary net position	7,500
Total Pension Expense		\$ 1,731,930

Notes:

A Provided in the Changes in Net Pension Liability exhibit.

B Based on the following calculation:

	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (a) x (b) x (c)
Beginning total pension liability	\$ 33,550,617	100%	5.00%	\$ 1,677,531
Service Cost (End of Year)	906,710	0%	5.00%	-
Benefit payments, including refunds of employee contributions	(1,241,719)	50%	5.00%	(31,043)
Total interest on the total pension liability				\$ 1,646,488

C Provided in the Schedules of Deferrals.

D Based on the following calculation:

	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (a) x (b) x (c)
Beginning plan fiduciary net position	\$ 8,484,043	100%	5.00%	\$ 424,202
Employer contributions	2,034,183	50%	5.00%	50,855
Employee contributions	167,038	50%	5.00%	4,176
Benefit payments, including refunds of employee contributions	(1,241,719)	50%	5.00%	(31,043)
Administrative expense and other	(7,500)	50%	5.00%	(188)
Total Projected Earnings				\$ 448,002

City of Clarksburg, West Virginia Firemen’s Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2019, the Employer reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 495,119	\$ 726,059
Changes of assumptions	9,041	589,566
Net difference between projected and actual earnings on pension plan investments	-	306,856
Total	\$ 504,160	\$ 1,622,481

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	
2020	\$ (1,056,461)
2021	(161,148)
2022	113,220
2023	(13,932)
2024	-
Thereafter	-

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Changes in the Employer's Net Pension Liability and Related Ratios
 Last 10 Fiscal Years

Total pension liability	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Service cost	\$ 906,710	\$ 911,837	\$ 1,041,846	\$ 739,794	\$ 735,159	\$ 729,815	\$ -	\$ -	\$ -	\$ -
Interest	1,646,488	1,604,493	1,540,729	1,503,073	1,480,035	1,492,730	-	-	-	-
Changes of benefit terms	-	-	-	-	-	-	-	-	-	-
Differences between expected and actual experience	660,159	(1,021,000)	(1,006,489)	(511,633)	(837,150)	-	-	-	-	-
Changes of assumptions	-	-	(2,433,972)	4,020,701	-	-	-	-	-	-
Benefit payments, including refunds of member contributions	(1,241,719)	(1,199,305)	(1,223,009)	(1,239,292)	(1,250,939)	(1,303,181)	-	-	-	-
Net change in total pension liability	1,971,638	296,025	(2,080,895)	4,512,643	127,105	919,364	-	-	-	-
Total pension liability - beginning	33,550,617	33,254,592	35,335,487	30,822,844	30,695,739	29,776,375	-	-	-	-
Total pension liability - ending (a)	\$ 35,522,255	\$ 33,550,617	\$ 33,254,592	\$ 35,335,487	\$ 30,822,844	\$ 30,695,739	\$ -	\$ -	\$ -	\$ -
Plan fiduciary net position	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Contributions - employer (including Premium Tax Allocation)	\$ 2,034,183	\$ 2,029,582	\$ 1,790,929	\$ 1,361,271	\$ 1,288,742	\$ 1,210,474	\$ -	\$ -	\$ -	\$ -
Contributions - member	167,038	155,596	148,321	145,720	140,550	135,019	-	-	-	-
Net investment income	517,666	561,109	586,180	315,511	185,060	465,521	-	-	-	-
Benefit payments, including refunds of member contributions	(1,241,719)	(1,199,305)	(1,223,009)	(1,239,292)	(1,250,939)	(1,303,181)	-	-	-	-
Administrative expense	-	(7,500)	(7,500)	(6,000)	(6,000)	(6,000)	-	-	-	-
Other	(7,500)	-	-	-	-	-	-	-	-	-
Net change in plan fiduciary net position	\$ 1,469,668	\$ 1,539,482	\$ 1,294,921	\$ 577,210	\$ 357,413	\$ 501,833	\$ -	\$ -	\$ -	\$ -
Plan fiduciary net position - beginning	8,484,043	6,944,559	5,649,638	5,072,427	4,715,014	4,213,181	-	-	-	-
Plan fiduciary net position - ending (b)	\$ 9,953,711	\$ 8,484,043	\$ 6,944,559	\$ 5,649,637	\$ 5,072,427	\$ 4,715,014	\$ -	\$ -	\$ -	\$ -
Employer's net pension liability - ending (a)-(b)	\$ 25,568,544	\$ 25,066,574	\$ 26,310,033	\$ 29,685,850	\$ 25,750,417	\$ 25,980,725	\$ -	\$ -	\$ -	\$ -
Plan fiduciary net position as a percentage of the total pension liability	28.02%	25.29%	20.88%	15.99%	16.46%	15.36%	0.00%	0.00%	0.00%	0.00%
Covered payroll	\$ 1,963,141	\$ 1,912,017	\$ 1,919,071	\$ 1,868,455	\$ 1,826,835	\$ 1,812,838	\$ -	\$ -	\$ -	\$ -
Employer's net pension liability as a percentage of covered payroll	1302.43%	1311.00%	1370.98%	1588.79%	1409.56%	1433.15%	0.00%	0.00%	0.00%	0.00%
Expected average remaining service years of all participants	4.00	3.78	3.96	4.01	3.85	-	-	-	-	-

Notes to Schedule:

Benefit changes: There were no changes for FY2019.

Changes of assumptions: The discount rate changed from 5.0000% to 5.0000%.

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Schedule of Employer Contributions
 Last 10 Fiscal Years

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	\$ 2,327,809	\$ 2,026,406	\$ 2,031,009	\$ 2,124,224	\$ 1,697,409	\$ 1,676,866	\$ 1,603,979	\$ -	\$ -	\$ -
Contributions in relation to the actuarially determined contribution										
Employer provided	1,581,814	1,592,742	1,345,298	936,850	867,454	803,198	743,702	-	-	-
State provided	452,369	436,840	445,631	424,421	421,288	407,276	473,392	-	-	-
Contribution deficiency (excess)	<u>\$ 293,626</u>	<u>\$ (3,176)</u>	<u>\$ 240,080</u>	<u>\$ 762,953</u>	<u>\$ 408,667</u>	<u>\$ 466,392</u>	<u>\$ 386,885</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered payroll	\$ 1,963,141	\$ 1,912,017	\$ 1,919,071	\$ 1,868,455	\$ 1,826,835	\$ 1,812,838	\$ 1,712,139	\$ -	\$ -	\$ -
Contributions as a percentage of covered employee payroll	103.62%	106.00%	93.00%	73.00%	71.00%	67.00%	71.00%	0.00%	0.00%	0.00%

Notes to Schedule

Valuation date:

Actuarially determined contribution amounts are calculated as of the beginning of the fiscal year (July 1) for the year immediately following the fiscal year. Actuarial valuations are performed every year.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar
Remaining amortization period	32.5 years
Asset valuation method	Market Value
Inflation	2.75 percent
Salary increases	Rates vary by years of service
Investment rate of return	5.00 percent, net of pension plan investment expense, including inflation
Retirement age	Rates vary by age
Mortality	RP-2014 Blue Collar Mortality Table with generational projection using Scale MP-2014

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Schedule of Differences between Projected and Actual Earnings on Pension Plan Investments

In conformity with paragraph 33b of Statement 68, the effects of differences between projected and actual earnings on pension plan investments are recognized in pension expense using a systematic and rational method over a closed five-year period, beginning in the current reporting period. The following table illustrates the application of this requirement.

Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Plan Investments											
Year	Differences between Projected and Actual Earnings on Pension Plan Investments	Recognition Period (Years)	2015	2016	2017	2018	2019	2020	2021	2022	2023
2015	\$ 55,000	5	\$ 11,000	11,000	11,000	11,000	11,000				
2016	(55,347)	5		\$ (11,069)	(11,069)	(11,069)	(11,069)	(11,071)			
2017	(316,000)	5			\$ (63,200)	(63,200)	(63,200)	(63,200)	(63,200)		
2018	(189,422)	5				\$ (37,884)	(37,884)	(37,884)	(37,884)	(37,886)	
2019	(69,664)	5					\$ (13,933)	(13,933)	(13,933)	(13,933)	(13,932)
Net increase (decrease) in pension expense							\$ (115,086)	\$ (126,088)	\$ (115,017)	\$ (51,819)	\$ (13,932)

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Projected and Actual Earnings on Pension Plan Investments

Year	Investment Earnings Less than Projected (a)	Investment Earnings Greater Than Projected (b)	Amounts Recognized in Pension Expense Through June 30, 2019 (c)	Balances at June 30, 2019	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2015	\$ 55,000	\$ -	\$ 55,000	\$ -	\$ -
2016	-	55,347	44,276	-	11,071
2017	-	316,000	189,600	-	126,400
2018	-	189,422	75,768	-	113,654
2019	-	69,664	13,933	-	55,731
				\$ -	\$ 306,856

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Schedule of Differences between Expected and Actual Experience

In conformity with paragraph 33a of Statement 68, the effects of differences between expected and actual experience are recognized in pension expense, beginning in the current reporting period, using a systematic and rational method over a closed period equal to the average of the remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees), determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Expected and Actual Experience																
Year	Differences between Expected and Actual Experience	Recognition Period (Years)	Prior	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Thereafter	
Prior	\$ -		\$ -													
2015	(837,150)	3.852277			\$ (217,313)	(217,313)	(217,313)	(185,211)								
2016	(511,633)	4.009013				\$ (127,621)	(127,621)	(127,621)	(127,621)	(1,149)						
2017	(1,006,489)	3.958952					\$ (254,231)	(254,231)	(254,231)	(243,796)						
2018	(1,021,000)	3.782276						\$ (269,943)	(269,943)	(269,943)	(211,171)					
2019	660,159	4							\$ 165,040	165,040	165,040	165,039				
Net increase (decrease) in pension expense									\$ (486,755)	\$ (349,848)	\$ (46,131)	\$ 165,039	\$ -	\$ -	\$ -	

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience

Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense Through June 30, 2019 (c)	Balances at June 30, 2019	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
Prior	\$ -	\$ -	\$ -	\$ -	\$ -
2015	-	837,150	837,150	-	-
2016	-	511,633	510,484	-	1,149
2017	-	1,006,489	762,693	-	243,796
2018	-	1,021,000	539,886	-	481,114
2019	660,159	-	165,040	495,119	-
				\$ 495,119	\$ 726,059

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Schedule of Changes of Assumptions

In conformity with paragraph 33a of Statement 68, the effects of changes of assumptions should be recognized in pension expense, beginning in the current reporting period, using a systematic and rational method over a closed period equal to the average of the remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees), determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

Increase (Decrease) in Pension Expense Arising from the Effects of Changes of Assumptions															
Year	Changes of Assumptions	Recognition Period (Years)	Prior	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Thereafter
Prior	\$ -		\$ -	-	-	-	-	-	-	-	-	-	-	-	-
2015	-	3.852277			\$ -	-	-	-	-	-	-	-	-	-	-
2016	4,020,701	4.009013				\$ 1,002,915	1,002,915	1,002,915	1,002,915	9,041					
2017	(2,433,972)	3.958952					\$ (614,802)	(614,802)	(614,802)	(589,566)					
2018	-	3.782276						\$ -	-	-	-	-	-	-	-
2019	-	4							\$ -	-	-	-	-	-	-
Net increase (decrease) in pension expense									\$ 388,113	\$ (580,525)	\$ -	\$ -	\$ -	\$ -	\$ -

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Changes of Assumptions

Year	Increases in the Total Pension Liability (a)	Decreases in the Total Pension Liability (b)	Amounts Recognized in Pension Expense Through June 30, 2019 (c)	Balances at June 30, 2019	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
Prior	\$ -	\$ -	\$ -	\$ -	\$ -
2015	-	-	-	-	-
2016	4,020,701	-	4,011,660	9,041	-
2017	-	2,433,972	1,844,406	-	589,566
2018	-	-	-	-	-
2019	-	-	-	-	-
				\$ 9,041	\$ 589,566

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Projection of Pension Plan's Fiduciary Net Position (Dollar amounts in thousands)

Fiscal Year	Gross Normal Cost (BOY)			Employee Contributions (BOY)			Employer Normal Cost (BOY)			Expenses (MOY)			Employer Contributions (MOY)			Premium Tax Allocation (MOY)		
	Current Members	Future Members	Total	Current Members	Future Members	Total	Current Members	Future Members	Total	Current Members	Future Members	Total	Current Members	Future Members	Total	Current Members	Future Members	Total
2019	\$ 863,533	\$ -	\$ 863,533	\$ 145,723	\$ -	\$ 145,723	\$ 717,810	\$ -	\$ 717,810	\$ 7,706	\$ -	\$ 7,706	\$ 1,086,799	\$ -	\$ 1,086,799	\$ 446,391	\$ -	\$ 446,391
2020	\$ 824,920	\$ 104,993	\$ 929,913	\$ 140,716	\$ 22,226	\$ 162,942	\$ 684,204	\$ 82,767	\$ 766,971	\$ 8,136	\$ -	\$ 8,136	\$ 1,078,064	\$ 84,811	\$ 1,162,875	\$ 478,835	\$ -	\$ 478,835
2021	\$ 753,552	\$ 186,162	\$ 939,714	\$ 131,221	\$ 39,424	\$ 170,645	\$ 622,331	\$ 146,738	\$ 769,069	\$ 8,268	\$ 264	\$ 8,532	\$ 1,093,650	\$ 150,626	\$ 1,244,276	\$ 490,229	\$ -	\$ 490,229
2022	\$ 707,379	\$ 293,907	\$ 1,001,286	\$ 125,009	\$ 62,282	\$ 187,291	\$ 582,370	\$ 231,625	\$ 813,995	\$ 8,401	\$ 631	\$ 9,032	\$ 1,093,399	\$ 237,976	\$ 1,331,375	\$ 503,651	\$ -	\$ 503,651
2023	\$ 679,459	\$ 380,232	\$ 1,059,691	\$ 121,304	\$ 80,613	\$ 201,917	\$ 558,155	\$ 299,619	\$ 857,774	\$ 8,438	\$ 933	\$ 9,371	\$ 1,116,620	\$ 307,951	\$ 1,424,571	\$ 517,441	\$ -	\$ 517,441
2024	\$ 647,050	\$ 465,756	\$ 1,112,806	\$ 116,951	\$ 98,795	\$ 215,746	\$ 530,099	\$ 366,961	\$ 897,060	\$ 8,570	\$ 1,152	\$ 9,722	\$ 1,147,116	\$ 377,175	\$ 1,524,291	\$ 531,611	\$ -	\$ 531,611
2025	\$ 620,196	\$ 549,954	\$ 1,170,150	\$ 113,302	\$ 116,712	\$ 230,014	\$ 506,894	\$ 433,242	\$ 940,136	\$ 8,703	\$ 1,382	\$ 10,085	\$ 1,185,668	\$ 445,323	\$ 1,630,991	\$ 551,914	\$ -	\$ 551,914
2026	\$ 602,301	\$ 633,882	\$ 1,236,183	\$ 110,873	\$ 134,588	\$ 245,461	\$ 491,428	\$ 499,294	\$ 990,722	\$ 8,732	\$ 1,729	\$ 10,461	\$ 1,231,807	\$ 513,353	\$ 1,745,160	\$ 567,014	\$ -	\$ 567,014
2027	\$ 591,451	\$ 714,741	\$ 1,306,192	\$ 109,643	\$ 151,822	\$ 261,465	\$ 481,808	\$ 562,919	\$ 1,044,727	\$ 8,864	\$ 1,885	\$ 10,749	\$ 1,288,616	\$ 578,705	\$ 1,867,321	\$ 582,530	\$ -	\$ 582,530
2028	\$ 589,603	\$ 792,183	\$ 1,381,786	\$ 109,820	\$ 168,335	\$ 278,155	\$ 479,783	\$ 623,848	\$ 1,103,631	\$ 8,997	\$ 2,048	\$ 11,045	\$ 1,356,731	\$ 641,302	\$ 1,998,033	\$ 598,473	\$ -	\$ 598,473
2029	\$ 574,410	\$ 867,009	\$ 1,441,419	\$ 107,842	\$ 184,296	\$ 292,138	\$ 466,568	\$ 682,713	\$ 1,149,281	\$ 9,016	\$ 2,333	\$ 11,349	\$ 1,435,989	\$ 701,906	\$ 2,137,895	\$ 617,042	\$ -	\$ 617,042
2030	\$ 542,538	\$ 965,645	\$ 1,508,183	\$ 103,370	\$ 205,356	\$ 308,726	\$ 439,168	\$ 760,289	\$ 1,199,457	\$ 9,264	\$ 2,397	\$ 11,661	\$ 1,506,087	\$ 781,461	\$ 2,287,548	\$ 633,930	\$ -	\$ 633,930
2031	\$ 509,538	\$ 1,066,879	\$ 1,576,417	\$ 98,331	\$ 226,981	\$ 325,312	\$ 411,207	\$ 839,898	\$ 1,251,105	\$ 9,278	\$ 2,817	\$ 12,095	\$ 1,584,220	\$ 863,456	\$ 2,447,676	\$ 651,282	\$ -	\$ 651,282
2032	\$ 455,273	\$ 1,181,140	\$ 1,636,413	\$ 89,596	\$ 251,405	\$ 341,001	\$ 365,677	\$ 929,735	\$ 1,295,412	\$ 9,409	\$ 3,019	\$ 12,428	\$ 1,663,299	\$ 955,714	\$ 2,619,013	\$ 669,111	\$ -	\$ 669,111
2033	\$ 406,575	\$ 1,310,024	\$ 1,716,599	\$ 81,287	\$ 278,973	\$ 360,260	\$ 325,288	\$ 1,031,051	\$ 1,356,339	\$ 9,541	\$ 3,348	\$ 12,889	\$ 1,742,483	\$ 1,059,861	\$ 2,802,344	\$ 687,430	\$ -	\$ 687,430
2034	\$ 354,035	\$ 1,440,031	\$ 1,794,066	\$ 72,230	\$ 306,791	\$ 379,021	\$ 281,805	\$ 1,133,240	\$ 1,415,045	\$ 9,542	\$ 3,701	\$ 13,243	\$ 1,833,582	\$ 1,164,926	\$ 2,998,508	\$ 728,526	\$ -	\$ 728,526
2035	\$ 307,482	\$ 1,575,897	\$ 1,883,379	\$ 63,982	\$ 335,874	\$ 399,856	\$ 243,500	\$ 1,240,023	\$ 1,483,523	\$ 9,670	\$ 4,063	\$ 13,733	\$ 1,933,696	\$ 1,274,708	\$ 3,208,404	\$ 748,436	\$ -	\$ 748,436
2036	\$ 249,013	\$ 1,708,024	\$ 1,957,037	\$ 53,042	\$ 364,162	\$ 417,204	\$ 195,971	\$ 1,343,862	\$ 1,539,833	\$ 9,788	\$ 4,313	\$ 14,111	\$ 2,051,630	\$ 1,381,362	\$ 3,432,992	\$ 768,893	\$ -	\$ 768,893
2037	\$ 196,635	\$ 1,859,192	\$ 2,055,827	\$ 42,916	\$ 396,548	\$ 439,464	\$ 153,719	\$ 1,462,644	\$ 1,616,363	\$ 9,784	\$ 4,715	\$ 14,499	\$ 2,169,822	\$ 1,503,479	\$ 3,673,301	\$ 789,913	\$ -	\$ 789,913
2038	\$ 160,700	\$ 2,003,183	\$ 2,163,883	\$ 35,987	\$ 427,397	\$ 463,384	\$ 124,713	\$ 1,575,786	\$ 1,700,499	\$ 9,762	\$ 5,136	\$ 14,898	\$ 2,310,596	\$ 1,619,836	\$ 3,930,432	\$ 811,511	\$ -	\$ 811,511
2039	\$ 138,308	\$ 2,141,217	\$ 2,279,525	\$ 31,785	\$ 456,968	\$ 488,753	\$ 106,523	\$ 1,684,249	\$ 1,790,772	\$ 9,881	\$ 5,286	\$ 15,167	\$ 2,474,434	\$ 1,731,128	\$ 4,205,562	\$ 843,338	\$ -	\$ 843,338
2040	\$ 123,053	\$ 2,276,962	\$ 2,400,015	\$ 28,976	\$ 486,050	\$ 515,026	\$ 94,077	\$ 1,790,912	\$ 1,884,989	\$ 9,845	\$ 5,595	\$ 15,440	\$ 2,659,217	\$ 1,840,734	\$ 4,499,951	\$ 866,393	\$ -	\$ 866,393
2041	\$ 112,742	\$ 2,403,021	\$ 2,515,763	\$ 27,096	\$ 513,145	\$ 540,241	\$ 85,646	\$ 1,889,876	\$ 1,975,522	\$ 9,958	\$ 5,758	\$ 15,716	\$ 2,872,643	\$ 1,942,305	\$ 4,814,948	\$ 890,082	\$ -	\$ 890,082
2042	\$ 105,137	\$ 2,509,862	\$ 2,614,999	\$ 25,771	\$ 536,268	\$ 562,039	\$ 79,366	\$ 1,973,594	\$ 2,052,960	\$ 10,069	\$ 6,079	\$ 16,148	\$ 3,123,583	\$ 2,028,411	\$ 5,151,994	\$ 914,423	\$ -	\$ 914,423
2043	\$ 100,026	\$ 2,599,792	\$ 2,699,818	\$ 24,902	\$ 555,879	\$ 580,781	\$ 75,124	\$ 2,043,913	\$ 2,119,037	\$ 9,845	\$ 6,591	\$ 16,436	\$ 3,411,655	\$ 2,100,979	\$ 5,512,634	\$ 961,909	\$ -	\$ 961,909
2044	\$ 85,899	\$ 2,690,223	\$ 2,776,122	\$ 21,763	\$ 575,647	\$ 597,410	\$ 64,136	\$ 2,114,576	\$ 2,178,712	\$ 9,944	\$ 7,105	\$ 17,049	\$ 2,069,842	\$ 2,173,901	\$ 4,243,743	\$ -	\$ -	\$ -
2045	\$ 68,440	\$ 2,794,662	\$ 2,863,102	\$ 17,647	\$ 598,457	\$ 616,104	\$ 50,793	\$ 2,196,205	\$ 2,246,998	\$ 9,865	\$ 7,653	\$ 17,518	\$ 61,912	\$ 2,258,093	\$ 2,320,005	\$ -	\$ -	\$ -
2046	\$ 59,211	\$ 2,899,358	\$ 2,958,569	\$ 15,554	\$ 621,317	\$ 636,871	\$ 43,657	\$ 2,278,041	\$ 2,321,698	\$ 9,955	\$ 8,215	\$ 18,170	\$ 54,690	\$ 2,342,512	\$ 2,397,202	\$ -	\$ -	\$ -
2047	\$ 45,617	\$ 3,006,542	\$ 3,052,159	\$ 12,059	\$ 644,717	\$ 656,776	\$ 33,558	\$ 2,361,825	\$ 2,395,383	\$ 9,857	\$ 8,813	\$ 18,670	\$ 44,245	\$ 2,428,963	\$ 2,473,208	\$ -	\$ -	\$ -
2048	\$ 29,886	\$ 3,126,243	\$ 3,156,129	\$ 7,863	\$ 670,806	\$ 678,669	\$ 22,023	\$ 2,455,437	\$ 2,477,460	\$ 9,746	\$ 9,437	\$ 19,183	\$ 32,313	\$ 2,525,511	\$ 2,557,824	\$ -	\$ -	\$ -
2049	\$ 21,690	\$ 3,246,623	\$ 3,268,313	\$ 5,705	\$ 697,024	\$ 702,729	\$ 15,985	\$ 2,549,599	\$ 2,565,584	\$ 9,818	\$ 9,893	\$ 19,711	\$ 26,198	\$ 2,622,455	\$ 2,648,653	\$ -	\$ -	\$ -
2050	\$ 15,616	\$ 3,373,107	\$ 3,388,723	\$ 4,110	\$ 724,529	\$ 728,639	\$ 11,506	\$ 2,648,578	\$ 2,660,084	\$ 9,684	\$ 10,758	\$ 20,442	\$ 21,474	\$ 2,724,743	\$ 2,746,217	\$ -	\$ -	\$ -
2051	\$ 11,061	\$ 3,504,444	\$ 3,515,505	\$ 2,916	\$ 753,075	\$ 755,991	\$ 8,145	\$ 2,751,369	\$ 2,759,514	\$ 9,536	\$ 11,468	\$ 21,004	\$ 17,882	\$ 2,830,782	\$ 2,848,664	\$ -	\$ -	\$ -
2052	\$ 7,866	\$ 3,637,838	\$ 3,645,704	\$ 2,077	\$ 782,069	\$ 784,146	\$ 5,789	\$ 2,855,769	\$ 2,861,558	\$ 9,585	\$ 11,997	\$ 21,582	\$ 15,517	\$ 2,938,289	\$ 2,953,806	\$ -	\$ -	\$ -
2053	\$ 5,474	\$ 3,773,064	\$ 3,778,538	\$ 1,447	\$ 811,455	\$ 812,902	\$ 4,027	\$ 2,961,609	\$ 2,965,636	\$ 9,411	\$ 12,765	\$ 22,176	\$ 13,537	\$ 3,047,511	\$ 3,061,048	\$ -	\$ -	\$ -
2054	\$ 2,612	\$ 3,913,259	\$ 3,915,871	\$ 713	\$ 841,905	\$ 842,618	\$ 1,899	\$ 3,071,354	\$ 3,073,253	\$ 9,445	\$ 13,341	\$ 22,786	\$ 11,391	\$ 3,160,542	\$ 3,171,933	\$ -	\$ -	\$ -
2055	\$ 1,753	\$ 4,056,533	\$ 4,058,286	\$ 479	\$ 873,014	\$ 873,493	\$ 1,274	\$ 3,183,519	\$ 3,184,793	\$ 9,243	\$ 14,170	\$ 23,413	\$ 10,548	\$ 3,276,306	\$ 3,286,854	\$ -	\$ -	\$ -
2056	\$ 1,176	\$ 4,204,394	\$ 4,205,570	\$ 321	\$ 905,093	\$ 905,414	\$ 855	\$ 3,299,301	\$ 3,300,156	\$ 9,260	\$ 14,797	\$ 24,057	\$ 10,136	\$ 3,395,574	\$ 3,405,710	\$ -	\$ -	\$ -
2057	\$ -	\$ 4,359,532	\$ 4,359,532	\$ -	\$ 938,716	\$ 938,716	\$ -	\$ 3,420,816	\$ 3,420,816	\$ 9,027	\$ 15,692	\$ 24,719	\$ 9,027	\$ 3,520,985	\$ 3,530,012	\$ -	\$ -	\$ -
2058	\$ -	\$ 4,521,996	\$ 4,521,996	\$ -	\$ 973,902	\$ 973,902	\$ -	\$ 3,548,094	\$ 3,548,094	\$ 9,025	\$ 16,374	\$ 25,399	\$ 9,025	\$ 3,652,088	\$ 3,661,113	\$ -	\$ -	\$ -
2059	\$ -	\$ 4,690,989	\$ 4,690,989	\$ -	\$ 1,010,481	\$ 1,010,481	\$ -	\$ 3,680,508	\$ 3,680,508	\$ 8,758	\$ 17,339	\$ 26,097	\$ 8,759	\$ 3,788,737	\$ 3,797,496	\$ -	\$ -	\$ -

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Projection of Pension Plan's Fiduciary Net Position (Dollar amounts in thousands)

Fiscal Year	Actuarial Accrued Liability (BOY)			Closed Group Asset Projection						
	Current Members	Future Members	Total	Fiduciary Net Position (boy)	Funded Ratio (boy)	Projected EEC Contributions (moy)	Projected ER Contrib + Premium Tax (moy)	Projected BP (moy)	Projected Admin Expenses (moy)	Projected Investment Earnings
2019	\$ 34,179,340	\$ -	\$ 34,179,340	\$ 9,953,711	29.12%	\$ 149,322	\$ 1,533,190	\$ 1,361,449	\$ 7,706	\$ 505,424
2020	\$ 35,409,950	\$ -	\$ 35,409,950	\$ 10,772,492	30.42%	\$ 144,191	\$ 1,556,899	\$ 1,449,283	\$ 8,136	\$ 544,642
2021	\$ 36,561,540	\$ 109,598	\$ 36,671,138	\$ 11,560,805	31.62%	\$ 134,462	\$ 1,583,879	\$ 1,577,610	\$ 8,268	\$ 581,311
2022	\$ 37,564,277	\$ 308,387	\$ 37,872,664	\$ 12,274,579	32.68%	\$ 128,096	\$ 1,597,050	\$ 1,669,150	\$ 8,401	\$ 614,904
2023	\$ 38,474,869	\$ 627,847	\$ 39,102,716	\$ 12,937,078	33.62%	\$ 124,300	\$ 1,634,061	\$ 1,743,053	\$ 8,438	\$ 647,024
2024	\$ 39,325,947	\$ 1,050,559	\$ 40,376,506	\$ 13,590,972	34.56%	\$ 119,839	\$ 1,678,727	\$ 1,823,712	\$ 8,570	\$ 678,716
2025	\$ 40,102,898	\$ 1,579,828	\$ 41,682,726	\$ 14,235,972	35.50%	\$ 116,100	\$ 1,737,582	\$ 1,902,374	\$ 8,703	\$ 710,381
2026	\$ 40,809,895	\$ 2,218,757	\$ 43,028,652	\$ 14,888,958	36.48%	\$ 113,611	\$ 1,798,821	\$ 1,960,317	\$ 8,732	\$ 743,050
2027	\$ 41,474,079	\$ 2,971,651	\$ 44,445,730	\$ 15,575,391	37.55%	\$ 112,351	\$ 1,871,146	\$ 2,007,712	\$ 8,864	\$ 777,953
2028	\$ 42,111,514	\$ 3,840,779	\$ 45,952,293	\$ 16,320,265	38.75%	\$ 110,532	\$ 1,955,204	\$ 2,036,620	\$ 8,997	\$ 816,559
2029	\$ 42,749,258	\$ 4,828,641	\$ 47,577,899	\$ 17,158,943	40.14%	\$ 110,505	\$ 2,053,031	\$ 2,097,816	\$ 9,016	\$ 859,347
2030	\$ 43,340,230	\$ 5,938,727	\$ 49,278,957	\$ 18,074,994	41.70%	\$ 105,923	\$ 2,140,017	\$ 2,167,998	\$ 9,264	\$ 905,446
2031	\$ 43,855,370	\$ 7,201,685	\$ 51,057,055	\$ 19,049,118	43.44%	\$ 100,759	\$ 2,235,502	\$ 2,239,642	\$ 9,278	\$ 954,613
2032	\$ 44,288,203	\$ 8,626,662	\$ 52,914,865	\$ 20,091,071	45.36%	\$ 91,809	\$ 2,332,410	\$ 2,339,060	\$ 9,409	\$ 1,006,424
2033	\$ 44,583,827	\$ 10,234,031	\$ 54,817,858	\$ 21,173,245	47.49%	\$ 83,294	\$ 2,429,913	\$ 2,428,239	\$ 9,541	\$ 1,060,525
2034	\$ 44,751,718	\$ 12,046,897	\$ 56,798,615	\$ 22,309,198	49.85%	\$ 74,014	\$ 2,562,108	\$ 2,529,321	\$ 9,542	\$ 1,117,862
2035	\$ 44,769,258	\$ 14,075,189	\$ 58,844,447	\$ 23,524,318	52.55%	\$ 65,562	\$ 2,682,132	\$ 2,605,156	\$ 9,670	\$ 1,179,497
2036	\$ 44,661,086	\$ 16,334,094	\$ 60,995,180	\$ 24,836,683	55.61%	\$ 54,352	\$ 2,820,523	\$ 2,699,546	\$ 9,798	\$ 1,245,922
2037	\$ 44,389,392	\$ 18,829,462	\$ 63,218,854	\$ 26,248,136	59.13%	\$ 43,976	\$ 2,959,735	\$ 2,786,844	\$ 9,784	\$ 1,317,521
2038	\$ 43,959,663	\$ 21,591,076	\$ 65,550,739	\$ 27,772,740	63.18%	\$ 36,876	\$ 3,122,107	\$ 2,835,377	\$ 9,762	\$ 1,396,387
2039	\$ 43,420,984	\$ 24,623,027	\$ 68,044,011	\$ 29,482,971	67.90%	\$ 32,570	\$ 3,317,772	\$ 2,858,153	\$ 9,881	\$ 1,486,059
2040	\$ 42,808,521	\$ 27,931,246	\$ 70,739,767	\$ 31,451,338	73.47%	\$ 29,692	\$ 3,525,610	\$ 2,865,641	\$ 9,845	\$ 1,589,355
2041	\$ 42,141,744	\$ 31,535,662	\$ 73,677,406	\$ 33,720,509	80.02%	\$ 27,765	\$ 3,762,725	\$ 2,861,515	\$ 9,958	\$ 1,708,721
2042	\$ 41,435,030	\$ 35,420,567	\$ 76,855,597	\$ 36,348,248	87.72%	\$ 26,407	\$ 4,038,006	\$ 2,849,430	\$ 10,069	\$ 1,847,168
2043	\$ 40,697,378	\$ 39,534,766	\$ 80,232,144	\$ 39,400,330	96.81%	\$ 25,517	\$ 4,373,564	\$ 2,830,032	\$ 9,845	\$ 2,008,521
2044	\$ 39,937,354	\$ 43,806,401	\$ 83,743,755	\$ 42,968,055	107.59%	\$ 22,300	\$ 4,069,842	\$ 2,835,830	\$ 9,944	\$ 2,129,792
2045	\$ 39,118,555	\$ 48,203,286	\$ 87,321,841	\$ 44,344,215	113.36%	\$ 18,083	\$ 61,912	\$ 2,832,732	\$ 9,865	\$ 2,148,988
2046	\$ 38,243,658	\$ 52,723,393	\$ 90,967,051	\$ 43,730,601	114.35%	\$ 15,938	\$ 54,690	\$ 2,812,632	\$ 9,955	\$ 2,118,570
2047	\$ 37,335,922	\$ 57,361,391	\$ 94,697,313	\$ 43,097,212	115.43%	\$ 12,357	\$ 44,245	\$ 2,812,308	\$ 9,857	\$ 2,086,565
2048	\$ 36,368,858	\$ 62,118,327	\$ 98,487,185	\$ 42,418,213	116.63%	\$ 8,057	\$ 32,313	\$ 2,801,593	\$ 9,746	\$ 2,052,481
2049	\$ 35,347,903	\$ 67,005,885	\$ 102,353,788	\$ 41,699,725	117.97%	\$ 5,846	\$ 26,198	\$ 2,773,482	\$ 9,818	\$ 2,017,044
2050	\$ 34,296,099	\$ 72,027,867	\$ 106,323,966	\$ 40,965,513	119.45%	\$ 4,211	\$ 21,474	\$ 2,738,817	\$ 9,684	\$ 1,981,036
2051	\$ 33,220,848	\$ 77,201,430	\$ 110,422,278	\$ 40,223,734	121.08%	\$ 2,988	\$ 17,882	\$ 2,698,947	\$ 9,536	\$ 1,944,816
2052	\$ 32,127,907	\$ 82,539,457	\$ 114,667,364	\$ 39,480,936	122.89%	\$ 2,128	\$ 15,517	\$ 2,654,311	\$ 9,585	\$ 1,908,697
2053	\$ 31,022,702	\$ 88,046,741	\$ 119,069,443	\$ 38,743,382	124.89%	\$ 1,483	\$ 13,537	\$ 2,606,128	\$ 9,411	\$ 1,872,949
2054	\$ 29,909,098	\$ 93,722,298	\$ 123,631,396	\$ 38,015,812	127.10%	\$ 731	\$ 11,391	\$ 2,556,912	\$ 9,445	\$ 1,837,714
2055	\$ 28,787,240	\$ 99,567,353	\$ 128,354,593	\$ 37,299,290	129.57%	\$ 491	\$ 10,548	\$ 2,502,239	\$ 9,243	\$ 1,803,216
2056	\$ 27,664,411	\$ 105,578,697	\$ 133,243,108	\$ 36,602,063	132.31%	\$ 329	\$ 10,136	\$ 2,445,397	\$ 9,260	\$ 1,769,744
2057	\$ 26,543,080	\$ 111,754,299	\$ 138,297,379	\$ 35,927,615	135.36%	\$ -	\$ 9,027	\$ 2,388,178	\$ 9,027	\$ 1,737,404
2058	\$ 25,423,080	\$ 118,102,108	\$ 143,525,188	\$ 35,276,840	138.76%	\$ -	\$ 9,025	\$ 2,326,923	\$ 9,025	\$ 1,706,378
2059	\$ 24,309,847	\$ 124,629,734	\$ 148,939,581	\$ 34,656,295	142.56%	\$ -	\$ 8,759	\$ 2,264,259	\$ 8,758	\$ 1,676,899

City of Clarksburg, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2019 Measurement Date



Projection of Pension Plan's Fiduciary Net Position (Dollar amounts in thousands)

Calculation of Single Equivalent Rate					
Fiscal Year	"Funded" Portion of BP	"Unfunded" Portion of BP	PV of "Funded" BP	PV of "Unfunded" BP	PV of BP Using a Single DR
2019	\$ 1,361,449	\$ -	\$ 1,328,638	\$ -	\$ 1,328,638
2020	\$ 1,449,283	\$ -	\$ 1,347,005	\$ -	\$ 1,347,005
2021	\$ 1,577,610	\$ -	\$ 1,396,453	\$ -	\$ 1,396,453
2022	\$ 1,669,150	\$ -	\$ 1,407,125	\$ -	\$ 1,407,125
2023	\$ 1,743,053	\$ -	\$ 1,399,454	\$ -	\$ 1,399,454
2024	\$ 1,823,712	\$ -	\$ 1,394,489	\$ -	\$ 1,394,489
2025	\$ 1,902,374	\$ -	\$ 1,385,369	\$ -	\$ 1,385,369
2026	\$ 1,960,317	\$ -	\$ 1,359,586	\$ -	\$ 1,359,586
2027	\$ 2,007,712	\$ -	\$ 1,326,149	\$ -	\$ 1,326,149
2028	\$ 2,036,620	\$ -	\$ 1,281,184	\$ -	\$ 1,281,184
2029	\$ 2,097,816	\$ -	\$ 1,256,839	\$ -	\$ 1,256,839
2030	\$ 2,167,998	\$ -	\$ 1,237,035	\$ -	\$ 1,237,035
2031	\$ 2,239,642	\$ -	\$ 1,217,061	\$ -	\$ 1,217,061
2032	\$ 2,339,060	\$ -	\$ 1,210,559	\$ -	\$ 1,210,559
2033	\$ 2,428,239	\$ -	\$ 1,196,869	\$ -	\$ 1,196,869
2034	\$ 2,529,321	\$ -	\$ 1,187,326	\$ -	\$ 1,187,326
2035	\$ 2,605,156	\$ -	\$ 1,164,690	\$ -	\$ 1,164,690
2036	\$ 2,699,546	\$ -	\$ 1,149,418	\$ -	\$ 1,149,418
2037	\$ 2,786,844	\$ -	\$ 1,130,084	\$ -	\$ 1,130,084
2038	\$ 2,835,377	\$ -	\$ 1,095,014	\$ -	\$ 1,095,014
2039	\$ 2,858,153	\$ -	\$ 1,051,247	\$ -	\$ 1,051,247
2040	\$ 2,865,641	\$ -	\$ 1,003,811	\$ -	\$ 1,003,811
2041	\$ 2,861,515	\$ -	\$ 954,634	\$ -	\$ 954,634
2042	\$ 2,849,430	\$ -	\$ 905,335	\$ -	\$ 905,335
2043	\$ 2,830,032	\$ -	\$ 856,354	\$ -	\$ 856,354
2044	\$ 2,835,830	\$ -	\$ 817,246	\$ -	\$ 817,246
2045	\$ 2,832,732	\$ -	\$ 777,480	\$ -	\$ 777,480
2046	\$ 2,812,632	\$ -	\$ 735,203	\$ -	\$ 735,203
2047	\$ 2,812,308	\$ -	\$ 700,113	\$ -	\$ 700,113
2048	\$ 2,801,593	\$ -	\$ 664,233	\$ -	\$ 664,233
2049	\$ 2,773,482	\$ -	\$ 626,256	\$ -	\$ 626,256
2050	\$ 2,738,817	\$ -	\$ 588,979	\$ -	\$ 588,979
2051	\$ 2,698,947	\$ -	\$ 552,767	\$ -	\$ 552,767
2052	\$ 2,654,311	\$ -	\$ 517,738	\$ -	\$ 517,738
2053	\$ 2,606,128	\$ -	\$ 484,133	\$ -	\$ 484,133
2054	\$ 2,556,912	\$ -	\$ 452,372	\$ -	\$ 452,372
2055	\$ 2,502,239	\$ -	\$ 421,618	\$ -	\$ 421,618
2056	\$ 2,445,397	\$ -	\$ 392,420	\$ -	\$ 392,420
2057	\$ 2,388,178	\$ -	\$ 364,988	\$ -	\$ 364,988
2058	\$ 2,326,923	\$ -	\$ 338,692	\$ -	\$ 338,692
2059	\$ 2,264,259	\$ -	\$ 313,877	\$ -	\$ 313,877
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A