

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



Submitted by:

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October 29, 2019

Ms. Priscilla Hamilton Finance Director City of Fairmont 500 Quincy Street Fairmont, WV 26554 Detective Tyler Hall
Pension Board Secretary
City of Fairmont, West Virginia
Policemen's Pension and Relief Fund

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

Dear Priscilla,

The following report contains the GASB 67 and GASB 68 actuarial information for the City of Fairmont Policemen'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 Plan currently uses the Conservation funding policy as described in WV Code §8-22-20. Under this funding policy, the City makes contributions to two separate accounts: the Benefit Payment Account and the Accumulation Account. The Benefit Payment Account is used to pay benefits on a pay-as-you-go basis while the Accumulation Account cannot be used to pay benefits and expenses until assets equal or exceed actuarial liabilities.

The included calculations are based on a blended discount rate of 3.87%. A long-term expected 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. We assumed benefits are discounted at the municipal bond rate when paid from the Benefit Payment Account, or at the long-term rate of return when paid from the Accumulation Account. The development of the blended discount rate is included within this report.

Methodology, Reliance and Certification (cont.)

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.

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 slections 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.

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.



Ms. Priscilla Hamilton October 29, 2019 Page 3

Methodology, Reliance and Certification (cont.)

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

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Jordan McClane, FSA, EA, MAAA

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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	\$	35,190,861
Plan fiduciary net position	<u> </u>	(7,034,106)
Employer's net pension liability	\$	28,156,755
Plan fiduciary net position as a percentage of the total pension liability		19.99%

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) 4.1554% Single discount rate (EOY) 3.8700%

Investment rate of return 5.00 percent, net of pension plan investment expense, including inflation

Long-term municpal bond rate (BOY) 3.62% Long-term municpal 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 2051 Year assets are expected to be depleted N/A

for a closed plan

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

	Decrease	Di	Current scount Rate	1	% Increase
	2.87%		3.87%		4.87%
Employer's net pension liability	\$ 34,341,099	\$	28,156,755	\$	23,321,503

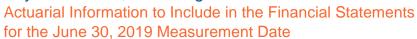
City of Fairmont, West Virginia Policemen's Pension and Relief Fund Actuarial Information to Include in the Financial Statements

for the June 30, 2019 Measurement Date



Changes in the Net Pension Liability

	l Total Pension Liability (a)	ncrease (Decrease Plan Fiduciary Net Position (b)) Net Pension Liability (a) - (b)
Balances at 6/30/18	\$ 32,573,238	\$ 6,662,185	\$ 25,911,053
Changes for the year:			
Service cost	857,519		857,519
Interest	1,323,599		1,323,599
Changes of benefit terms	-		-
Differences between expected and actual experience	350,895		350,895
Changes of assumptions	1,527,079		1,527,079
Contributions - employer (including Premium Tax Allocation)		1,334,868	(1,334,868)
Contributions - member		109,129	(109,129)
Net investment income		369,986	(369,986)
Benefit payments, including refunds of member contributions	(1,441,469)	(1,441,469)	-
Administrative expense		(526)	526
Other		(67)	67
Net Changes	2,617,623	371,921	2,245,702
Balances at 6/30/19	\$ 35,190,861	\$ 7,034,106	\$ 28,156,755
Return on Investments		5.6%	





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

Note	Description	Amount
Α	Service Cost	\$ 857,519
В	Interest on the total pension liability	1,323,599
Α	Changes of benefit terms	-
С	Differences between expected and actual experience	(339,852)
С	Changes of assumptions	1,525,503
Α	Employee contributions	(109,129)
D	Projected earnings on pension plan investments	(333,157)
С	Differences between expected and actual earnings on plan investments	(41,675)
Α	Pension plan administrative expense	526
Α	Other changes in fiduciary net position	67
	Total Pension Expense	\$ 2,883,401

Notes:

A Provided in the Changes in Net Pension Liability exhibit.

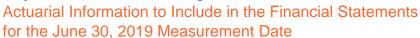
B Based on the following calculation:

		nount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	I	Projected Earnings) x (b) x (c)
Beginning total pension liability	\$ 3	32,573,238	100%	4.16%	\$	1,353,548
Service Cost (End of Year)		857,519	0%	4.16%		-
Benefit payments, including refunds of employee contributions		(1,441,469)	50%	4.16%		(29,949)
Total interest on the total pension liability					\$	1,323,599

C Provided in the Schedules of Deferrals.

D Based on the following calculation:

	F	Amount for Period	Portion of Period	Projected Rate of Return	rojected arnings
		(a)	(b)	(c)	x (b) x (c)
Beginning plan fiduciary net position	\$	6,662,185	100%	5.00%	\$ 333,109
Employer contributions		1,334,868	50%	5.00%	33,372
Employee contributions		109,129	50%	5.00%	2,728
Benefit payments, including refunds of employee contributions		(1,441,469)	50%	5.00%	(36,037)
Administrative expense and other		(593)	50%	5.00%	(15)
Total Projected Earnings					\$ 333,157





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:

	red Outflows Resources	erred Inflows Resources
Differences between expected and actual experience	\$ 263,171	\$ 326,256
Changes of assumptions	2,327,003	-
Net difference between projected and actual earnings	-	
on pension plan investments		215,468
Total	\$ 2,590,174	\$ 541,724

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	\$ 746,728
2021	601,260
2022	707,827
2023	(7,365)
2024	-
Thereafter	-

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	\$ 857,519	\$ 879,126	\$ 806,331	\$ 577,884	\$ 606,861	\$ 606,293	\$ -	\$ -	\$ -	\$ -
Interest	1,323,599	1,343,503	1,304,935	1,270,801	1,289,059	1,281,433	-	-	-	-
Changes of benefit terms	-	-	-	-	-	-	-	-	-	-
Differences between expected and actual experience	350,895	(7,814)	(683,138)	(1,073,542)	(303,310)	-	-	-	-	-
Changes of assumptions	1,527,079	1,587,870	-	3,517,078	-	-	-	-	-	-
Benefit payments, including refunds of member contributions	 (1,441,469)	(1,306,651)	(1,258,884)	(1,169,767)	(1,176,326)	(1,081,768)	-	-	-	-
Net change in total pension liability	2,617,623	2,496,034	169,244	3,122,454	416,284	805,968	-	-	-	-
Total pension liability - beginning	32,573,238	30,077,204	29,907,960	26,785,506	26,369,222	25,563,254	-	-	-	
Total pension liability - ending (a)	\$ 35,190,861	\$ 32,573,238	\$ 30,077,204	\$ 29,907,960	\$ 26,785,506	\$ 26,369,222	\$ -	\$ -	\$ -	\$ -
Plan fiduciary net position	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Contributions - employer (including Premium Tax Allocation)	\$ 1,334,868	\$ 1,264,421	\$ 1,083,344	\$ 1,006,183	\$ 995,568	\$ 906,968	\$ _	\$ -	\$ -	\$ -
Contributions - member	109,129	141,121	146,707	137,663	130,842	130,476	-	-	-	
Net investment income	369,986	453,649	461,308	146,656	87,174	592,817	-	-	-	
Benefit payments, including refunds of member contributions	(1,441,469)	(1,306,651)	(1,258,884)	(1,169,767)	(1,176,326)	(1,081,758)	-	-	-	
Administrative expense	(526)	(739)	(977)	(951)	(1,198)	(1,305)	-	-	-	-
Other	(67)	463,152	218,837	25,612	1,271	51,320	-	-	-	-
Net change in plan fiduciary net position	\$ 371,921	\$ 1,014,953	\$ 650,335	\$ 145,396	\$ 37,331	\$ 598,518	\$ 	\$ -	\$ -	\$ -
Plan fiduciary net position - beginning	6,662,185	5,647,232	4,996,897	4,851,501	4,814,170	4,215,651	-	-	-	-
Plan fiduciary net position - ending (b)	\$ 7,034,106	\$ 6,662,185	\$ 5,647,232	\$ 4,996,897	\$ 4,851,501	\$ 4,814,169	\$ -	\$ -	\$ -	\$ -
Employer's net pension liability - ending (a)-(b)	\$ 28,156,755	\$ 25,911,053	\$ 24,429,972	\$ 24,911,063	\$ 21,934,005	\$ 21,555,053	\$ -	\$ <u> </u>	\$ -	\$ -
lan fiduciary net position as a percentage of the stall pension liability	19.99%	20.45%	18.78%	16.71%	18.11%	18.26%	0.00%	0.00%	0.00%	0.00%
Covered payroll	\$ 1,482,225	\$ 1,732,845	\$ 1,598,037	\$ 1,598,060	\$ 1,674,166	\$ 1,639,169	\$ -	\$ -	\$ -	\$ -
mployer's net pension liability as a percentage of overed payroll	1899.63%	1495.29%	1528.75%	1558.83%	1310.15%	1315.00%	0.00%	0.00%	0.00%	0.00%
Expected average remaining service years of all participants	4.00	4.87	4.70	4.30	4.45					

Notes to Schedule:

Benefit changes: There were no changes for FY2019.

Changes of assumptions: The discount rate changed from 4.1554% to 3.8700%.

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		20	11	2010
Actuarially determined contribution	\$ 2,006,527	\$ 1,739,774	\$ 1,778,937	\$ 1,708,591	\$ 1,401,173	\$ 1,383,346	\$ 1,282,078	\$	-	\$	-	\$ -
Contributions in relation to the actuarially determined contribution												
Employer provided	955,586	888,104	715,676	669,536	669,372	583,261	545,104		-		-	-
State provided	379,282	376,317	367,668	336,647	326,196	323,707	 342,568				-	-
Contribution deficiency (excess)	\$ 671,659	\$ 475,353	\$ 695,593	\$ 702,408	\$ 405,605	\$ 476,378	\$ 394,406	\$	_	\$	-	\$ -
Covered payroll	\$ 1,482,225	\$ 1,732,845	\$ 1,598,037	\$ 1,598,060	\$ 1,674,166	\$ 1,639,169	\$ 1,469,669	\$	-	\$	-	\$ -
Contributions as a percentage of covered employee payroll	90.06%	73.00%	38.00%	63.00%	59.00%	55.00%	60.00%	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

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.

Year	betwe and Ad on P	fferences en Projected etual Earnings ension Plan restments	Recognition Period (Years)	2015	2016	2017	2018	2019	2	020	2021	2022	2023
2015	\$	152,074	5	\$ 30,415	30,415	30,415	30,415	30,414					
2016		95,734	5		\$ 19,147	19,147	19,147	19,147		19,146			
2017		(232,305)	5			\$ (46,461)	(46,461)	(46,461)		(46,461)	(46,461)		
2018		(187,047)	5				\$ (37,409)	(37,409)		(37,409)	(37,409)	(37,411)	
2019		(36,829)	5					\$ (7,366)		(7,366)	(7,366)	(7,366)	(7,365)
let increa	se (decre	ease) in pension	expense					\$ (41,675)	\$	(72,090)	\$ (91,236)	\$ (44,777)	\$ (7,365)

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

						Balan June 3		
Year	stment Earnings than Projected (a)		Investment Earnings Greater Than Projected (b)	Amounts Recognized in Pension Expense Through June 30, 2019 (c)	Ou Re	Deferred utflows of esources (a) - (c)	Deferred Inflows o Resource (b) - (c)	
2015	\$ 152,074	\$	-	\$ 152,074	\$	-	\$	-
2016	95,734		-	76,588		19,146		-
2017	-		232,305	139,383		-		92,922
2018	-		187,047	74,818		-		112,229
2019	-		36,829	7,366		-		29,463
					\$	19,146	\$	234,614

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.

Year	Differences between Expected and Actual Experience	Recognition Period (Years)	Prior	2014	Increase 2015	e (Decrease) in 2016	Pension Expens 2017	e Arising from t 2018	cognition o	of Differences be 2020	tween Expected	Actual Exp 2022	perience 202	23	2024	Thereafter
Prior	\$ -		\$ -	-	-	-	-	-	-	-	-	-		-	-	-
2015	(303,310)	4.452857			\$ (68,116)	(68,116)	(68,116)	(68,116)	(30,846)							
2016	(1,073,542)	4.300163				\$ (249,651)	(249,651)	(249,651)	(249,651)	(74,938)						
2017	(683,138)	4.695895					\$ (145,476)	(145,476)	(145,476)	(145,476)	(101,234)					
2018	(7,814)	4.873169						\$ (1,603)	(1,603)	(1,603)	(1,603)	(1,402)				
2019	350,895	4							\$ 87,724	87,724	87,724	87,723				
Net increa	se (decrease) in p	ension expense							\$ (339,852)	\$ (134,293)	\$ (15,113)	\$ 86,321	\$	-	\$ -	\$ -

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

Year		perience Losses (a)		Experience Gains (b)		ounts Recognized in ion Expense Through June 30, 2019 (c)	Ot Re		Deferred Inflows of Resources (b) - (c)		
Prior	\$	- (u)	\$	- (5)	\$	- (0)	\$	- (u) (u)	\$	-	
2015	Ψ	-	Ψ	303,310	•	303,310	Ψ.	-	Ψ	-	
2016		-		1,073,542		998,604				74,938	
2017		-		683,138		436,428		-		246,710	
2018		-		7,814		3,206				4,608	
2019		350,895		-		87,724		263,171		-	
							\$	263,171	\$	326,256	

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.

		Recognition					Increa	se (Decrease) in	Pens	ion Expen	se Arising from	the E	ffects of Ch	ange	s of Assum	ptior	is					
Year	Changes of Assumptions	Period (Years)	Prior	2014	2015		2016	2017		2018	2019		2020		2021		2022	2023		2024		Thereafter
Prior	\$ -		\$ -	-		-	-	-		-	-				-		-		-		-	-
2015	-	4.452857			\$	-	-	-		-	-											
2016	3,517,078	4.300163				\$	817,894	817,894		817,894	817,894		245,502									
2017	-	4.695895						\$ -		-	-		-		-							
2018	1,587,870	4.873169							\$	325,839	325,839		325,839		325,839		284,514					
2019	1,527,079	4									\$ 381,770		381,770		381,770		381,769					
Net increa	se (decrease) in pe	ension expense									\$ 1,525,503	\$	953,111	\$	707,609	\$	666,283	\$		\$	- \$	-

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

								Balan June 3	ces at 0, 2019)
Year	Increases in the Total Pension Liability (a)			Decreases in the Total Pension Liability (b)		nounts Recognized in sion Expense Through June 30, 2019 (c)	C	Deferred Outflows of Resources (a) - (c)	Infl Res	ferred ows of ources) - (c)
Prior	\$	-	\$		-	\$ -	\$	-	\$	-
2015		-			-	-		-		-
2016	3,5	517,078			-	3,271,576		245,502		-
2017		-			-	-		-		-
2018	1,5	587,870			-	651,678		936,192		-
2019	1,5	527,079			-	381,770		1,145,309		-
							\$	2,327,003	\$	-

City of Fairmont, West Virginia Policemen'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)



			Benefit Payment Account											Accumulation Account																	
Fiscal Year	Active	Pay Status	Ass	ets (BC	OY)	Pr	t Benefit nts and penses		Employer ontributions		nployee tributions	Pre	00.00% of emium Tax		estment come	Ace	Transfer To)/From cumulation Account	A	ssets (BOY)	Net Ber Pmts a Expens	and	Employer Contributions	ı	50% of Pay Employee entributions	0.00% Premiui Alloca	m Tax		vestment Income	Accrued Liability	Unfunded Liability	Funded Ratio
2019	27	53	\$		-	\$	-	\$		\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-	\$	-	\$	-	\$ 29,806,354 \$	22,765,4	2 24%
2020	25	50	\$	42,6	324	\$	1,433,822	\$	914,368	\$	98,956	\$	420,498	\$	2,131	\$	(44,755)	\$	6,998,288	\$	-	\$ -	\$	21,796	\$	-	\$	350,453	\$ 30,452,888 \$	23,037,5	6 24%
2021	23	50	\$		-	\$	1,465,933	\$	937,440	\$	97,948	\$	430,545	\$	-	\$	-	\$	7,415,292	\$	-	\$ -	\$	21,524	\$	-	\$	371,296	\$ 31,089,184 \$	23,281,0	2 25%
2022	21	50	\$	-	-	\$	1,504,026	\$	964,345	\$	96,979	\$	442,702	\$	-	\$	-	\$	7,808,112	\$	-	\$ -	\$	21,240	\$	-	\$	390,930	\$ 31,708,247 \$	23,487,9	5 26%
2023	20	50	\$	-	-	\$	1,540,188	\$	988,940	\$	96,054	\$	455,194	\$	-	\$	-	\$	8,220,282	\$	-	\$ -	\$	20,955	\$	-	\$	411,532	\$ 32,311,196 \$	23,658,4	7 27%
2024	19	50	\$	-	-	\$	1,568,273	\$	1,004,399	\$	95,845	\$	468,029	\$	-	\$	-	\$	8,652,769	\$	-	\$ -	\$	20,845	\$	-	\$	433,153	\$ 32,910,451 \$	23,803,6	14 28%
2025	17	50	\$		-	\$	1,613,540	\$	1,032,633	\$	94,653	\$	486,254	\$	-	\$	-	\$	9,106,767	\$	-	\$ -	\$	20,454	\$	-	\$	455,843	\$ 33,480,462 \$	23,897,3	18 29%
2026	16	50	\$		-	\$	1,662,154	\$	1,069,387	\$	92,835	\$	499,932	\$	-	\$	-	\$	9,583,064	\$	-	\$ -	\$	19,882	\$	-	\$	479,644	\$ 34,011,369 \$	23,928,7	9 30%
2027	15	50	\$			\$	1,696,748	\$	1,090,908	\$	91,854	\$	513,986	\$	-	\$	-	\$	10,082,590	\$	-	\$ -	\$	19,531	\$	-	\$	504,612	\$ 34,521,306 \$	23,914,5	3 31%
2028	14	50	\$			\$	1,719,251	\$	1,098,731	\$	92,093	\$	528,427	\$	-	\$	-	\$	10,606,733	\$	-	\$ -	\$	19,490	\$	-	\$	530,818	\$ 35,031,172 \$	23,874,1	1 32%
2029	13	50	\$			\$	1,764,021	\$	1,127,613	\$	91,216	\$	545,192	\$	-	\$	_	\$	11,157,041	\$	_	\$ -	\$	19,111	\$	-	\$	558,324	\$ 35,507,517 \$	23,773,0	1 33%
2030	12	50	\$			\$	1,804,842	\$	1,154,182	\$	90,171	\$	560,489	\$	-	\$	_	\$	11,734,476	\$	_	\$ -	\$	18,678	\$	-	\$	587,185	\$ 35,950,989 \$	23,610,6	0 34%
2031	11	49	\$			s ·	1.825.072	\$	1,158,160	\$	90.706	\$	576.206	s		\$		s	12.340.339	\$	_	\$ -	\$	18.657	· s	_	s	617.478	\$ 36,393,164 \$	23,416,6	0 36%
2032	11	49	\$			s ·	1.839.077	\$	1,154,712	\$	92,009	\$	592.356	s	_	\$		s	12.976.474	\$	_	s -	s	18,833	· S	_	s	649.289	\$ 36,846,950 \$		
2033	10	48	\$			s ·	, , .	\$	1,140,893			\$,	s	_	\$		s		\$	_	s -	s	19.146		_	s	682,703	\$ 37,326,335 \$		
2034	10	47	\$			s ·		\$	1,146,144			\$,	s		\$		s	14.346.445	\$		s -	s	19.008	•	_	s	717.792	\$ 37,783,321 \$		
2035	9	47	\$			-	, , .		1,158,991	•	- /	\$	663,711			\$		s	15.083.245			\$ -	s	18,649	•	_	s	754.623	\$ 38,223,716 \$		
2036	9	46	\$			s ·		\$	1,183,345		91,508	\$,	s	_	\$	_	s	15.856.517	\$		s -	\$	18,170		_	s	793,275	\$ 38,629,851		
2037	8	46	\$			-		\$	1,196,810			\$,	s		\$		s	16,667,962	¢		\$ -	s	17,589			s	833,832	\$ 39,008,025 \$		
2038	7	45	\$			*	,,	\$	1,222,062		85,749	\$		s		\$		s	17,519,383		-	\$ -	s	16,892			s	876,386	\$ 39,341,807 \$		
2038	6	45	\$					\$	1,259,547		81,020	\$		s	-	\$		S		\$	-	\$ -	9	15,763		-	\$	921,022	\$ 39,597,713 \$		
2039	6	45	\$					-	1,292,316			•		*	•	Ţ		S		*	-		s s	14,859		-		967,839	39,791,170 \$		
	5	45	\$					\$				\$	770,374 791.831	s	-	\$	-	Ť	19,349,446	\$	-	4				-	\$		\$		
2041	4	44	\$	-			_,,	\$		\$	69,585	\$,	*	-	\$	-	\$ \$,,	*	-	\$ - \$ -	\$ \$	13,307		-	\$	1,016,936	\$ 39,866,396 \$ 39,781,444 \$		
2042	•							\$	1,451,361			\$	813,879		-	\$	-	Ť	21,362,387		-		-	11,120		-		1,068,394	\$, , .	
2043	3	43	\$	-		\$ 2	, .,	\$	1,519,830			\$	856,515		-	\$	-	\$	22,441,901		-	\$ -	\$	8,952		-		1,122,316	\$ 39,530,203 \$		
2044	2	43	\$	-				\$	1,590,923		,	\$	880,332		-	\$	-	\$	23,573,169		-	\$ -	\$	6,928	•	-		1,178,830	\$ 39,125,686 \$, ,	
2045	2	42	\$	-			2,587,961		1,656,387			\$	904,804		-	\$	-	\$, , .		-	\$ -	\$	5,064		-		1,238,071	\$ 38,570,314 \$		
2046	1	42	\$,,	\$	1,690,692		18,250	\$,	\$	-	\$	-	\$	26,002,062		-	\$ -	\$	3,453		-	\$	1,300,188	\$ 37,893,602 \$		
2047	1	41	\$	-	-		, ,	\$	1,621,459				1,021,769	\$	-	\$	-	\$	27,305,703		-	\$ -	\$	2,483		-		1,365,346	\$ 37,140,100 \$		
2048	0	40	\$	-	-	\$ 2	2,661,044	\$	1,601,839	\$	9,079	\$	1,050,126	\$	-	\$	-	\$	28,673,532	\$	-	\$ -	\$	1,708	\$	-	\$	1,433,719	\$ 36,323,713 \$	6,214,7	
2049	0	39	\$	-	-	\$ 2	2,651,531	\$	1,565,953	\$	6,315	\$	1,079,263	\$	-	\$	-	\$	30,108,959	\$	-	\$ -	\$	1,180	\$	-	\$	1,505,477	\$ 35,462,650 \$	3,847,0	4 89%
2050	0	38	\$	-	-	\$ 2	2,632,284	\$	1,518,812	\$	4,270	\$	1,109,202	\$	-	\$	-	\$	31,615,616	\$	-	\$ -	\$	798	\$	-	\$	1,580,801	\$ 34,568,398 \$	1,371,1	3 96%
2051	0	37	\$	-	-	\$ 2	2,608,375	\$	9,210	\$	2,485	\$	1,413,523	\$	-	\$	1,183,157	\$	33,197,215	\$	-	\$ -	\$	464	\$	-	\$	1,630,654	\$ 33,645,176 \$	-	100%
2052	0	36	\$		-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	33,645,176	\$ 2,570	6,202	\$ 13,704	\$	1,621	\$	-	\$	1,619,018	\$ 32,703,317 \$	-	100%
2053	0	34	\$		-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	32,703,317	\$ 2,53	8,409	\$ 11,053	\$	784	\$	-	\$	1,572,772	\$ 31,749,517 \$	-	100%
2054	0	33	\$		-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	31,749,517	\$ 2,496	6,100	\$ 9,866	\$	367	\$	-	\$	1,526,087	\$ 30,789,737 \$	-	100%
2055	0	32	\$		-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	30,789,737	\$ 2,45	1,945	\$ 8,880	\$	-	\$	-	\$	1,479,155	\$ 29,825,827 \$	-	100%
2056	0	31	\$		-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	29,825,827	\$ 2,40	3,838	\$ 8,839	\$	-	\$	-	\$	1,432,147	\$ 28,862,975 \$	-	100%
2057	0	30	\$		-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	28,862,975	\$ 2,35	4,547	\$ 8,789	\$	-	\$	-	\$	1,385,220	\$ 27,902,437 \$	-	100%
2058	0	29	\$			\$	-	\$	-	\$	-	\$	-	\$	-	\$		\$	27,902,437	\$ 2,30	4,237	\$ 8,730	\$	-	\$		\$	1,338,434	\$ 26,945,364 \$	-	100%
2059	0	28	\$		_	s	_	\$		\$	_	\$		s		\$	-	\$	26,945,364	\$ 225	2 993	\$ 8,661	•		\$	_	\$	1,291,844	\$ 25,992,876 \$		100%

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	Projected BP	"Funded" P	ortion of BP	"Ur	funded" Portion of BP	PV	of "Funded" Portion of BP	PV of "Unfunded" Portion of BP	PV	of BP Using a Single DR
2019	\$ 1,441,469	\$	-	\$	1,441,469	\$	-	\$ 1,419,426	\$	1,414,327
2020	\$ 1,425,774	\$	-	\$	1,425,774	\$	-	\$ 1,361,361	\$	1,346,741
2021	\$ 1,457,884	\$	-	\$	1,457,884	\$	-	\$ 1,349,772	\$	1,325,701
2022	\$ 1,495,982	\$	-	\$	1,495,982	\$	-	\$ 1,343,009	\$	1,309,598
2023	\$ 1,532,039	\$	-	\$	1,532,039	\$	-	\$ 1,333,636	\$	1,291,131
2024	\$ 1,560,020	\$	-	\$	1,560,020	\$	-	\$ 1,316,778	\$	1,265,668
2025	\$ 1,605,306	\$	-	\$	1,605,306	\$	-	\$ 1,313,879	\$	1,253,824
2026	\$ 1,653,820	\$	-	\$	1,653,820	\$	-	\$ 1,312,504	\$	1,243,529
2027	\$ 1,688,315	\$	-	\$	1,688,315	\$	-	\$ 1,299,214	\$	1,222,110
2028	\$ 1,710,719	\$	-	\$	1,710,719	\$	-	\$ 1,276,501	\$	1,192,132
2029	\$ 1,755,391	\$	-	\$	1,755,391	\$	-	\$ 1,270,080	\$	1,177,629
2030	\$ 1,796,115	\$	-	\$	1,796,115	\$	-	\$ 1,260,104	\$	1,160,000
2031	\$ 1,816,394	\$	-	\$	1,816,394	\$	-	\$ 1,235,655	\$	1,129,335
2032	\$ 1,830,160	\$	-	\$	1,830,160	\$	-	\$ 1,207,234	\$	1,095,446
2033	\$ 1,834,820	\$	-	\$	1,834,820	\$	-	\$ 1,173,575	\$	1,057,266
2034	\$ 1,876,927	\$	-	\$	1,876,927	\$	-	\$ 1,164,071	\$	1,041,183
2035	\$ 1,907,094	\$	-	\$	1,907,094	\$	-	\$ 1,146,884	\$	1,018,453
2036	\$ 1,947,982	\$	-	\$	1,947,982	\$	-	\$ 1,135,918	\$	1,001,481
2037	\$ 1,977,646	\$	-	\$	1,977,646	\$	-	\$ 1,118,216	\$	978,803
2038	\$ 2,019,560	\$	-	\$	2,019,560	\$	-	\$ 1,107,258	\$	962,260
2039	\$ 2,080,893	\$	-	\$	2,080,893	\$	-	\$ 1,106,259	\$	954,497
2040	\$ 2,130,492	\$	-	\$	2,130,492	\$	-	\$ 1,098,252	\$	940,792
2041	\$ 2,213,680	\$	-	\$	2,213,680	\$	-	\$ 1,106,501	\$	941,061
2042	\$ 2,314,224	\$	-	\$	2,314,224	\$	-	\$ 1,121,650	\$	947,103
2043	\$ 2,414,208	\$	-	\$	2,414,208	\$	-	\$ 1,134,597	\$	951,165
2044	\$ 2,498,555	\$	-	\$	2,498,555	\$	-	\$ 1,138,599	\$	947,674
2045	\$ 2,578,655	\$	-	\$	2,578,655	\$	-	\$ 1,139,437	\$	941,569
2046	\$ 2,629,547	\$	-	\$	2,629,547	\$	-	\$ 1,126,660	\$	924,334
2047	\$ 2,646,982	\$	-	\$	2,646,982	\$	-	\$ 1,099,710	\$	895,753
2048	\$ 2,651,866	\$	-	\$	2,651,866	\$	-	\$ 1,068,301	\$	863,928
2049	\$ 2,642,336	\$	-	\$	2,642,336	\$	-	\$ 1,032,155	\$	828,711
2050	\$ 2,623,078	\$	-	\$	2,623,078	\$	-	\$ 993,535	\$	791,982
2051	\$ 2,599,165	\$	-	\$	2,599,165	\$	-	\$ 954,599	\$	755,487
2052	\$ 2,566,994	\$	2,566,994	\$	-	\$	500,707	\$ -	\$	718,302
2053	\$ 2,529,473	\$	2,529,473	\$	-	\$	469,893	\$ -	\$	681,399
2054	\$ 2,487,188	\$	2,487,188	\$	-	\$	440,036	\$ -	\$	645,013
2055	\$ 2,443,065	\$	2,443,065	\$	-	\$	411,648	\$ -	\$	609,936
2056	\$ 2,394,999	\$	2,394,999	\$	-	\$	384,332	\$ -	\$	575,630
2057	\$ 2,345,758	\$	2,345,758	\$	-	\$	358,505	\$ -	\$	542,763
2058	\$ 2,295,507	\$	2,295,507	\$	-	\$	334,119	\$ -	\$	511,322
2059	\$ 2,244,332	\$	2,244,332	\$	-	\$	311,115	\$ -	\$	481,274