

# City of Oak Hill West Virginia Policemen's Pension and Relief Fund

GASB 68 Actuarial Information for the Measurement Period Ending June 30, 2020

# Bolton

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November 4, 2020

Ms. Damita Johnson City Clerk City of Oak Hill 691 Virginia Street Oak Hill, WV 25901 Chief Michael Whisman Pension Board Secretary City of Oak Hill Policemen's Pension and Relief Fund

Re: City of Oak Hill Policemen's Pension and Relief Fund GASB 68 Actuarial Information for the Measurement Period Ending June 30, 2020

Dear Damita,

The following report contains the GASB 67 and GASB 68 actuarial information for the City of Oak Hill Policemen's Pension and Relief Fund to be included in the City's financial statements for FY 2020. The GASB 67 information has been provided as of June 30, 2020 (the GASB 68 measurement date for FY 2020).

# 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, 2020 (the City's fiscal year end date) as required by GASB 68. 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, 2019 actuarial valuation rolled forward to June 30, 2020. The methods, assumptions, and participant data used are detailed in the July 1, 2019 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 GASB 67. The calculation of the Actuarially Determined Contribution for the fiscal year ending June 30, 2020 is contained in the July 1, 2018 actuarial valuation report. The discount rate assumption may have changed if a blended rate was used for GASB purposes.

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) and is based on the fund's current funding ratio, liquidity ratio, equity exposure and expected funded status in 15 years.

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.

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## Methodology, Reliance and Certification (cont.)

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 the assumptions; the differences may be significant or material because the 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 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. That 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.

The valuation was completed using both proprietary and third-party models (including software and tools). We have tested these models to ensure they are used for their intended purposes, within their known limitations, and without any known material inconsistencies unless otherwise stated.



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## 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 GASB 68. 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, 2019 actuarial valuation report contains information that is integral to the results contained herein and a copy may be provided upon request.

Sincerely,

Jans Ratelie

James Ritchie, ASA, EA, FCA, MAAA

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Jordan McClane, FSA, EA, FCA, MAAA





Net Pension Liability of the Employer

The components of the net pension liability of the Employer at June 30, 2020, were as follows:

Total pension liability	\$ 4,146,617
Plan fiduciary net position	 (4,845,866)
Employer's net pension liability	\$ (699,249)
Plan fiduciary net position as a percentage of the total pension liability	116.86%

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of July 1, 2019 rolled forward to June 30, 2020 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)	6.50%
Single discount rate (EOY)	6.50%
Investment rate of return (BOY)	6.50%, net of pension plan investment expense, including inflation
Investment rate of return (EOY)	6.50%, net of pension plan investment expense, including inflation
Long-term municpal bond rate (BOY)	3.13%
Long-term municpal bond rate (EOY)	2.45%
Mortality	RP-2014 Blue Collar Mortality Table with generational projection using Scale MP-2014
Year Fund is projected to be fully funded	N/A - over 100% funded on the 6/30/2020 measurement date
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, 2019 actuarial valuation report.

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

	Decrease 5.50%	Current count Rate 6.50%	1	% Increase 7.50%
Employer's net pension liability	\$ (75,285)	\$ (699,249)	\$	(1,202,931)



Changes in the Net Pension Liability

	Increase (Decrease)										
	То	tal Pension Liability (a)		an Fiduciary et Position (b)		et Pension Liability (a) - (b)					
Balances at 6/30/19	\$	3,779,956	\$	4,641,751	\$	(861,795)					
Changes for the year:											
Service cost		92,010				92,010					
Interest		240,203				240,203					
Changes of benefit terms		-				-					
Differences between expected and actual experience		203,482				203,482					
Changes of assumptions		-				-					
Contributions - employer (including Premium Tax Allocation)				71,685		(71,685)					
Contributions - member				21,700		(21,700)					
Net investment income				279,764		(279,764)					
Benefit payments, including refunds of member contributions		(169,034)		(169,034)		-					
Administrative expense				-		-					
Other				-		-					
Net Changes		366,661		204,115		162,546					
Balances at 6/30/20	\$	4,146,617	\$	4,845,866	\$	(699,249)					
Return on Investments				6.1%							



Components of Employer's Pension Expense for the Fiscal Year Ended June 30, 2020

Note	Description	Amount
А	Service cost	\$ 92,010
В	Interest on the total pension liability	240,203
А	Changes of benefit terms	-
С	Differences between expected and actual experience	(44,010)
С	Changes of assumptions	58,734
А	Employee contributions	(21,700)
D	Projected earnings on pension plan investments	(299,255)
С	Differences between expected and actual earnings on	42,997
	plan investments	
А	Pension plan administrative expense	-
А	Other changes in fiduciary net position	-
	Total Pension Expense	\$ 68,979

# Notes:

- A Provided in the Changes in Net Pension Liability exhibit.
- B Based on the following calculation:

	A	Mount for Period (a)	Portion of Period (b)	Interest Rate (c)	E	rojected arnings x (b) x (c)
Beginning total pension liability	\$	3,779,956	100%	6.50%	\$	245,697
Service cost (End of Year)		92,010	0%	6.50%		-
Benefit payments, including refunds of employee contributions		(169,034)	50%	6.50%		(5,494)
Total interest on the total pension liability					\$	240,203

# C Provided in the Schedules of Deferrals.

# D Based on the following calculation:

	A	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	E	rojected arnings x (b) x (c)
Beginning plan fiduciary net position	\$	4,641,751	100%	6.50%	\$	301,714
Employer contributions		71,685	50%	6.50%		2,330
Employee contributions		21,700	50%	6.50%		705
Benefit payments, including refunds of employee contributions		(169,034)	50%	6.50%		(5,494)
Administrative expense and other		-	50%	6.50%		-
Total Projected Earnings					\$	299,255



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

At June 30, 2020, 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	\$ 173,383	\$ 144,592
Changes of assumptions	56,093	-
Net difference between projected and actual earnings on pension plan investments	9,208	-
Total	\$ 238,684	\$ 144,592

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:	
2021	\$ 32,250
2022	37,191
2023	20,752
2024	3,899
2025	-
Thereafter	-

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

Total pension liability	2020	2019	2018	2017	2016	2015	2014	2013		2012		2011	
Service cost	\$ 92,010	\$ 79,096	\$ 57,934	\$ 70,639	\$ 73,656	\$ 93,448	\$ 97,707	\$	-	\$	- \$		-
Interest	240,203	239,573	233,441	220,531	213,185	217,245	219,674		-		-		-
Changes of benefit terms	-	-	-	-	-	-	-		-		-		-
Differences between expected and actual experience	203,482	(141,130)	71,496	(136,196)	(199,432)	(132,521)	-		-		-		-
Changes of assumptions	-	-	-	-	349,763	-	-		-		-		-
Benefit payments, including refunds of member contributions	(169,034)	(166,624)	(169,534)	(145,873)	(157,346)	(161,382)	(175,760)		-		-		-
Net change in total pension liability	 366,661	 10,915	193,337	9,101	279,826	16,790	141,621		-		-		-
Total pension liability - beginning	3,779,956	3,769,041	3,575,704	3,566,603	3,286,777	3,269,987	3,128,366		-		-		-
Total pension liability - ending (a)	\$ 4,146,617	\$ 3,779,956	\$ 3,769,041	\$ 3,575,704	\$ 3,566,603	\$ 3,286,777	\$ 3,269,987	\$	-	\$	- \$		-

Plan fiduciary net position	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Contributions - employer (including Premium Tax Allocation)	\$ 71,685	\$ 65,545	\$ 42,838	\$ 76,040	\$ 65,000	\$ 73,185	\$ 264,067	\$ -	\$ -	\$ -
Contributions - member	21,700	22,737	19,343	20,738	25,540	27,440	28,933	-	-	-
Net investment income	279,764	312,869	212,974	330,037	47,571	71,217	405,666	-	-	-
Benefit payments, including refunds of member contributions	(169,034)	(166,624)	(169,534)	(145,873)	(157,346)	(161,382)	(175,760)	-	-	-
Administrative expense	-	-	-	-	-	-	-	-	-	-
Other	 -	 -	 8,383	 3,107	 2,228	 -	 4,690	-	 -	 -
Net change in plan fiduciary net position	\$ 204,115	\$ 234,527	\$ 114,004	\$ 284,049	\$ (17,007)	\$ 10,460	\$ 527,596	\$ -	\$ -	\$ -
Plan fiduciary net position - beginning	4,641,751	4,407,224	4,293,222	4,009,173	4,027,030	4,016,570	3,495,702	-	-	-
Plan fiduciary net position - ending (b)	\$ 4,845,866	\$ 4,641,751	\$ 4,407,224	\$ 4,293,222	\$ 4,010,023	\$ 4,027,030	\$ 4,023,298	\$ -	\$ -	\$ -
Employer's net pension liability - ending (a)-(b)	\$ (699,249)	\$ (861,795)	\$ (638,183)	\$ (717,518)	\$ (443,420)	\$ (740,253)	\$ (753,311)	\$ -	\$ -	\$
Plan fiduciary net position as a percentage of the total pension liability	116.86%	122.80%	116.93%	120.07%	112.43%	122.52%	123.04%	0.00%	0.00%	0.00%
Covered payroll	\$ 296,703	\$ 251,778	\$ 184,324	\$ 236,871	\$ 310,146	\$ 361,966	\$ 397,507	\$ -	\$ -	\$ -
Employer's net pension liability as a percentage of covered payroll	(235.67%)	(342.28%)	(345.67%)	(302.92%)	(142.97%)	(204.51%)	(189.51%)	0.00%	0.00%	0.00%
Expected average remaining service years of all participants	4.00	5.00	4.23	4.57	5.96	6.55	-	-	-	-

#### Notes to Schedule:

Benefit changes: There were no changes for FY2020.

Changes of assumptions: There were no changes for FY2020.

\*The Plan Fiduciary Net Position as of June 30, 2016 includes a contribution receivable of \$850. This receivable is excluded from the July 1, 2016 Plan Fiduciary Net Position.

Schedule of Employer Contributions Last 10 Fiscal Years

	2020	2019		2018	2017	2016	2015	2014	2013	2012	2011
Actuarially determined contribution	\$ 59,139	\$ 45,299	\$	-	\$ 9,849	\$ -	\$ 16,925	\$ 36,914	\$ 73,790	\$ -	\$ -
Contributions in relation to the actuarially determined contribution											
Employer provided	71,685	65,545		42,838	76,040	65,000	73,185	71,551	89,762	-	-
State provided	 -	 -		-	 -	 -	 -	 192,516	 -	 -	 -
Contribution deficiency (excess)	\$ (12,546)	\$ (20,246)	\$	(42,838)	\$ (66,191)	\$ (65,000)	\$ (56,260)	\$ (227,153)	\$ (15,972)	\$ -	\$ -
			_								
Covered payroll	\$ 296,703	\$ 251,778	\$	184,624	\$ 236,871	\$ 310,146	\$ 361,966	\$ 397,507	\$ 384,670	\$ -	\$ -
Contributions as a percentage of covered employee payroll	24.16%	26.03%		23.20%	32.10%	20.96%	20.22%	66.43%	23.33%	N/A	N/A

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 co	ontribution rates:
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar
Remaining amortization period	13 years
Asset valuation method	Market Value
Inflation	2.75 percent
Salary increases	Rates vary by years of service
Investment rate of return	6.50%, 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

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 fiveyear period, beginning in the current reporting period. The following table illustrates the application of this requirement.

Year	Differences between Proje and Actual Earr on Pension P Investment	ted ings an	Recognition Period (Years)	2016	2017	2018	2019	2020	2021	1	2	2022	2023	2024
2016	\$ 232	401	5	\$ 46,480	46,480	46,480	46,480	46,481						
2017	(70	833)	5		\$ (14,167)	(14,167)	(14,167)	(14,167)	(1	4,165)				
2018	62	869	5			\$ 12,574	12,574	12,574	1	2,574		12,573		
2019	(28	945)	5				\$ (5,789)	(5,789)	(	(5,789)		(5,789)	(5,789)	
2020	19	491	5					\$ 3,898		3,898		3,898	3,898	3,89
Vet increa	se (decrease) in pe	nsion	expense					\$ 42,997	\$	(3,482)	\$	10,682	\$ (1,891)	\$ 3,89

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

					Balan June 3	ces at 0, 202	
Year	tment Earnings than Projected (a)	Investment Earnings Greater Than Projected (b)	Amounts Recognized in Pension Expense Through June 30, 2020 (c)	O R	Deferred utflows of esources (a) - (c)	lı R	Deferred nflows of esources (b) - (c)
2016	\$ 232,401	\$ -	\$ 232,401	\$	-	\$	-
2017	-	70,833	56,668		-		14,165
2018	62,869	-	37,722		25,147		-
2019	-	28,945	11,578		-		17,367
2020	19,491	-	3,898		15,593		-
				\$	40,740	\$	31,532

B

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	e (Decrease) in P	ension Expens	e Arising f	from the	Recognition of	f Differences b	etween Expecte	ed and Actual Ex	perience				l in the second second
Year	Differences between Expected and Actual Experience	Recognition Period (Years)	Prior	2011	2012	2013	2014	2015	2016	201	17	2018	2019	2020	2021	2022	2023	2024	2025	Thereafter
Prior	-	(10013)	1110	2011	2012	2013	2014	2013	2010	201		2010	2013	2020	2021	2022	- 2025			Increance
2011																				
2011	-	_																		
2012	-	-																		
2014																				
2015	(132,521)	6.545085						\$ (20,247)	(20,247)	(20	0,247)	(20,247)	(20,247)	(20,247)	(11,039)					
2016	(199,432)	5.955066						* (,,	\$ (33,489)		3,489)	(33,489)	(33,489)	(33,489)	(31,987)					
2017	(136,196)	4.566243							+ (,,		9,827)	(29,827)	(29,827)	(29,827)	(16,888)					
2018	71,496	4.228527									-,- ,	\$ 16,908	16,908	16,908	16,908	3,864				
2019	(141,130)	5.000000											\$ (28,226)	(28,226)	(28,226)	(28,226)	(28,226)			
2020	203,482	4.000000												\$ 50,871	50,871	50,871	50,869			
Net increa	se (decrease) in pe	nsion expense												\$ (44,010)	\$ (20,361)	\$ 26,509	\$ 22,643	\$	- \$	- \$ -

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

			Amounts Recognized in		ces at 0, 2020 Deferred		
Experience Losses Year (a)		Experience Gains (b)	Pension Expense Through June 30, 2020 (c)	Outflows of Resources (a) - (c)	Inflows of Resources (b) - (c)		
Prior	\$-	\$ -	\$ -	\$-	\$-		
2011	-	-	-	-	-		
2012	-	-	-	-	-		
2013	-	-	-	-	-		
2014		-	-	-	-		
2015	-	132,521	121,482	-	11,039		
2016	-	199,432	167,445		31,987		
2017	-	136,196	119,308	-	16,888		
2018	71,496	-	50,724	20,772	-		
2019	-	141,130	56,452	-	84,678		
2020	203,482	-	50,871	152,611	-		
				\$ 173,383	\$ 144.592		

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.

								Increas	se (Dec	rease) in P	ension Expense	Arising from the	ne Effects of Ch	anges of Assun	nptions					
Maaa	Changes of	Recognition Period	Delas	0014	0040	0010	0014	2015		2016	0017	004.0	0010		2021	2022	0000	0004	2025	<b>T</b> h
Year	Assumptions	(Years)	Prior	2011	2012	2013	2014	2015		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Therea
Prior	\$-	-																		
2011	-	-																		
2012	-	-																		
2013	-	-																		
2014	-	-																		
2015	-	6.545085																		
2016	349,763	5.955066							\$	58,734	58,734	58,734	58,734	58,734	56,093					
2017	-	4.566243																		
2018	-	4.228527																		
2019		5.000000																		
2020		4.000000																		
Net increase	se (decrease) in pe	nsion expense												\$ 58,734	\$ 56,093	\$-	\$ -	\$	- \$	- \$

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

Year	Increases in the Total Pension Liability (a)	Liability	Amounts Recognized in Pension Expense Through June 30, 2020 (c)		ces at 0, 2020 Deferred Inflows of Resources (b) - (c)	
Prior	\$-	\$ -	\$-	\$-	\$-	
2011	-	-	-	-	-	
2012	-	-	-	-	-	
2013	-	-	-	-		
2014	-	-	-	-		
2015	-	-	-	-		
2016	349,763	-	293,670	56,093		
2017	-	-	-	-		
2018	-	-	-	-		
2019	-	-	-	-		
2020	-	-	-	-		
				\$ 56.093	\$	