



**Municipal Pensions
Oversight Board**

**City of Logan
West Virginia
Policemen's Pension and Relief Fund**

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

Bolton

Submitted by:

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November 10, 2020

Mr. Jeff Vallet
City Treasurer
City of Logan
219 Dingess Street
Logan, WV 25601

Officer James Shepperd
Pension Board Secretary
City of Logan
Policemen's Pension and Relief Fund

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

Dear Jeff,

The following report contains the GASB 67 and GASB 68 actuarial information for the City of Logan 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. The discount rate assumption may have changed if a blended rate was used for GASB purposes. These calculations are based on the Entry Age Normal cost method as required by GASB 67. The calculation of the Actuarially Determined Contribution (ADC) for the fiscal year ended June 30, 2020 is contained in the July 1, 2018 actuarial valuation report.

Based on the information provided by the Municipal Pensions Oversight Board (MPOB), we understand that the plan sponsor has not made the entire policy contribution in recent years. For this reason, the projections to determine the blended discount rate assume level dollar contributions equal to the average of the five most recent employer contributions for all future years until the plan is fully funded.

The included calculations are based on a blended discount rate of 2.64%. The plan's expected gross rate of investment return of 6.00% has been blended with the 2.45% 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, 2020. The development of the blended discount rate is included within this report.

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.

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 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 actuary shall provide a report to the 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. 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.

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.



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 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,



James Ritchie, ASA, EA, FCA, MAAA



Jordan McClane, FSA, EA, FCA, MAAA



City of Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



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	\$ 4,392,901
Plan fiduciary net position	(854,707)
Employer's net pension liability	<u>\$ 3,538,194</u>
Plan fiduciary net position as a percentage of the total pension liability	19.46%

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)	6.00%
Single discount rate (EOY)	2.64%
Investment rate of return (BOY)	6.00%, net of pension plan investment expense, including inflation
Investment rate of return (EOY)	6.00%, net of pension plan investment expense, including inflation
Long-term municipal bond rate (BOY)	3.13%
Long-term municipal 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
Year assets are expected to be depleted for a closed plan	2035

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

	1% Decrease 1.64%	Current Discount Rate 2.64%	1% Increase 3.64%
Employer's net pension liability	\$ 4,573,616	\$ 3,538,194	\$ 2,760,434

City of Logan, West Virginia Policemen’s Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 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 6/30/19	\$ 2,137,040	\$ 939,476	\$ 1,197,564
Changes for the year:			
Service cost	90,302		90,302
Interest	125,818		125,818
Changes of benefit terms	-		-
Differences between expected and actual experience	148,925		148,925
Changes of assumptions	1,970,937		1,970,937
Contributions - employer (including Premium Tax Allocation)		51,110	(51,110)
Contributions - member		23,118	(23,118)
Net investment income*		(78,876)	78,876
Benefit payments, including refunds of member contributions	(80,121)	(80,121)	-
Administrative expense		-	-
Other		-	-
Net Changes	<u>2,255,861</u>	<u>(84,769)</u>	<u>2,340,630</u>
Balances at 6/30/20	<u>\$ 4,392,901</u>	<u>\$ 854,707</u>	<u>\$ 3,538,194</u>
Return on Investments		-8.4%	

*The Plan Fiduciary Net Position as of July 1, 2019 provided to Bolton by the City does not match the Plan Fiduciary Net Position as of June 30, 2019 as provided in the prior GASB report. The difference of -\$1,307 has been included as investment income for the measurement period ending June 30, 2020.

City of Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



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

Note	Description	Amount
A	Service cost	\$ 90,302
B	Interest on the total pension liability	125,818
A	Changes of benefit terms	-
C	Differences between expected and actual experience	(12,375)
C	Changes of assumptions	233,928
A	Employee contributions	(23,118)
D	Projected earnings on pension plan investments	(56,192)
C	Differences between expected and actual earnings on plan investments	36,396
A	Pension plan administrative expense	-
A	Other changes in fiduciary net position	-
Total Pension Expense		\$ 394,759

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)	Interest Rate (c)	Projected Earnings (a) x (b) x (c)
Beginning total pension liability	\$ 2,137,040	100%	6.00%	\$ 128,222
Service cost (End of Year)	90,302	0%	6.00%	-
Benefit payments, including refunds of employee contributions	(80,121)	50%	6.00%	(2,404)
Total interest on the total pension liability				\$ 125,818

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	\$ 939,476	100%	6.00%	\$ 56,369
Employer contributions	51,110	50%	6.00%	1,533
Employee contributions	23,118	50%	6.00%	694
Benefit payments, including refunds of employee contributions	(80,121)	50%	6.00%	(2,404)
Administrative expense and other	-	50%	6.00%	-
Total Projected Earnings				\$ 56,192

City of Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



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:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 156,065	\$ 169,996
Changes of assumptions	1,824,837	161,331
Net difference between projected and actual earnings on pension plan investments	117,499	-
Total	\$ 2,098,401	\$ 331,327

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	\$ 249,688
2022	255,941
2023	277,368
2024	272,702
2025	225,422
Thereafter	485,953

City of Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



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	\$ 90,302	\$ 104,665	\$ 116,577	\$ 107,821	\$ 77,205	\$ 80,984	\$ 89,982	\$ -	\$ -	\$ -
Interest	125,818	125,101	117,804	109,249	94,575	87,535	85,670	-	-	-
Changes of benefit terms	-	-	-	-	-	-	-	-	-	-
Differences between expected and actual experience	148,925	(170,901)	(18,503)	50,144	(37,017)	(69,300)	-	-	-	-
Changes of assumptions	1,970,937	(174,688)	-	164,641	43,296	(127,161)	-	-	-	-
Benefit payments, including refunds of member contributions	(80,121)	(43,414)	(43,414)	(49,600)	(22,329)	(13,181)	(32,696)	-	-	-
Net change in total pension liability	2,255,861	(159,237)	172,464	382,255	155,730	(41,123)	142,956	-	-	-
Total pension liability - beginning	2,137,040	2,296,277	2,123,813	1,741,558	1,585,828	1,626,951	1,483,995	-	-	-
Total pension liability - ending (a)	\$ 4,392,901	\$ 2,137,040	\$ 2,296,277	\$ 2,123,813	\$ 1,741,558	\$ 1,585,828	\$ 1,626,951	\$ -	\$ -	\$ -
Plan fiduciary net position	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Contributions - employer (including Premium Tax Allocation)	\$ 51,110	\$ 94,484	\$ 77,722	\$ 86,919	\$ 63,957	\$ 14,655	\$ 41,723	\$ -	\$ -	\$ -
Contributions - member	23,118	21,324	25,712	13,314	19,181	16,784	18,641	-	-	-
Net investment income	(78,876)	32,333	40,272	55,332	(3,308)	(14,333)	79,976	-	-	-
Benefit payments, including refunds of member contributions	(80,121)	(43,414)	(43,414)	(49,600)	(22,329)	(13,181)	(32,696)	-	-	-
Administrative expense	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Net change in plan fiduciary net position	\$ (84,769)	\$ 104,727	\$ 100,292	\$ 105,965	\$ 57,501	\$ 3,925	\$ 107,644	\$ -	\$ -	\$ -
Plan fiduciary net position - beginning	939,476	834,749	734,458	628,493	634,949	631,024	523,380	-	-	-
Plan fiduciary net position - ending (b)	\$ 854,707	\$ 939,476	\$ 834,749	\$ 734,458	\$ 692,450	\$ 634,949	\$ 631,024	\$ -	\$ -	\$ -
Employer's net pension liability - ending (a)-(b)	<u>\$ 3,538,194</u>	<u>\$ 1,197,564</u>	<u>\$ 1,461,528</u>	<u>\$ 1,389,355</u>	<u>\$ 1,049,108</u>	<u>\$ 950,879</u>	<u>\$ 995,927</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Plan fiduciary net position as a percentage of the total pension liability	19.46%	43.96%	36.35%	34.58%	39.76%	40.04%	38.79%	0.00%	0.00%	0.00%
Covered payroll	\$ 232,400	\$ 277,925	\$ 272,738	\$ 279,330	\$ 229,274	\$ 217,343	\$ 233,900	\$ -	\$ -	\$ -
Employer's net pension liability as a percentage of covered payroll	1522.46%	430.89%	535.87%	497.39%	457.58%	437.50%	425.79%	0.00%	0.00%	0.00%
Expected average remaining service years of all participants	8.00	8.00	8.37	8.22	7.85	7.88	-	-	-	-

Notes to Schedule:

Benefit changes: There were no changes for FY2020.

Changes of assumptions: The discount rate changed from 6.00% to 2.64%.

*The Plan Fiduciary Net Position as of July 1, 2019 provided to Bolton by the City does not match the Plan Fiduciary Net Position as of June 30, 2019 as provided in the prior GASB report. The difference of -\$1,307 has been included as investment income for the measurement period ending June 30, 2020.

*The Plan Fiduciary Net Position as of June 30, 2016 includes a contribution receivable of \$63,957. This receivable is excluded from the July 1, 2017 Plan Fiduciary Net Position.

City of Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Schedule of Employer Contributions
 Last 10 Fiscal Years

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Actuarially determined contribution	\$ 203,522	\$ 234,454	\$ 222,506	\$ 161,653	\$ 132,554	\$ 157,534	\$ 156,942	\$ 117,022	\$ -	\$ -
Contributions in relation to the actuarially determined contribution										
Employer provided	51,110	74,807	50,550	22,962	40,811	10,000	6,000	49,187	-	-
State provided	-	19,677	27,172	-	23,146	4,655	35,723	47,592	-	-
Contribution deficiency (excess)	<u>\$ 152,412</u>	<u>\$ 139,970</u>	<u>\$ 144,784</u>	<u>\$ 138,691</u>	<u>\$ 68,597</u>	<u>\$ 142,879</u>	<u>\$ 115,219</u>	<u>\$ 20,243</u>	<u>\$ -</u>	<u>\$ -</u>
Covered payroll	\$ 232,400	\$ 277,925	\$ 272,738	\$ 279,330	\$ 229,274	\$ 217,343	\$ 233,900	\$ 223,255	\$ -	\$ -
Contributions as a percentage of covered employee payroll	21.99%	34.00%	28.50%	8.22%	27.90%	6.74%	17.84%	43.35%	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 contribution 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	6.00%, 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 Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 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)	2016	2017	2018	2019	2020	2021	2022	2023	2024
2016	\$ 41,311	5	\$ 8,262	8,262	8,262	8,262	8,263				
2017	(16,103)	5		\$ (3,221)	(3,221)	(3,221)	(3,221)	(3,219)			
2018	1,774	5			\$ 355	355	355	355	354		
2019	19,925	5				\$ 3,985	3,985	3,985	3,985	3,985	
2020	135,068	5					\$ 27,014	27,014	27,014	27,014	27,012
Net increase (decrease) in pension expense							\$ 36,396	\$ 28,135	\$ 31,353	\$ 30,999	\$ 27,012

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, 2020 (c)	Balances at June 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2016	\$ 41,311	\$ -	\$ 41,311	\$ -	\$ -
2017	-	16,103	12,884	-	3,219
2018	1,774	-	1,065	709	-
2019	19,925	-	7,970	11,955	-
2020	135,068	-	27,014	108,054	-
				\$ 120,718	\$ 3,219

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	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Thereafter
Prior	-	-																	
2011	-	-																	
2012	-	-																	
2013	-	-																	
2014	-	-																	
2015	(69,300)	7.878212						\$ (8,796)	(8,796)	(8,796)	(8,796)	(8,796)	(8,796)	(8,796)	(7,728)				
2016	(37,017)	7.846481						\$ (4,718)	(4,718)	(4,718)	(4,718)	(4,718)	(4,718)	(4,718)	(4,718)	(3,991)			
2017	50,144	8.223742							\$ 6,097	6,097	6,097	6,097	6,097	6,097	6,097	6,097	6,097	1,368	-
2018	(18,503)	8.368152								\$ (2,211)	(2,211)	(2,211)	(2,211)	(2,211)	(2,211)	(2,211)	(2,211)	(2,211)	(815)
2019	(170,901)	8.000000									\$ (21,363)	(21,363)	(21,363)	(21,363)	(21,363)	(21,363)	(21,363)	(21,363)	(21,360)
2020	148,925	8.000000										\$ 18,616	18,616	18,616	18,616	18,616	18,616	18,616	37,229
Net increase (decrease) in pension expense													\$ (12,375)	\$ (12,375)	\$ (11,307)	\$ (2,852)	\$ 1,139	\$ (3,590)	\$ 15,054

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, 2020 (c)	Balances at June 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
Prior	\$ -	\$ -	\$ -	\$ -	\$ -
2011	-	-	-	-	-
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	-	-	-	-	-
2015	-	69,300	52,776	-	16,524
2016	-	37,017	23,590	-	13,427
2017	50,144	-	24,388	25,756	-
2018	-	18,503	6,633	-	11,870
2019	-	170,901	42,726	-	128,175
2020	148,925	-	18,616	130,309	-
				\$ 156,065	\$ 169,996

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	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Thereafter
Prior	\$ -	-																	
2011	-	-																	
2012	-	-																	
2013	-	-																	
2014	-	-																	
2015	(127,161)	7.878212						\$ (16,141)	(16,141)	(16,141)	(16,141)	(16,141)	(16,141)	(16,141)	(14,174)				
2016	43,296	7.846481						\$ 5,518	5,518	5,518	5,518	5,518	5,518	5,518	5,518	4,670			
2017	164,641	8.223742						\$ 20,020	20,020	20,020	20,020	20,020	20,020	20,020	20,020	20,020	20,020	20,020	4,481
2018	-	8.368152																	
2019	(174,688)	8.000000										\$ (21,836)	(21,836)	(21,836)	(21,836)	(21,836)	(21,836)	(21,836)	(21,836)
2020	1,970,937	8.000000										\$ 246,367	246,367	246,367	246,367	246,367	246,367	246,367	492,735
Net increase (decrease) in pension expense													\$ 233,928	\$ 233,928	\$ 235,895	\$ 249,221	\$ 244,551	\$ 229,012	\$ 470,899

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, 2020 (c)	Balances at June 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
Prior	\$ -	\$ -	\$ -	\$ -	\$ -
2011	-	-	-	-	-
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	-	-	-	-	-
2015	-	127,161	-	96,846	30,315
2016	43,296	-	-	27,590	15,706
2017	164,641	-	-	80,080	84,561
2018	-	-	-	-	-
2019	-	174,688	-	43,672	131,016
2020	1,970,937	-	-	246,367	1,724,570
				\$ 1,824,837	\$ 161,331

City of Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Projection of Pension Plan's Fiduciary Net Position

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
2020	\$ 85,191	\$ -	\$ 85,191	\$ 23,118	\$ -	\$ 23,118	\$ 62,073	\$ -	\$ 62,073	\$ -	\$ -	\$ -	\$ 51,110	\$ -	\$ 51,110	\$ -	\$ -	\$ -
2021	\$ 87,250	\$ 3,304	\$ 90,554	\$ 18,967	\$ 883	\$ 19,850	\$ 68,283	\$ 2,421	\$ 70,704	\$ 867	\$ -	\$ 867	\$ 45,555	\$ 2,493	\$ 48,048	\$ 14,874	\$ -	\$ 14,874
2022	\$ 86,539	\$ 7,208	\$ 93,747	\$ 18,925	\$ 1,927	\$ 20,852	\$ 67,614	\$ 5,281	\$ 72,895	\$ 891	\$ -	\$ 891	\$ 42,611	\$ 5,437	\$ 48,048	\$ 11,986	\$ -	\$ 11,986
2023	\$ 83,382	\$ 15,356	\$ 98,738	\$ 18,508	\$ 4,110	\$ 22,618	\$ 64,874	\$ 11,246	\$ 76,120	\$ 814	\$ 102	\$ 916	\$ 36,368	\$ 11,680	\$ 48,048	\$ 11,023	\$ -	\$ 11,023
2024	\$ 81,421	\$ 23,769	\$ 105,190	\$ 18,298	\$ 6,366	\$ 24,664	\$ 63,123	\$ 17,403	\$ 80,526	\$ 941	\$ 105	\$ 1,046	\$ 30,026	\$ 18,022	\$ 48,048	\$ 9,779	\$ -	\$ 9,779
2025	\$ 80,865	\$ 31,282	\$ 112,147	\$ 18,326	\$ 8,383	\$ 26,709	\$ 62,539	\$ 22,899	\$ 85,438	\$ 859	\$ 216	\$ 1,075	\$ 24,256	\$ 23,792	\$ 48,048	\$ 8,542	\$ -	\$ 8,542
2026	\$ 81,364	\$ 38,054	\$ 119,418	\$ 18,541	\$ 10,202	\$ 28,743	\$ 62,823	\$ 27,852	\$ 90,675	\$ 883	\$ 222	\$ 1,105	\$ 19,151	\$ 28,897	\$ 48,048	\$ 7,368	\$ -	\$ 7,368
2027	\$ 77,026	\$ 44,251	\$ 121,277	\$ 18,018	\$ 11,869	\$ 29,887	\$ 59,008	\$ 32,382	\$ 91,390	\$ 907	\$ 228	\$ 1,135	\$ 14,481	\$ 33,567	\$ 48,048	\$ 6,205	\$ -	\$ 6,205
2028	\$ 73,781	\$ 55,993	\$ 129,774	\$ 17,670	\$ 15,032	\$ 32,702	\$ 56,111	\$ 40,961	\$ 97,072	\$ 1,048	\$ 235	\$ 1,283	\$ 5,641	\$ 42,407	\$ 48,048	\$ 5,164	\$ -	\$ 5,164
2029	\$ 71,787	\$ 66,272	\$ 138,059	\$ 17,542	\$ 17,801	\$ 35,343	\$ 54,245	\$ 48,471	\$ 102,716	\$ 957	\$ 361	\$ 1,318	\$ -	\$ 48,048	\$ 48,048	\$ 1,865	\$ 2,217	\$ 4,082
2030	\$ 71,220	\$ 75,449	\$ 146,669	\$ 17,656	\$ 20,275	\$ 37,931	\$ 53,564	\$ 55,174	\$ 108,738	\$ 983	\$ 371	\$ 1,354	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 3,016	\$ 3,016
2031	\$ 71,605	\$ 83,962	\$ 155,567	\$ 17,927	\$ 22,572	\$ 40,499	\$ 53,678	\$ 61,390	\$ 115,068	\$ 1,010	\$ 381	\$ 1,391	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 1,983	\$ 1,983
2032	\$ 66,250	\$ 92,128	\$ 158,378	\$ 17,067	\$ 24,775	\$ 41,842	\$ 49,183	\$ 67,353	\$ 116,536	\$ 1,038	\$ 391	\$ 1,429	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 979	\$ 979
2033	\$ 61,653	\$ 106,579	\$ 168,232	\$ 16,099	\$ 28,680	\$ 44,779	\$ 45,554	\$ 77,899	\$ 123,453	\$ 1,067	\$ 535	\$ 1,602	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 927	\$ 927
2034	\$ 58,296	\$ 119,653	\$ 177,949	\$ 15,408	\$ 32,215	\$ 47,623	\$ 42,888	\$ 87,438	\$ 130,326	\$ 1,096	\$ 550	\$ 1,646	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 883	\$ 883
2035	\$ 56,442	\$ 131,783	\$ 188,225	\$ 15,057	\$ 35,494	\$ 50,551	\$ 41,385	\$ 96,289	\$ 137,674	\$ 1,126	\$ 565	\$ 1,691	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 840	\$ 840
2036	\$ 55,526	\$ 143,327	\$ 198,853	\$ 14,910	\$ 38,617	\$ 53,527	\$ 40,616	\$ 104,710	\$ 145,326	\$ 1,157	\$ 581	\$ 1,738	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 796	\$ 796
2037	\$ 49,027	\$ 154,615	\$ 203,642	\$ 13,327	\$ 41,670	\$ 54,997	\$ 35,700	\$ 112,945	\$ 148,645	\$ 1,189	\$ 597	\$ 1,786	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 754	\$ 754
2038	\$ 45,959	\$ 173,941	\$ 219,900	\$ 12,409	\$ 46,907	\$ 59,316	\$ 33,550	\$ 127,034	\$ 160,584	\$ 1,222	\$ 766	\$ 1,988	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 715	\$ 715
2039	\$ 40,112	\$ 188,767	\$ 228,879	\$ 10,895	\$ 50,922	\$ 61,817	\$ 29,217	\$ 137,845	\$ 167,062	\$ 1,256	\$ 787	\$ 2,043	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 677	\$ 677
2040	\$ 32,497	\$ 209,089	\$ 241,586	\$ 8,922	\$ 56,432	\$ 65,354	\$ 23,575	\$ 152,657	\$ 176,232	\$ 1,291	\$ 808	\$ 2,099	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 642	\$ 642
2041	\$ 28,899	\$ 226,504	\$ 255,403	\$ 7,987	\$ 61,154	\$ 69,141	\$ 20,912	\$ 165,350	\$ 186,262	\$ 1,327	\$ 830	\$ 2,157	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 609	\$ 609
2042	\$ 22,375	\$ 242,809	\$ 265,184	\$ 6,212	\$ 65,579	\$ 71,791	\$ 16,163	\$ 177,230	\$ 193,393	\$ 1,363	\$ 853	\$ 2,216	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 577	\$ 577
2043	\$ 14,787	\$ 264,172	\$ 278,959	\$ 4,088	\$ 71,390	\$ 75,478	\$ 10,699	\$ 192,782	\$ 203,481	\$ 1,225	\$ 1,227	\$ 2,452	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 547	\$ 547
2044	\$ 10,729	\$ 281,605	\$ 292,334	\$ 2,965	\$ 76,148	\$ 79,113	\$ 7,764	\$ 205,457	\$ 213,221	\$ 1,259	\$ 1,260	\$ 2,519	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 519	\$ 519
2045	\$ 7,732	\$ 297,360	\$ 305,092	\$ 2,137	\$ 80,461	\$ 82,598	\$ 5,595	\$ 216,899	\$ 222,494	\$ 1,294	\$ 1,294	\$ 2,588	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 493	\$ 493
2046	\$ 5,501	\$ 311,655	\$ 317,156	\$ 1,523	\$ 84,386	\$ 85,909	\$ 3,978	\$ 227,269	\$ 231,247	\$ 1,330	\$ 1,329	\$ 2,659	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 468	\$ 468
2047	\$ 3,650	\$ 325,605	\$ 329,255	\$ 1,008	\$ 88,217	\$ 89,225	\$ 2,642	\$ 237,388	\$ 240,030	\$ 1,367	\$ 1,365	\$ 2,732	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 444	\$ 444
2048	\$ 2,560	\$ 340,076	\$ 342,636	\$ 708	\$ 92,188	\$ 92,896	\$ 1,852	\$ 247,888	\$ 249,740	\$ 1,405	\$ 1,402	\$ 2,807	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 422	\$ 422
2049	\$ 1,242	\$ 354,361	\$ 355,603	\$ 355	\$ 96,115	\$ 96,470	\$ 887	\$ 258,246	\$ 259,133	\$ 1,444	\$ 1,440	\$ 2,884	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 402	\$ 402
2050	\$ 843	\$ 368,858	\$ 369,701	\$ 241	\$ 100,107	\$ 100,348	\$ 602	\$ 268,751	\$ 269,353	\$ 1,484	\$ 1,691	\$ 3,175	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 382	\$ 382
2051	\$ 573	\$ 382,354	\$ 382,927	\$ 164	\$ 103,831	\$ 103,995	\$ 409	\$ 278,523	\$ 278,932	\$ 1,525	\$ 1,737	\$ 3,262	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 364	\$ 364
2052	\$ -	\$ 396,627	\$ 396,627	\$ -	\$ 107,757	\$ 107,757	\$ -	\$ 288,870	\$ 288,870	\$ 1,567	\$ 1,785	\$ 3,352	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 346	\$ 346
2053	\$ -	\$ 412,234	\$ 412,234	\$ -	\$ 112,043	\$ 112,043	\$ -	\$ 300,191	\$ 300,191	\$ 1,610	\$ 1,834	\$ 3,444	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 330	\$ 330
2054	\$ -	\$ 427,995	\$ 427,995	\$ -	\$ 116,376	\$ 116,376	\$ -	\$ 311,619	\$ 311,619	\$ 1,654	\$ 1,885	\$ 3,539	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 314	\$ 314
2055	\$ -	\$ 444,271	\$ 444,271	\$ -	\$ 120,857	\$ 120,857	\$ -	\$ 323,414	\$ 323,414	\$ 1,457	\$ 2,179	\$ 3,636	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 300	\$ 300
2056	\$ -	\$ 459,999	\$ 459,999	\$ -	\$ 125,190	\$ 125,190	\$ -	\$ 334,809	\$ 334,809	\$ 1,497	\$ 2,239	\$ 3,736	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 286	\$ 286
2057	\$ -	\$ 476,949	\$ 476,949	\$ -	\$ 129,843	\$ 129,843	\$ -	\$ 347,106	\$ 347,106	\$ 1,538	\$ 2,301	\$ 3,839	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 273	\$ 273
2058	\$ -	\$ 495,371	\$ 495,371	\$ -	\$ 134,893	\$ 134,893	\$ -	\$ 360,478	\$ 360,478	\$ 1,580	\$ 2,365	\$ 3,945	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 260	\$ 260
2059	\$ -	\$ 514,300	\$ 514,300	\$ -	\$ 140,089	\$ 140,089	\$ -	\$ 374,211	\$ 374,211	\$ 1,623	\$ 2,430	\$ 4,053	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 248	\$ 248
2060	\$ -	\$ 534,039	\$ 534,039	\$ -	\$ 145,510	\$ 145,510	\$ -	\$ 388,529	\$ 388,529	\$ 1,668	\$ 2,496	\$ 4,164	\$ -	\$ 48,048	\$ 48,048	\$ -	\$ 237	\$ 237

City of Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Projection of Pension Plan's Fiduciary Net Position

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
2020	\$ 2,277,534	\$ -	\$ 2,277,534	\$ 939,476	41.25%	\$ 23,118	\$ 51,110	\$ 80,121	\$ -	\$ (78,876)
2021	\$ 2,419,352	\$ -	\$ 2,419,352	\$ 854,707	35.33%	\$ 19,528	\$ 60,429	\$ 84,145	\$ 867	\$ 51,133
2022	\$ 2,570,366	\$ 3,466	\$ 2,573,832	\$ 900,785	35.05%	\$ 19,484	\$ 54,597	\$ 89,047	\$ 891	\$ 53,578
2023	\$ 2,724,640	\$ 11,181	\$ 2,735,821	\$ 938,506	34.45%	\$ 19,055	\$ 47,391	\$ 97,681	\$ 814	\$ 55,363
2024	\$ 2,875,935	\$ 27,793	\$ 2,903,728	\$ 961,820	33.44%	\$ 18,839	\$ 39,805	\$ 105,065	\$ 941	\$ 56,309
2025	\$ 3,026,626	\$ 53,992	\$ 3,080,618	\$ 970,766	32.07%	\$ 18,868	\$ 32,798	\$ 111,122	\$ 859	\$ 56,463
2026	\$ 3,179,533	\$ 89,281	\$ 3,268,814	\$ 966,914	30.41%	\$ 19,089	\$ 26,519	\$ 115,099	\$ 883	\$ 55,934
2027	\$ 3,338,049	\$ 133,333	\$ 3,471,382	\$ 952,474	28.53%	\$ 18,551	\$ 20,686	\$ 126,096	\$ 907	\$ 54,554
2028	\$ 3,490,156	\$ 185,977	\$ 3,676,133	\$ 919,262	26.34%	\$ 18,192	\$ 10,805	\$ 135,787	\$ 1,048	\$ 51,968
2029	\$ 3,637,972	\$ 253,502	\$ 3,891,474	\$ 863,392	23.73%	\$ 18,061	\$ 1,865	\$ 144,071	\$ 957	\$ 48,105
2030	\$ 3,784,014	\$ 335,143	\$ 4,119,157	\$ 786,395	20.78%	\$ 18,178	\$ -	\$ 150,921	\$ 983	\$ 43,230
2031	\$ 3,931,165	\$ 430,555	\$ 4,361,720	\$ 695,899	17.70%	\$ 18,457	\$ -	\$ 156,540	\$ 1,010	\$ 37,642
2032	\$ 4,081,768	\$ 539,865	\$ 4,621,633	\$ 594,448	14.56%	\$ 17,572	\$ -	\$ 170,150	\$ 1,038	\$ 31,126
2033	\$ 4,221,719	\$ 663,485	\$ 4,885,204	\$ 471,958	11.18%	\$ 16,575	\$ -	\$ 181,691	\$ 1,067	\$ 23,405
2034	\$ 4,353,312	\$ 808,808	\$ 5,162,120	\$ 329,180	7.56%	\$ 15,864	\$ -	\$ 191,521	\$ 1,096	\$ 14,525
2035	\$ 4,479,122	\$ 975,425	\$ 5,454,547	\$ 166,952	3.73%	\$ 15,502	\$ -	\$ 199,197	\$ 1,126	\$ 4,553
2036	\$ 4,602,612	\$ 1,163,449	\$ 5,766,061	\$ -	0.00%	\$ 15,351	\$ -	\$ 205,338	\$ 1,157	\$ -
2037	\$ 4,726,218	\$ 1,373,411	\$ 6,099,629	\$ -	0.00%	\$ 13,721	\$ -	\$ 230,704	\$ 1,189	\$ -
2038	\$ 4,824,235	\$ 1,606,228	\$ 6,430,463	\$ -	0.00%	\$ 12,776	\$ -	\$ 244,462	\$ 1,222	\$ -
2039	\$ 4,910,717	\$ 1,871,561	\$ 6,782,278	\$ -	0.00%	\$ 11,217	\$ -	\$ 261,707	\$ 1,256	\$ -
2040	\$ 4,978,435	\$ 2,166,243	\$ 7,144,678	\$ -	0.00%	\$ 9,186	\$ -	\$ 279,611	\$ 1,291	\$ -
2041	\$ 5,023,711	\$ 2,497,582	\$ 7,521,293	\$ -	0.00%	\$ 8,223	\$ -	\$ 290,340	\$ 1,327	\$ -
2042	\$ 5,056,843	\$ 2,864,846	\$ 7,921,689	\$ -	0.00%	\$ 6,396	\$ -	\$ 310,166	\$ 1,363	\$ -
2043	\$ 5,064,636	\$ 3,268,221	\$ 8,332,857	\$ -	0.00%	\$ 4,209	\$ -	\$ 328,178	\$ 1,225	\$ -
2044	\$ 5,046,308	\$ 3,714,210	\$ 8,760,518	\$ -	0.00%	\$ 3,053	\$ -	\$ 338,741	\$ 1,259	\$ -
2045	\$ 5,011,704	\$ 4,196,941	\$ 9,208,645	\$ -	0.00%	\$ 2,200	\$ -	\$ 346,653	\$ 1,294	\$ -
2046	\$ 4,963,701	\$ 4,712,025	\$ 9,675,726	\$ -	0.00%	\$ 1,568	\$ -	\$ 352,555	\$ 1,330	\$ -
2047	\$ 4,904,377	\$ 5,254,463	\$ 10,158,840	\$ -	0.00%	\$ 1,038	\$ -	\$ 357,497	\$ 1,367	\$ -
2048	\$ 4,834,443	\$ 5,821,417	\$ 10,655,860	\$ -	0.00%	\$ 729	\$ -	\$ 360,183	\$ 1,405	\$ -
2049	\$ 4,756,392	\$ 6,414,240	\$ 11,170,632	\$ -	0.00%	\$ 365	\$ -	\$ 362,913	\$ 1,444	\$ -
2050	\$ 4,669,450	\$ 7,032,463	\$ 11,701,913	\$ -	0.00%	\$ 248	\$ -	\$ 363,499	\$ 1,484	\$ -
2051	\$ 4,576,265	\$ 7,675,853	\$ 12,252,118	\$ -	0.00%	\$ 169	\$ -	\$ 363,473	\$ 1,525	\$ -
2052	\$ 4,477,230	\$ 8,340,416	\$ 12,817,646	\$ -	0.00%	\$ -	\$ -	\$ 363,734	\$ 1,567	\$ -
2053	\$ 4,371,377	\$ 9,025,685	\$ 13,397,062	\$ -	0.00%	\$ -	\$ -	\$ 362,316	\$ 1,610	\$ -
2054	\$ 4,260,632	\$ 9,735,610	\$ 13,996,242	\$ -	0.00%	\$ -	\$ -	\$ 360,492	\$ 1,654	\$ -
2055	\$ 4,145,121	\$ 10,470,864	\$ 14,615,985	\$ -	0.00%	\$ -	\$ -	\$ 358,145	\$ 1,457	\$ -
2056	\$ 4,025,095	\$ 11,232,251	\$ 15,257,346	\$ -	0.00%	\$ -	\$ -	\$ 355,253	\$ 1,497	\$ -
2057	\$ 3,900,845	\$ 12,016,477	\$ 15,917,322	\$ -	0.00%	\$ -	\$ -	\$ 351,789	\$ 1,538	\$ -
2058	\$ 3,772,707	\$ 12,823,980	\$ 16,596,687	\$ -	0.00%	\$ -	\$ -	\$ 347,649	\$ 1,580	\$ -
2059	\$ 3,641,143	\$ 13,659,569	\$ 17,300,712	\$ -	0.00%	\$ -	\$ -	\$ 342,822	\$ 1,623	\$ -
2060	\$ 3,506,655	\$ 14,524,108	\$ 18,030,763	\$ -	0.00%	\$ -	\$ -	\$ 337,283	\$ 1,668	\$ -

City of Logan, West Virginia Policemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Projection of Pension Plan's Fiduciary Net Position

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	
2020	\$ 80,121	\$ -	\$ 77,820	\$ -	\$ 79,085	
2021	\$ 84,145	\$ -	\$ 77,103	\$ -	\$ 80,924	
2022	\$ 89,047	\$ -	\$ 76,976	\$ -	\$ 83,439	
2023	\$ 97,681	\$ -	\$ 79,660	\$ -	\$ 89,178	
2024	\$ 105,065	\$ -	\$ 80,832	\$ -	\$ 93,455	
2025	\$ 111,122	\$ -	\$ 80,652	\$ -	\$ 96,304	
2026	\$ 115,099	\$ -	\$ 78,810	\$ -	\$ 97,189	
2027	\$ 126,096	\$ -	\$ 81,453	\$ -	\$ 103,740	
2028	\$ 135,787	\$ -	\$ 82,748	\$ -	\$ 108,843	
2029	\$ 144,071	\$ -	\$ 82,827	\$ -	\$ 112,517	
2030	\$ 150,921	\$ -	\$ 81,854	\$ -	\$ 114,839	
2031	\$ 156,540	\$ -	\$ 80,095	\$ -	\$ 116,056	
2032	\$ 170,150	\$ -	\$ 82,131	\$ -	\$ 122,906	
2033	\$ 181,691	\$ -	\$ 82,738	\$ -	\$ 127,871	
2034	\$ 191,521	\$ -	\$ 82,278	\$ -	\$ 131,327	
2035	\$ -	\$ 199,197	\$ -	\$ 136,882	\$ 133,082	
2036	\$ -	\$ 205,338	\$ -	\$ 137,728	\$ 133,661	
2037	\$ -	\$ 230,704	\$ -	\$ 151,041	\$ 146,316	
2038	\$ -	\$ 244,462	\$ -	\$ 156,221	\$ 151,059	
2039	\$ -	\$ 261,707	\$ -	\$ 163,242	\$ 157,561	
2040	\$ -	\$ 279,611	\$ -	\$ 170,239	\$ 164,016	
2041	\$ -	\$ 290,340	\$ -	\$ 172,544	\$ 165,935	
2042	\$ -	\$ 310,166	\$ -	\$ 179,918	\$ 172,713	
2043	\$ -	\$ 328,178	\$ -	\$ 185,814	\$ 178,049	
2044	\$ -	\$ 338,741	\$ -	\$ 187,208	\$ 179,060	
2045	\$ -	\$ 346,653	\$ -	\$ 186,999	\$ 178,535	
2046	\$ -	\$ 352,555	\$ -	\$ 185,635	\$ 176,911	
2047	\$ -	\$ 357,497	\$ -	\$ 183,736	\$ 174,783	
2048	\$ -	\$ 360,183	\$ -	\$ 180,689	\$ 171,573	
2049	\$ -	\$ 362,913	\$ -	\$ 177,705	\$ 168,433	
2050	\$ -	\$ 363,499	\$ -	\$ 173,735	\$ 164,372	
2051	\$ -	\$ 363,473	\$ -	\$ 169,569	\$ 160,139	
2052	\$ -	\$ 363,734	\$ -	\$ 165,632	\$ 156,137	
2053	\$ -	\$ 362,316	\$ -	\$ 161,041	\$ 151,534	
2054	\$ -	\$ 360,492	\$ -	\$ 156,399	\$ 146,898	
2055	\$ -	\$ 358,145	\$ -	\$ 151,665	\$ 142,193	
2056	\$ -	\$ 355,253	\$ -	\$ 146,842	\$ 137,422	
2057	\$ -	\$ 351,789	\$ -	\$ 141,933	\$ 132,587	
2058	\$ -	\$ 347,649	\$ -	\$ 136,909	\$ 127,661	
2059	\$ -	\$ 342,822	\$ -	\$ 131,779	\$ 122,655	
2060	\$ -	\$ 337,283	\$ -	\$ 126,549	\$ 117,574	