City of Princeton
West Virginia
Firemen's Pension Plan

Actuarial Valuation as of July 1, 2020
to Determine the City's Contribution for
the Fiscal Year Ending June 30, 2022

Submitted by:

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September 30, 2021

Mr. Danny Dillow
Finance Director
800 Bee Street
Princeton, WV 24740

Chief Thomas Mould
Pension Board Secretary
City of Princeton
Firemen's Pension and Relief Fund

Re: City of Princeton Firemen's Pension and Relief Fund
Actuarial Valuation Report for the Year Beginning July 1, 2020

Dear Mr. Dillow and Chief Mould:

The following sets forth the actuarial valuation of the City of Princeton Firemen's Pension and Relief Fund as of July 1, 2020. Sections I and II of the report provide a summary of results and the actuarial certification, respectively. Sections III and IV contain the development of the City's contribution for the 2022 fiscal year. Section V contains asset information. Sections VI and VII provide experience gain/loss and risk measure information, respectively. Sections VIII and IX provide projections and an analysis of changing funding policies. Sections X through XII provide a summary of the census data, plan provisions, assumptions and actuarial methods. Section XIII provides a glossary of many of the terms used in this report.

The purposes of this report are to provide information on:

- The sponsor's funding requirements for the fiscal year ending June 30, 2022, based on the selected funding policy, i.e. the **Alternative** funding policy as defined in West Virginia Code §8-22-20(c)(1)
- The Fund's eligibility to receive an allocation of the premium tax for the fiscal year ending June 30, 2022
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2022

This report may not be used for any other purpose; Bolton is not responsible for the consequences of any unauthorized use.

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate.

Respectfully submitted,

James E. Ritchie, ASA, EA, FCA, MAAA

Jordan McClane, FSA, EA, FCA, MAAA

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Section I. Executive Summary

Background

Bolton has prepared the following report that sets forth the actuarial valuation of the City of Princeton Firemen's Pension and Relief Fund (the Plan) as of July 1, 2020. Please note that some columns and rows in the tables on the following pages may not add due to rounding.

Funding Policy

The Plan is valued using the Alternative funding policy as described in WV Code §8-22-20. The City of Princeton (the City) switched from the Standard funding policy to the Alternative funding policy effective July 1, 1991.

Summary of Results

The following table presents a two-year summary of the Plan's estimated pension contributions.

Estimated Employer Contribution Requirements		FYE 2021		FYE 2022
1. Prior Year Alternative Contribution	$	123,291	$	131,921
2. 7% Increase in Alternative Contribution	$	8,630	$	9,234
3. Current Year Preliminary Alternative Contribution	$	131,921	$	141,155
4. Additional Contribution to Satisfy 15-Year Solvency Test on an Open Group Basis	$	0	$	0
5. Employer Contribution Requirement to Receive 100% of Premium Tax (3. + 4.)	$	131,921	$	141,155
6. Additional Contribution to Satisfy 15-Year Solvency Test on a Closed Group Basis	$	0	$	0
7. Employer Contribution Requirement to Receive 100% Premium Tax and Grant Supplemental Benefits (COLA) (5. + 6.)	$	131,921	$	141,155

Amortization Period to Eliminate Unfunded Liability		FYE 2021		FYE 2022
1. Net City Contribution	$	131,921	$	141,155
2. Estimated Premium Tax Allocation	$	149,916	$	145,067
3. Total City Contribution Plus Premium Tax (1. + 2.)	$	281,837	$	286,222
4. Net Employer Normal Cost with Interest	$	253,951	$	276,291
5. Payment Towards Unfunded Liability (3. – 4.)	$	27,886	$	9,931
6. Estimated Number of Years this 'Payment Towards Unfunded Liability' Would Take to Eliminate the Unfunded Liability		**Never**		**Never**

The following table presents a three-year historical summary of Plan assets and liabilities.

	July 1, 2018	July 1, 2019	July 1, 2020
Actuarial Accrued Liability (AAL)	$ 11,439,828	$ 11,791,410	$ 11,969,701
Actuarial Value of Assets (AVA)	$ 2,948,777	$ 2,993,335	$ 3,015,928
Unfunded Actuarial Accrued Liability	$ 8,491,051	$ 8,798,075	$ 8,953,773
Funding Percentage	25.8%	25.4%	25.2%

The contributions shown above are assumed to be paid in equal monthly installments throughout the fiscal year. Details of the determination of the City's contribution for FYE 2022 are shown in Section IV of this report.

Please note, the Alternative and Conservation policies do not meet the requirements for a reasonable funding method under standard actuarial principles. **Current contributions developed under the Alternative and Conservation funding policies may be significantly smaller than contributions developed under a generally accepted actuarial funding policy and plans using either of these two funding policies may experience significant increases in the required contribution over time. We recommend that municipalities using the Alternative policy consider switching to a policy that is more in line with standard actuarial principles for funding. In order to understand the ineffectiveness of these funding policies, we have shown the number of years it would take to completely payoff the unfunded liability assuming the amount shown for the plan year is paid for all future years until the unfunded is eliminated.[1] If "Never" is shown, the year's payment toward the unfunded liability does not cover the interest on the unfunded liability and the unfunded liability will be expected to increase in future years.**

Risk Measures

Generally, the primary risk that a plan sponsor incurs from a defined benefit plan is the risk of substantial increases in annual contributions. For plans that develop contributions using a generally accepted actuarial funding policy, these increases occur most frequently due to variation in the investment returns. The following table shows four commonly used measures of the relative riskiness of a pension plan, relative to the plan sponsor and the employee groups covered by the plan. More detail is provided later in this report.

Risk Measure	July 1, 2018	July 1, 2019	July 1, 2020	Conservative Measures
Inactive AAL Percent of Total AAL	65.0%	71.4%	67.9%	<50%
Assets (MVA) to Payroll	4.8	4.8	4.7	<5
Liabilities to Payroll	18.5	18.7	19.0	<5
Benefit Payments to Contributions	1.1	1.3	1.3	<3

[1] This does not factor in any future increases in the contributions since scheduled increases might require a growing burden to the City.

Experience Analysis

The following factors affected the City's funded status:

- The Plan uses the Alternative funding policy. City contributions between FY 2021 and FY 2022 are expected to increase by 7.0% from $131,921 to $141,155.
- No additional contributions are required to stay "solvent" for the next 15 years. Making the $141,155 contribution will allow the plan to pay COLAs and receive premium tax payments.
- The discount rate changed from 4.50% to 4.25%.
- Contributions under this policy are not based on actuarial liabilities and plan assets. However, liabilities increased by 1.5% and assets increased by 0.8%.
- The Plan's funded ratio decreased from 25.4% to 25.2% and the Plan is expected to be 100% funded in 2065.
- The return on the market value of assets for FY 2020 was 2.7%, while the return on the actuarial value of assets for FY 2020 was 4.0%.

Changes in Methods, Assumptions, and Plan Amendments

Pursuant to the 2020 *Actuarial Methods Recommendations Report*, the WV MPOB adopted changes to the following methods:

- Amortization method: for the Standard and Optional funding policies, the method was changed from a single, closed amortization base to a layered amortization approach.
- Asset method: the method was changed from the market value of assets to a four-year smoothed actuarial value of assets.
- Roll-forward method: for the Standard and Optional funding policies, the method was changed from developing contributions for the valuation year to rolling valuation results forward one year to better align the contribution calculation with the expected timing of the contribution.
- The above method changes do not impact the development of the contribution under the Alternative Method; however, they do impact the development of the Actuarially Determined Contribution for GASB purposes.

Additionally, there were changes to several assumptions. These changes are described in detail in *Section XII. Actuarial Methods and Assumptions*. All of the significant demographic assumptions were changed as well as the method used to determine the discount rate.

There were no changes to the Plan provisions reflected in this valuation.

Sources of Information

The July 1, 2020 participant data and market value of assets were provided by or at the direction of the City of Princeton. While we have reviewed this data for consistency and completeness, we have not audited this data.

Supplemental Benefit Eligibility

West Virginia Code §8-22-26a requires that all retirees, surviving beneficiaries, disability pensioners or future retirees receive a Supplemental Pension Benefit (i.e. cost-of-living adjustments, or COLAs) payable on the first day of July, based on a percentage increase equal to any increase in the consumer price index as calculated by the United States Department of Labor, Bureau of Statistics for the preceding year. The COLA shall not exceed 4% per year and is not payable to a retiree until the first day of July after the second anniversary of the retiree's date of retirement. Additionally, the COLA shall be calculated on only the first $15,000 of the annual benefit paid and on the COLAs accumulated by the retiree since benefit commencement. If, at any time after the COLA becomes applicable, the total accumulated percentage increase in benefit on the allowable amount becomes less than 75% of the total accumulated percentage increase in the consumer price index over that same period of time, the 4% limitation shall be inapplicable until such time as the accumulated COLAs equal 75% of the accumulated increase in the consumer price index. The consumer price index used to determine the COLA is the CPI-U US City Average all items with a base of 1982-1984 equal to 100. The increase is measured as the increase in the annual average from the second prior calendar year to the annual average from the prior calendar year.

The COLA is only payable to the extent that the actuary certifies to the Board of Trustees of the fund the amount of increase in the COLA, if any, which may be paid, and which will preserve the minimum standards for actuarial soundness of the fund as set forth in West Virginia Code §8-22-20. The related solvency test is discussed below.

Premium Tax

West Virginia Code §33-3-14d established a 1% tax on premiums for fire insurance and casualty insurance policies. The proceeds from this tax are used to fund the West Virginia Teachers Retirement System, the Fire Protection Fund for volunteer and part-volunteer fire companies and the Municipal Pensions Security Fund, which is managed by the Municipal Pensions Oversight Board (MPOB). The MPOB allocates funds from the Municipal Pensions Security Fund to each eligible municipality's police and fire fund that is less than 100% funded on an actuarial basis. The funds from the Base Allocation are allocated proportionately to each fire and police fund based on the average monthly number of police officers and firefighters who worked at least 100 hours per month (regardless of whether the police and fire employees participate in the municipality's pension plan or the West Virginia state Municipal Police and Firefighters Retirement System (MPFRS)). The funds from the Excess Allocation are allocated proportionately to each fire and police fund based on the average monthly number of police officers and firefighters who worked at least 100 hours per month and the average monthly number of retired police officers and firefighters (regardless of whether the police and fire employees and retirees participate in the municipality's pension plan or the West Virginia MPFRS).

West Virginia Code §8-22-19 requires a plan sponsor to deposit into the pension fund the required contributions in accordance with Code §8-22-20 at least on a monthly basis at a rate of one-twelfth of the annual requirement in order to receive the premium tax allocation described above. A municipality may pre-pay this contribution. If the allocable portion of the Municipal Pensions Security Fund is not paid to the pension and relief fund within eighteen months, the portion is forfeited by the pension and relief fund and is allocable to other eligible municipal policemen's and firemen's pension and relief funds in accordance with West Virginia Code §33-3-14d.

Solvency Tests

There are two solvency tests. The first solvency test is used to determine whether the State premium tax may be allocated to the pension plan for the fiscal year. West Virginia Code §8-22-20 has been historically interpreted to require plans that use the **Alternative** funding policy to be projected to be solvent in the next 15 years in order to receive the State premium tax allocation. Plans that use the Standard, Optional, or Conservation policy, by definition of the funding policy, will always be projected to be solvent in future years. If a plan is not projected to be solvent in the next 15 years, the municipality or employees must make additional contributions in the current fiscal year in order to receive the State premium tax allocation.

The second test is used to determine whether the COLA is payable under West Virginia Code §8-22-26a, which requires the actuary to certify that the minimum funding for actuarial soundness will be preserved after the COLA is granted for the year. The test used to determine if the minimum funding for actuarial soundness will be preserved is a 15-year projection on a closed group basis. For the July 1, 2020 valuation, the 15-year period would end on June 30, 2035. If the assets are greater than $1 for the first 15 years of the projection, the COLA must be granted. **Please note that the Alternative policy is not consistent with generally accepted actuarial principles for funding and continued use of this policy may reduce future solvency levels, even if the current projections do not forecast insolvency.**

Actuarial Projections

Section VIII of this report provides long-range projections of assets, liabilities, funded status, and contributions for the pension fund assuming the plan continues to use the **Alternative** funding policy. Additionally, Section IX provides projections that are based on the municipality switching to the Optional or Conservation funding policies in the current fiscal year or in the year that the Optional or Conservation policy contributions are projected to be less than the contribution under the Alternative policy. The projections are shown to help the municipality make decisions regarding the election of future funding policies and to understand the future funded status and future contribution requirements based on an expected set of assumptions.

Plans that use the Alternative funding policy may switch to either the Optional or Conservation funding policy. For these plans, we show projections for the following scenarios:

- Plan continues to be funded under the Alternative policy on an open group basis (these projections are also used to determine if the plan is eligible for the premium tax allocation)
- Plan continues to be funded under the Alternative policy on a closed group basis (these projections are used to determine if the COLA is payable)
- Plan switches to the Optional funding policy in the current contribution year
- Plan switches to the Conservation funding policy in the current contribution year
- Plan switches to the Optional funding policy in the year that the Optional funding policy contribution is projected to be less than the Alternative funding policy contribution
- Plan switches to the Conservation funding policy in the year that the Conservation funding policy contribution is projected to be less than the Alternative funding policy contribution

Impact of COVID-19

Because the long-term net impact of COVID-19 on mortality, salary increases, and changes in turnover and retirement behavior is difficult to estimate at this time, we have not made any adjustments to the assumptions for the potential impact of the COVID-19 pandemic.

Section II. Actuarial Certification

This actuarial valuation sets forth our calculation of an estimate of the liabilities of the City of Princeton Firemen's Pension and Relief Fund, together with a comparison of these liabilities with the value of the Plan assets, as submitted by the City of Princeton (the City). This calculation and comparison with assets is 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 and would produce different results, so that no one projection is uniquely "correct" and many alternative projections of the future could also be regarded as reasonable. 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. The Plan may have used other assumptions in the past. We will likely consider changes in assumptions at a future date in conjunction with the MPOB.

A "sensitivity analysis" shows the degree to which results would be different if alternative assumptions within the range of possibilities were substituted for those utilized in this report. We have not been engaged to perform such a sensitivity analysis, and thus, the results of such an analysis are not included in this report. At the City's request, Bolton is available to perform such a sensitivity analysis.

The City is responsible for selecting the Plan's funding policy. The MPOB selects the actuarial valuation methods, asset valuation methods, and assumptions based on the advice of the plan's actuary. The policies, methods and assumptions used in this valuation are those that have been so prescribed by the MPOB, in consultation with Bolton, and are described in this report. The MPOB is solely responsible for communicating to Bolton any changes required thereto.

In addition, decisions regarding benefit improvements, benefit changes, the Plan's investment policy, and similar issues should not be based on this valuation. These issues are complex and other factors should be considered when making such decisions. Other factors might include the anticipated vitality of the local economy and future growth expectations, as well as other economic and financial factors.

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. It does not affect the cost of the Plan. Different funding methods provide for different timing of contributions to the Plan. As the experience of the Plan evolves, it is normal for the level of contributions to the Plan to change. The Plan sponsor is responsible for funding the cost of the Plan. If a contribution is not made for a particular year, either by deliberate choice or because of an error in a calculation, that contribution can be made in later years. We will not be responsible for contributions that are made at a future time rather than an earlier time.

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.

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 of Princeton Firemen's Pension Fund Board of Trustees is solely responsible for selecting the Plan's investment policies, asset allocations and individual investments. Bolton's actuaries have not provided any investment advice to the Board.

The information in this report was prepared for the internal use of the MPOB, the West Virginia Legislature's Joint Committee on Pensions and Retirement, the City and their auditors in connection with their review of the City's financial statements and our actuarial valuation of the Plan. It is neither intended nor necessarily suitable for other purposes. Bolton is not responsible for the consequences of any other use or the reliance upon this report 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, the MPOB selected an assumption based on the expected long-term rate of return on Plan investments, the funded status (current and projected), and funding policy. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely "correct" level of Actuarially Determined Contribution (ADC) for the coming Plan year. More importantly, the contribution required under the Alternative policy is not an ADC, because it not determined based on actuarially sound principles.

This report provides certain financial calculations for use by the City's 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 (open or closed plans) 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 MPOB, Pension Board or the City should notify Bolton promptly after receipt of this report if they disagree with anything contained in the report or is aware of any information that would affect the results of the report that has not been communicated to Bolton or incorporated therein. The report will be deemed final and acceptable unless the MPOB, Pension Board or the City promptly provides such notice to Bolton.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services, which could create a conflict of interest that would impair the objectivity of our work.

We are available to answer any questions on the material in this report and provide explanations or further details as appropriate.

Jim Ritchie, ASA, EA, FCA, MAAA

Jordan McClane, FSA, EA, FCA, MAAA

Section III. Normal Cost and Liabilities

Net Employer Normal Cost

The breakdown of the Net Employer Normal Cost is illustrated below.

Net Employer Normal Cost (BOY)		7/1/2019		7/1/2020
1. Normal Cost	$	295,830	$	307,776
2.a. Administrative Expenses FYE 2021/2022	$	2,868	$	484
2.b. Administrative Expenses (BOY)	$	2,806	$	474
3. Gross Normal Cost (1. + 2.b.)	$	298,636	$	308,250
4. Expected Employee Contributions (BOY)	$	50,213	$	50,600
5. Net Employer Normal Cost (3. – 4.)	$	248,423	$	257,650
(% of Compensation)		40.34%		41.75%

Projected Net Employer Normal Cost

The breakdown of the Projected Net Employer Normal Cost as of the first anniversary of the valuation date (i.e. the first day of the contribution year) is illustrated below.

Projected Net Employer Normal Cost (BOY)				
Valuation Date		7/1/2019		7/1/2020
Projection Date		7/1/2020		7/1/2021
1. Projected Normal Cost	$	N/A	$	323,844
2.a. Projected Administrative Expenses (MOY)	$	N/A	$	496
2.b. Projected Administrative Expenses (BOY)	$	N/A	$	486
3. Projected Gross Normal Cost (1. + 2.b.)	$	N/A	$	324,330
4. Projected Employee Contributions (BOY)	$	N/A	$	53,729
5. Projected Net Employer Normal Cost (3. – 4.)	$	N/A	$	270,601
(% of Compensation)		N/A		41.89%

Unfunded Actuarial Accrued Liability

Below is a summary of the key valuation results.

	Count		7/1/2019	Count		7/1/2020
1. Actuarial Accrued Liability	Count			Count		
a. Active	12	$	3,370,220	12	$	3,837,351
b. Retirees	11		4,887,391	10		4,275,806
c. Survivors	3		486,791	3		437,605
d. Disableds	3		1,804,800	3		1,719,394
e. Deferred Vesteds	3		1,242,208	3		1,699,545
f. Former Members Due Refunds	0		0	0		0
g. Total	**32**	**$**	**11,791,410**	**31**	**$**	**11,969,701**
2. Present Value of Future Normal Costs		$	3,748,337		$	3,792,560
3. Present Value of Benefits (1.g. + 2.)		$	15,539,747		$	15,762,261
4. Actuarial Value of Assets		$	2,993,335		$	3,015,928
5. Unfunded Actuarial Accrued Liability (1.g. – 4.)		$	8,798,075		$	8,953,773
6. Funded Ratio (4. / 1.g.)			25.39%			25.20%

Projected Unfunded Actuarial Accrued Liability

The development of the Projected Unfunded Actuarial Accrued Liability as of the first anniversary of the valuation date (i.e. the first day of the contribution year) is illustrated below.

Projected Unfunded Actuarial Accrued Liability		7/1/2019		7/1/2020
1. Unfunded Actuarial Accrued Liability on Valuation Date	$	N/A	$	8,953,773
2. Net Employer Normal Cost, Excluding Expenses (BOY)	$	N/A	$	257,176
3. Expected Expenses (MOY)	$	N/A	$	484
4. Expected Employer Contribution Fiscal Year Beginning on the Valuation Date	$	N/A	$	131,921
5. Expected Premium Tax Allocation Fiscal Year Beginning on the Valuation Date	$	N/A	$	149,916
6. Projected Unfunded Actuarial Accrued Liability on Valuation Date + 1 Year	$	N/A	$	9,315,145

Section IV. Determination of City Contributions

Development of Estimated Minimum Employer Contribution for Funding Purposes

The development of the Estimated Minimum Employer Contribution for funding purposes is illustrated below.

Estimated Employer Contribution Requirements	FYE 2021	FYE 2022
1. Prior Year Alternative Contribution	$ 123,291	$ 131,921
2. 7% Increase in Alternative Contribution	$ 8,630	$ 9,234
3. Current Year Preliminary Alternative Contribution	$ 131,921	$ 141,155
4. Additional Contribution to Satisfy 15-Year Solvency Test on an Open Group Basis	$ 0	$ 0
5. Employer Contribution Requirement to Receive 100% of Premium Tax (3. + 4.)	$ 131,921	$ 141,155
6. Additional Contribution to Satisfy 15-Year Solvency Test on a Closed Group Basis	$ 0	$ 0
7. Employer Contribution Requirement to Receive 100% Premium Tax and Grant Supplemental Benefits (COLA) (5. + 6.)	$ 131,921	$ 141,155

Development of Actuarially Determined Contribution for GASB Purposes

The development of the Actuarially Determined Contribution for GASB purposes is illustrated below.

Actuarially Determined Contribution for GASB		FYE 2021		FYE 2022
1. Projected Gross Normal Cost, Including Administrative Expenses (BOY)	$	298,636	$	324,330
2. Projected Employee Contributions (BOY)	$	50,213	$	53,729
3. Projected Net Employer Normal Cost (BOY) (1. – 2.)	$	248,423	$	270,601
4. Interest on Normal Cost	$	5,528	$	5,690
5. Projected Total Employer Normal Cost with Interest (3. + 4.)	$	253,951	$	276,291
6. Amortization of Projected Unfunded Liability	$	512,802	$	531,001
7. Interest on Projected Unfunded Liability Payment	$	11,411	$	11,166
8. Unfunded Liability Payment with Interest (6. + 7.)	$	524,213	$	542,167
9. Estimated Premium Tax Allocation	$	149,916	$	145,067
10. Unfunded Liability Payment Net of Premium Tax Allocation (8. – 9., not less than 0)	$	374,297	$	397,100
11. Net Employer Contribution (5. + 10.)	$	628,248	$	673,391
12. Actuarially Determined Contribution for GASB Purposes (5. + 8., not less than 0)	**$**	**778,164**	**$**	**818,458**

Schedule of Amortization Bases for GASB Purposes

Below is a schedule of the amortization bases as of July 1, 2021 used to develop the Actuarially Determined Contribution for GASB purposes.

Description	Date Established	Remaining Years		Outstanding Amount		Payment / (Credit)
Initial Unfunded	7/1/2021	28.5	$	9,854,735	$	578,371
Assumption and Method Changes	7/1/2021	15.0	$	(539,590)	$	(47,370)
Total			**$**	**9,315,145**	**$**	**531,001**

Section V. Assets

Asset Allocation

The table below shows the amount of funds invested in each account as of June 30, 2019 and June 30, 2020.

Assets Held by Category	June 30, 2019	June 30, 2020
Cash and Deposits	$ 117,952	$ 50,721
Receivables		
Contributions	$ 0	$ 145,654
Investment Income	0	0
Total Receivables	**$ 0**	**$ 145,654**
Investment		
Government Securities	$ 305,925	$ 266,096
Fixed Income	459,851	501,687
Equities	1,635,879	1,586,509
Alternative Investments	473,728	428,356
Other	0	0
Total Investments	**$ 2,875,383**	**$ 2,782,648**
Total Assets	**$ 2,993,335**	**$ 2,979,023**
Payables		
Investment Expense	$ 0	$ 0
Benefits and Withdrawals	0	0
Administrative Expense	0	0
Total Payables	**$ 0**	**$ 0**
Net Position	**$ 2,993,335**	**$ 2,979,023**

Reconciliation of Assets

Below is a reconciliation of assets (unaudited) from July 1, 2018 through June 30, 2020.

Plan Year Ending		June 30, 2019		June 30, 2020
1. Beginning of Year Market Value of Assets	$	2,948,777	$	2,993,335
Adjustments to Market Value of Assets		(39,708)		0
Beginning of Year Market Value of Assets	**$**	**2,909,069**	**$**	**2,993,335**
2. Additions				
a. Contributions				
(i) Local Government	$	115,300	$	123,371
(ii) State Government		136,710		0
(iii) Employee		50,843		50,458
(iv) Total		302,853		173,829
b. Receivable Contributions				
(i) Local Government		0		0
(ii) State Government		0		145,654
(iii) Employee Contributions		0		0
(iv) Total		0		145,654
c. Earnings on Investments				
(i) Net Appreciation/(Depreciation)		86,860		(121,056)
(ii) Net Realized Gain (Loss) on Sale/Exchange		2,839		99,718
(iii) Interest and Dividends		93,254		122,750
(iv) Other Income		0		0
(v) Investment Expense		(20,540)		(21,262)
(vi) Receivable Investment Income		0		0
(vii) Payable Investment Expenses		0		0
(viii) Net Investment Income		162,413		80,150
d. Other Revenue		0		0
e. Total Additions	**$**	**465,266**	**$**	**399,633**
3. Disbursements				
a. Benefit Payments	$	368,392	$	413,535
b. Withdrawals		12,074		0
c. Administrative Expenses				
(i) Municipal Fees		354		0
(ii) Other Expenses		180		410
(iii) Total Administrative Expenses		534		410
d. Payable Benefits and Withdrawals		0		0
e. Payable Administrative Expenses		0		0
f. Total Disbursements	**$**	**381,000**	**$**	**413,945**
4. Net Increase (2.e. – 3.f.)		84,266		(14,312)
5. Net Assets (1. + 4.)	**$**	**2,993,335**	**$**	**2,979,023**
6. Rate of Return Net of Investment Fees (2I / [A + B – I] Method[2])		5.7%		2.7%

[2] A = beginning-of-year market value of assets, B = end-of-year market value of assets, I = investment return during the year

(Gain)/Loss on Market Value of Assets for Plan Year Ended June 30, 2020

MVA (Gain)/Loss for Plan Year Ended June 30, 2020			
Market Value of Assets (MVA)			
a.	MVA as of 7/1/2019	$	2,993,335
b.	Interest on a. to 6/30/2020		134,700
c.	Contributions with Interest to 6/30/2020		323,351
d.	Benefit Payments with Interest to 6/30/2020		422,737
e.	Administrative Expenses with Interest to 6/30/2020		419
f.	Expected MVA at 6/30/2020 (a. + b. + c. – d. – e.)		3,028,230
g.	Actual MVA at 6/30/2020		2,979,023
h.	MVA (Gain)/Loss (f. - g.)		49,207

Development of Actuarial Value of Assets

The actuarial asset value as of July 1, 2020 is determined by spreading the asset gain or loss for each year over a four-year period. The asset gain or loss is the amount by which the actual asset return differs from the expected asset return on a market-value basis.

						July 1, 2020
1.	Market Value of Assets				$	2,979,023
2.	Spreading of Investment (Gains)/Losses					
	Fiscal Year		(Gain)/Loss	% Deferred		Amount Deferred
	2020	$	49,207	75%	$	36,905
	2019		0	50%		0
	2018		0	25%		0
	a. Total Deferred					36,905
3.	Actuarial Value of Assets (1. + 2.a.)				$	3,015,928
4.	Rate of Return Net of Investment Fees (2I / [A + B – I] Method)					3.97%

Section VI. Experience (Gain)/Loss

Experience (Gain)/Loss for Plan Year Ended June 30, 2020

Experience (Gain)/Loss for Plan Year Ended June 30, 2020		
1. Liabilities		
a. Actuarial Accrued Liability as of 7/1/2019	$	11,791,410
b. Normal Cost as of 7/1/2019		295,830
c. Interest on a. and b. to 6/30/2020		543,926
d. Benefit Payments with Interest to 6/30/2020		422,737
e. Effect of Assumption Changes		(494,836)
f. Expected Liability at 7/1/2020 (a. + b. + c. – d. + e.)		11,713,593
g. Actual Liability at 7/1/2020		11,969,701
h. Liability (Gain)/Loss (g. - f.)		256,108
2. Actuarial Value of Assets (AVA)		
a. AVA as of 7/1/2019	$	2,993,335
b. Interest on a. to 6/30/2020		134,700
c. Contributions with Interest to 6/30/2020		323,351
d. Benefit Payments with Interest to 6/30/2020		422,737
e. Administrative Expenses with Interest to 6/30/2020		419
f. Expected AVA at 6/30/2020 (a. + b. + c. – d. – e.)		3,028,230
g. Actual AVA at 6/30/2020		3,015,928
h. AVA (Gain)/Loss (f. - g.)		12,302
3. Total (Gain)/Loss (1h. + 2h.)	$	268,410

The gains and losses shown are only for liability and asset gains and losses. Any change in the Unfunded Actuarial Accrued Liability from funding more or less than needed to cover Normal Cost and interest on the Unfunded Actuarial Accrued Liability is a separate amount.

Section VII. Risk Measures

Risk Measures

Generally, the primary risk that a plan sponsor incurs from a defined benefit plan is the risk of substantial increases in annual contributions. For plans that develop contributions using a generally accepted actuarial funding policy, these increases occur most frequently due to variation in the investment returns. The following table shows four commonly used measures of the relative riskiness of a pension plan, relative to the plan sponsor and the employee groups covered by the plan.

Risk Measure	July 1, 2018	July 1, 2019	July 1, 2020	Conservative Measures
Inactive AAL Percent of Total AAL	65.0%	71.4%	67.9%	<50%
Assets (MVA) to Payroll	4.8	4.8	4.7	<5
Liabilities to Payroll	18.5	18.7	19.0	<5
Benefit Payments to Contributions	1.1	1.3	1.3	<3

The use of payroll in these risk measures is an easily available substitute for the employer's revenue and often reflects the employer's ability to afford the plan.

The current *Assets to Payroll* of 4.7 indicates that a 1% asset gain/loss is about 4.7% of the annual payroll. Similarly, the current *Liabilities to Payroll* of 19.0 indicates that a 1% change in liability is about 19.0% of the annual payroll.

If the plan or employer were interested in doing more quantitative assessments of risks, the following are examples of analyses that could be performed:

- *Scenario Test:* A process for assessing the impact of one possible event, or several simultaneously or sequentially occurring possible events, on a plan's financial condition. For example, the effect of a layoff or reduction in workforce, or early retirement program.

- *Sensitivity Test:* A process for assessing the impact of a change in an actuarial assumption on an actuarial measurement. This could be a decrease in the valuation discount rate or a change in future life expectancies.

- *Stochastic Modeling:* A process for generating numerous potential outcomes by allowing for random variations in one or more inputs over time for the purpose of assessing the distribution of those outcomes. This analysis could show a range of potential future contribution levels and the likelihood of contributions increasing to a certain level.

- *Stress Test:* A process for assessing the impact of adverse changes in one or relatively few factors affecting a plan's financial condition. For example, a stress test could show the impact of a single year or period of several years with significant investment losses.

Section VIII. Projections for Premium Tax and COLA Eligibility

Table 1 – Open Group Projection (Determines Eligibility for Premium Tax Allocation)

	Number (BOY)			Assets												
Year End June 30	Active	Non-Active	Total Payroll	MVA (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	MVA (EOY)	AVA (EOY)	Actuarial Accrued Liability	Unfunded Liability	Projected Unfunded Liability	Funded Ratio
2020	12	20	$628,833	$2,993,335	$413,535	$410	$123,371	$50,458	$145,654	$80,150	$2,979,023	$3,015,928	$11,969,701	$8,953,773	$9,315,145	24.89%
2021	12	19	$630,043	$2,979,023	$419,281	$484	$131,921	$51,664	$149,916	$124,794	$3,017,553	$3,042,157	$12,371,172	$9,329,015	$9,715,359	24.39%
2022	12	19	$659,601	$3,017,553	$446,117	$496	$141,155	$54,859	$145,067	$126,027	$3,038,048	$3,050,350	$12,779,056	$9,728,706	$10,136,576	23.77%
2023	12	20	$693,739	$3,038,048	$480,891	$525	$151,036	$58,114	$146,215	$126,466	$3,038,463	$3,038,463	$13,187,864	$10,149,401	$10,574,087	23.04%
2024	12	20	$729,086	$3,038,463	$509,636	$538	$161,609	$61,388	$152,644	$126,306	$3,030,236	$3,030,236	$13,604,323	$10,574,087	$11,005,951	22.27%
2025	12	19	$737,093	$3,030,236	$543,500	$534	$172,922	$62,723	$156,450	$125,590	$3,003,887	$3,003,887	$14,009,838	$11,005,951	$11,454,412	21.44%
2026	12	20	$767,914	$3,003,887	$577,006	$565	$185,027	$66,520	$160,350	$124,181	$2,962,394	$2,962,394	$14,416,806	$11,454,412	$11,921,360	20.55%
2027	12	20	$805,851	$2,962,394	$616,854	$579	$197,979	$70,491	$164,671	$122,026	$2,900,128	$2,900,128	$14,821,488	$11,921,360	$12,406,840	19.57%
2028	12	20	$846,144	$2,900,128	$637,315	$593	$211,838	$74,504	$169,846	$119,434	$2,837,842	$2,837,842	$15,244,682	$12,406,840	$12,906,459	18.62%
2029	12	20	$878,251	$2,837,842	$651,056	$608	$226,667	$77,873	$174,750	$116,983	$2,782,451	$2,782,451	$15,688,910	$12,906,459	$13,420,794	17.74%
2030	12	20	$915,723	$2,782,451	$668,832	$623	$242,534	$81,896	$180,296	$114,790	$2,732,512	$2,732,512	$16,153,306	$13,420,794	$13,951,532	16.92%
2031	12	20	$954,979	$2,732,512	$684,595	$639	$259,511	$86,010	$184,784	$112,874	$2,690,457	$2,690,457	$16,641,989	$13,951,532	$14,488,769	16.17%
2032	12	20	$974,184	$2,690,457	$716,924	$655	$277,677	$88,735	$189,384	$110,942	$2,639,616	$2,639,616	$17,128,385	$14,488,769	$15,035,129	15.41%
2033	12	21	$1,004,951	$2,639,616	$754,371	$692	$297,114	$92,997	$194,610	$108,602	$2,577,876	$2,577,876	$17,613,005	$15,035,129	$15,608,923	14.64%
2034	12	21	$1,076,040	$2,577,876	$761,076	$709	$317,912	$99,923	$200,811	$106,550	$2,541,287	$2,541,287	$18,150,210	$15,608,923	$16,194,707	14.00%
2035	12	20	$1,109,697	$2,541,287	$786,350	$705	$340,166	$103,794	$206,622	$105,135	$2,509,949	$2,509,949	$18,704,656	$16,194,707	$16,794,674	13.42%
2036	12	21	$1,163,986	$2,509,949	$808,493	$745	$363,978	$109,668	$218,372	$104,208	$2,496,937	$2,496,937	$19,291,611	$16,794,674	$17,412,078	12.94%
2037	12	20	$1,220,723	$2,496,937	$817,839	$740	$389,456	$115,350	$226,176	$104,278	$2,513,618	$2,513,618	$19,925,696	$17,412,078	$18,034,738	12.61%
2038	12	20	$1,248,630	$2,513,618	$842,815	$759	$416,718	$118,209	$231,796	$105,213	$2,541,980	$2,541,980	$20,576,718	$18,034,738	$18,665,246	12.35%
2039	12	20	$1,300,725	$2,541,980	$873,633	$778	$445,888	$123,249	$243,218	$106,729	$2,586,653	$2,586,653	$21,251,899	$18,665,246	$19,311,123	12.17%
2040	12	20	$1,360,942	$2,586,653	$889,904	$797	$477,100	$129,048	$249,257	$109,191	$2,660,548	$2,660,548	$21,971,671	$19,311,123	$19,972,203	12.11%
2041	12	20	$1,424,375	$2,660,548	$901,902	$817	$510,497	$135,132	$255,448	$113,039	$2,771,945	$2,771,945	$22,744,148	$19,972,203	$20,643,120	12.19%
2042	12	20	$1,480,683	$2,771,945	$915,965	$837	$546,232	$140,582	$261,794	$118,477	$2,922,228	$2,922,228	$23,565,348	$20,643,120	$21,316,313	12.40%
2043	12	20	$1,543,432	$2,922,228	$932,217	$858	$584,468	$146,571	$275,702	$125,744	$3,121,638	$3,121,638	$24,437,951	$21,316,313	$21,983,059	12.77%
2044	12	20	$1,576,666	$3,121,638	$972,038	$879	$625,381	$149,766	$282,552	$134,452	$3,340,872	$3,340,872	$25,323,931	$21,983,059	$22,645,802	13.19%
2045	12	20	$1,629,233	$3,340,872	$1,017,347	$901	$669,158	$154,817	$292,437	$144,051	$3,583,087	$3,583,087	$26,228,889	$22,645,802	$23,298,854	13.66%
2046	12	20	$1,698,768	$3,583,087	$1,046,038	$924	$715,999	$161,434	$311,969	$155,277	$3,880,804	$3,880,804	$27,179,658	$23,298,854	$23,937,206	14.28%
2047	12	20	$1,746,730	$3,880,804	$1,096,911	$947	$766,119	$166,006	$324,372	$168,270	$4,207,713	$4,207,713	$28,144,919	$23,937,206	$24,538,331	14.95%
2048	12	21	$1,760,851	$4,207,713	$1,191,096	$1,001	$819,747	$167,371	$343,665	$181,744	$4,528,143	$4,528,143	$29,066,474	$24,538,331	$25,128,435	15.58%
2049	12	21	$1,823,642	$4,528,143	$1,264,731	$1,026	$877,129	$173,309	$353,735	$195,357	$4,861,916	$4,861,916	$29,990,351	$25,128,435	$25,581,644	16.21%
2050	12	21	$1,886,002	$4,861,916	$1,320,076	$1,052	$938,528	$179,240	$479,706	$212,443	$5,350,705	$5,350,705	$30,932,349	$25,581,644	$26,002,954	17.30%
2051	12	21	$1,954,434	$5,350,705	$1,373,200	$1,078	$1,004,225	$185,736	$494,982	$233,938	$5,895,308	$5,895,308	$31,898,262	$26,002,954	$26,377,751	18.48%
2052	12	21	$2,022,969	$5,895,308	$1,423,037	$1,105	$1,074,521	$192,246	$518,017	$258,134	$6,514,084	$6,514,084	$32,891,835	$26,377,751	$26,706,460	19.80%
2053	12	22	$2,094,493	$6,514,084	$1,471,397	$1,167	$1,149,737	$199,045	$534,810	$285,492	$7,210,604	$7,210,604	$33,917,064	$26,706,460	$26,303,124	21.26%
2054	12	22	$2,163,131	$7,210,604	$1,525,657	$1,196	$1,230,219	$205,571	$1,214,970	$330,085	$8,664,596	$8,664,596	$34,967,720	$26,303,124	$25,651,293	24.78%
2055	12	22	$2,234,576	$8,664,596	$1,583,314	$1,226	$1,316,334	$212,355	$1,386,434	$396,226	$10,391,405	$10,391,405	$36,042,698	$25,651,293	$24,877,110	28.83%
2056	12	22	$2,314,720	$10,391,405	$1,636,079	$1,257	$1,408,477	$219,971	$1,421,965	$471,350	$12,275,832	$12,275,832	$37,152,942	$24,877,110	$23,709,390	33.04%
2057	12	22	$2,400,648	$12,275,832	$1,687,920	$1,288	$1,507,070	$228,138	$1,714,503	$558,744	$14,595,079	$14,595,079	$38,304,469	$23,709,390	$22,288,694	38.10%
2058	12	22	$2,480,310	$14,595,079	$1,744,894	$1,320	$1,612,565	$235,705	$1,843,428	$661,202	$17,201,765	$17,201,765	$39,490,459	$22,288,694	$20,477,610	43.56%
2059	12	22	$2,576,450	$17,201,765	$1,793,767	$1,353	$1,725,445	$244,842	$2,095,901	$778,833	$20,251,666	$20,251,666	$40,729,276	$20,477,610	$18,085,573	49.72%
2060	12	22	$2,669,829	$20,251,666	$1,845,701	$1,387	$1,846,226	$253,716	$2,509,577	$918,787	$23,932,884	$23,932,884	$42,018,457	$18,085,573	$15,433,306	56.96%
2061	12	22	$2,757,651	$23,932,884	$1,904,836	$1,422	$1,975,462	$262,059	$2,573,838	$1,078,239	$27,916,224	$27,916,224	$43,349,530	$15,433,306	$12,502,705	64.40%

Table 2 – Closed Group Projection (Determines Whether COLA is Granted)

	Number (BOY)			Assets												
Year End June 30	Active	Non-Active	Total Payroll	MVA (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	MVA (EOY)	AVA (EOY)	Actuarial Accrued Liability	Unfunded Liability	Projected Unfunded Liability	Funded Ratio
2020	12	20	$628,833	$2,993,335	$413,535	$410	$123,371	$50,458	$145,654	$80,150	$2,979,023	$3,015,928	$11,969,701	$8,953,773	$9,315,145	24.89%
2021	12	19	$630,043	$2,979,023	$419,281	$484	$131,921	$51,664	$149,916	$124,794	$3,017,553	$3,042,157	$12,371,172	$9,329,015	$9,687,987	24.39%
2022	11	19	$592,768	$3,017,553	$445,844	$496	$141,155	$48,773	$145,067	$125,905	$3,032,113	$3,044,415	$12,745,748	$9,701,333	$10,057,894	23.79%
2023	10	20	$570,852	$3,032,113	$480,006	$508	$151,036	$46,955	$146,215	$125,998	$3,021,803	$3,021,803	$13,092,522	$10,070,719	$10,421,248	23.08%
2024	10	20	$554,472	$3,021,803	$507,795	$521	$161,609	$45,570	$152,644	$125,304	$2,998,614	$2,998,614	$13,419,862	$10,421,248	$10,757,497	22.34%
2025	9	19	$517,211	$2,998,614	$538,778	$498	$172,922	$42,770	$156,450	$123,926	$2,955,406	$2,955,406	$13,712,903	$10,757,497	$11,073,187	21.55%
2026	8	20	$471,452	$2,955,406	$568,140	$510	$185,027	$39,368	$160,350	$121,737	$2,893,238	$2,893,238	$13,966,425	$11,073,187	$11,374,244	20.72%
2027	8	20	$444,749	$2,893,238	$604,639	$523	$197,979	$37,311	$164,671	$118,647	$2,806,684	$2,806,684	$14,180,928	$11,374,244	$11,661,515	19.79%
2028	7	20	$425,143	$2,806,684	$621,622	$517	$211,838	$35,762	$169,846	$114,980	$2,716,971	$2,716,971	$14,378,486	$11,661,515	$11,931,996	18.90%
2029	7	20	$403,416	$2,716,971	$630,912	$530	$226,667	$34,095	$174,750	$111,351	$2,632,392	$2,632,392	$14,564,388	$11,931,996	$12,181,310	18.07%
2030	6	20	$379,141	$2,632,392	$642,839	$523	$242,534	$32,271	$180,296	$107,918	$2,552,049	$2,552,049	$14,733,359	$12,181,310	$12,410,261	17.32%
2031	6	20	$358,442	$2,552,049	$652,801	$536	$259,511	$30,704	$184,784	$104,712	$2,478,423	$2,478,423	$14,888,684	$12,410,261	$12,609,455	16.65%
2032	6	20	$325,262	$2,478,423	$673,985	$549	$277,677	$28,280	$189,384	$101,565	$2,400,795	$2,400,795	$15,010,250	$12,609,455	$12,769,550	15.99%
2033	5	20	$282,799	$2,400,795	$697,180	$541	$297,114	$25,220	$194,610	$98,232	$2,318,250	$2,318,250	$15,087,800	$12,769,550	$12,906,088	15.37%
2034	4	20	$273,854	$2,318,250	$698,149	$532	$317,912	$24,536	$200,811	$95,257	$2,258,085	$2,258,085	$15,164,173	$12,906,088	$13,011,552	14.89%
2035	4	20	$253,361	$2,258,085	$711,490	$545	$340,166	$23,055	$206,622	$92,978	$2,208,871	$2,208,871	$15,220,423	$13,011,552	$13,076,868	14.51%
2036	4	20	$232,621	$2,208,871	$721,446	$559	$363,978	$21,546	$218,372	$91,393	$2,182,155	$2,182,155	$15,259,023	$13,076,868	$13,107,928	14.30%
2037	3	20	$222,994	$2,182,155	$722,630	$549	$389,456	$20,818	$226,176	$90,918	$2,186,344	$2,186,344	$15,294,272	$13,107,928	$13,096,079	14.30%
2038	3	20	$199,282	$2,186,344	$732,055	$563	$416,718	$18,694	$231,796	$91,544	$2,212,478	$2,212,478	$15,308,557	$13,096,079	$13,028,020	14.45%
2039	3	20	$170,068	$2,212,478	$744,339	$577	$445,888	$15,974	$243,218	$93,193	$2,265,835	$2,265,835	$15,293,855	$13,028,020	$12,911,449	14.82%
2040	2	20	$154,031	$2,265,835	$747,441	$566	$477,100	$14,498	$249,257	$96,148	$2,354,831	$2,354,831	$15,266,280	$12,911,449	$12,744,313	15.43%
2041	2	19	$142,739	$2,354,831	$748,017	$554	$510,497	$13,458	$255,448	$100,729	$2,486,392	$2,486,392	$15,230,705	$12,744,313	$12,522,913	16.32%
2042	2	19	$133,655	$2,486,392	$746,958	$568	$546,232	$12,643	$261,794	$107,210	$2,666,745	$2,666,745	$15,189,658	$12,522,913	$12,236,557	17.56%
2043	2	19	$127,766	$2,666,745	$743,572	$582	$584,468	$12,098	$275,702	$116,031	$2,910,890	$2,910,890	$15,147,447	$12,236,557	$11,883,615	19.22%
2044	2	18	$115,271	$2,910,890	$746,539	$568	$625,381	$10,929	$282,552	$127,325	$3,209,970	$3,209,970	$15,093,585	$11,883,615	$11,449,804	21.27%
2045	1	18	$95,036	$3,209,970	$753,502	$553	$669,158	$9,032	$292,437	$140,978	$3,567,520	$3,567,520	$15,017,324	$11,449,804	$10,928,023	23.76%
2046	1	18	$90,020	$3,567,520	$748,874	$567	$715,999	$8,554	$311,969	$157,657	$4,012,258	$4,012,258	$14,940,281	$10,928,023	$10,316,073	26.86%
2047	1	18	$79,514	$4,012,258	$750,353	$581	$766,119	$7,563	$324,372	$177,821	$4,537,199	$4,537,199	$14,853,272	$10,316,073	$9,591,603	30.55%
2048	1	18	$52,177	$4,537,199	$767,379	$596	$819,747	$4,974	$343,665	$201,251	$5,138,861	$5,138,861	$14,730,464	$9,591,603	$8,757,005	34.89%
2049	0	18	$28,409	$5,138,861	$776,306	$579	$877,129	$2,705	$353,735	$228,005	$5,823,550	$5,823,550	$14,580,555	$8,757,005	$7,691,257	39.94%
2050	0	17	$18,709	$5,823,550	$774,204	$561	$938,528	$1,781	$479,706	$261,070	$6,729,870	$6,729,870	$14,421,127	$7,691,257	$6,494,974	46.67%
2051	0	17	$13,098	$6,729,870	$768,472	$575	$1,004,225	$1,247	$494,982	$301,400	$7,762,677	$7,762,677	$14,257,651	$6,494,974	$5,150,980	54.45%
2052	0	17	$9,721	$7,762,677	$760,489	$589	$1,074,521	$925	$518,017	$347,418	$8,942,480	$8,942,480	$14,093,460	$5,150,980	$3,654,691	63.45%
2053	0	16	$7,249	$8,942,480	$751,214	$568	$1,149,737	$690	$534,810	$399,685	$10,275,620	$10,275,620	$13,930,311	$3,654,691	$1,316,796	73.76%
2054	0	16	$4,809	$10,275,620	$741,233	$582	$1,230,219	$457	$1,214,970	$472,544	$12,451,995	$12,451,995	$13,768,791	$1,316,796	-	90.44%
2055	0	15	$3,597	$12,451,995	$729,538	$559	$1,316,334	$342	$30,843	$542,193	$13,611,610	$13,611,610	$13,611,610	-	-	100.00%
2056	0	15	$2,690	$13,611,610	$716,820	$573	$2,230	$256	-	$563,460	$13,460,163	$13,460,163	$13,460,163	-	-	100.00%
2057	0	15	$1,466	$13,460,163	$703,498	$587	$1,502	$140	-	$557,285	$13,315,005	$13,315,005	$13,315,005	-	-	100.00%
2058	0	14	-	$13,315,005	$689,441	$562	$562	-	-	$551,390	$13,176,954	$13,176,954	$13,176,954	-	-	100.00%
2059	0	14	-	$13,176,954	$673,233	$576	$576	-	-	$545,863	$13,049,584	$13,049,584	$13,049,584	-	-	100.00%
2060	0	13	-	$13,049,584	$655,966	$548	$548	-	-	$540,813	$12,934,431	$12,934,431	$12,934,431	-	-	100.00%
2061	0	13	-	$12,934,431	$637,619	$562	$562	-	-	$536,305	$12,833,117	$12,833,117	$12,833,117	-	-	100.00%

Section IX. Funding Policy Change Analysis

Funding Policy Options

For plans using the Alternative funding policy, West Virginia Code §8-22-20 requires the actuarial valuation report to provide an evaluation of the plan and to assess advantages of changing to other funding policies. The other funding policies available to this plan are the Optional and Conservation policies. The Optional funding policy is defined in West Virginia Code §8-22-20(e)(1) and is effective for plan years beginning after January 1, 2010. The Conservation funding policy is defined in West Virginia Code §8-22-20(f)(1) and is effective for plan years beginning after April 1, 2011.

If the municipality were to choose to fund using the Optional funding policy in lieu of the Alternative policy, then the following conditions would apply to the plan:

- The required total contribution to the plan, including the premium tax allocation and employee contributions, would equal the normal cost plus a layered amortization of the unfunded accrued liability).
- The pension and relief fund would close to newly-hired police officers or firemen after the date of the change and new hires would join the statewide plan - Municipal Police Officers and Firefighters Retirement System (MPFRS).
  - Employer contributions for MPFRS currently equal 8.5% of pay
  - Employee contributions for MPFRS currently equal 8.5% of pay
  - The West Virginia Consolidated Public Retirement Board can change the employer contribution and employee contribution rate to a percentage of pay between 8.5% and 10.5% as needed to maintain an actuarially sound pension plan.

If the municipality were to choose to fund using the Conservation funding policy in lieu of the Alternative policy, then the following conditions would apply to the plan:

- The plan assets would be segregated into two accounts, an accumulation account and a benefit payment account; the accounts would be funded as follows:
  - Until the plan is 100% funded, 1.5% of employee contributions would be deposited into the accumulation account.
  - An actuarially determined portion of the state premium tax allocation would be deposited into the accumulation account equal to the amount needed to fully fund the pension plan liabilities from the accumulation account 35 years from the date the Conservation policy was effective for the fund.
  - The municipality would contribute to the benefit payment account the current year benefit payments and expenses minus the remaining employee contributions and minus any state premium tax not allocated to the accumulation account.
- The pension and relief fund would close to newly-hired police officers or firemen after the date of the change and new hires would join the MPFRS
  - Employer contributions for MPFRS currently equal 8.5% of pay
  - Employee contributions for MPFRS currently equal 8.5% of pay

- The West Virginia Consolidated Public Retirement Board can change the employer contribution and employee contribution rate to a percentage of pay between 8.5% and 10.5% as needed to maintain an actuarially sound pension plan.

As stated previously, the Alternative funding policy does not adhere to actuarial principles generally considered necessary to be classified as a reasonable funding method. An example of a reasonable funding method is one that develops a contribution as the sum of (1) the cost of the additional benefits earned by the employees for that year (i.e. the normal cost) and (2) a level dollar or level percentage of pay amortization of the unfunded accrued liability. The Optional funding policy achieves this goal, but the Conservation funding policy does not.

To help the municipality understand the impact of switching, we calculated the projected contributions, liabilities and assets over a 40-year period under two different scenarios. The first scenario assumes the municipality switches to either the Optional or Conservation funding policies in the next valuation year. The second scenario assumes the municipality switches to either the Optional or Conservation funding policies in the year that the contribution for that funding policy is projected to be the same or less than the contribution under the Alternative funding policy. The projections are provided on the following pages of this report.

Scenario 1 – Immediate Change

The following tables show the estimated contribution under the three funding policies in the next fiscal year and in 2061 assuming the municipality elects one of the new funding policies for the next fiscal year:

Contribution Comparison for FYE June 30, 2022							
		Local Plan		State Plan		Total	
Funding Policy	**Funded Status**	**Amount**	**% of Pay**	**Amount**	**% of Pay**	**Amount**	**% of Pay**
Alternative	25.2%	$141,155	21.4%	N/A	N/A	$141,155	21.4%
Optional	25.2%	$646,583	109.1%	$5,681	8.5%	$652,264	98.9%
Conservation	25.2%	$262,843	44.3%	$5,681	8.5%	$268,524	40.7%

Contribution Comparison for FYE June 30, 2061							
		Local Plan		State Plan		Total	
Funding Policy	**100% Funded Year**	**Amount**	**% of Pay**	**Amount**	**% of Pay**	**Amount**	**% of Pay**
Alternative	After 2061	$1,975,462	71.6%	N/A	N/A	$1,975,462	71.6%
Optional	2050	$562	N/A	$234,400	8.5%	$234,962	8.5%
Conservation	2056	$562	N/A	$234,400	8.5%	$234,962	8.5%

The projected year-by-year contribution requirements under the Optional and Conservation policies for the current plan are detailed in the projections in Tables 3 – 6 on the following pages. **Please note, as more new hires enter the state plan in the future, the cost for the state plan will increase significantly.**

Scenario 2 – Change When Fiscally Advantageous

The following tables show estimated contributions under the Optional and Conservation funding policies if the municipality switches to these funding policies in the year that the estimated contribution is smaller than the contribution under the Alternative funding policy. The first table shows the contribution in the year of the change in funding policy, while the second table shows the contribution at the end of the projection period (FYE 2061).

Contribution Comparison for Fiscal Year of Change				
		Current Policy	New Policy	Difference
Funding Policy	**Year of Change**	**Total (Local + State) Contribution in Year of Change**	**Total (Local + State) Contribution in Year of Change**	**New Policy Contribution Minus Alternative**
Optional	2057	$1,507,070	$1,486,914	$(20,156)
Conservation	2043	$584,468	$558,308	$(26,160)

Contribution Comparison for FYE June 30, 2061				
		Current Policy	New Policy	Difference
Funding Policy	**Funded Status**	**Total (Local + State) Contribution in FYE 2061**	**Total (Local + State) Contribution in FYE 2061**	**New Policy Contribution Minus Alternative**
Optional	58%	$1,975,462	$877,012	$(1,098,450)
Conservation	36%	$1,975,462	$203,631	$(1,771,831)

The projected year-by-year contribution requirements under the Optional and Conservation policies assume the municipality switches funding policies in the year that the new funding policy contribution is projected to be less than the Alternative policy contribution. If the "Year of Change" is "after 2061" then the new funding policy contribution is not projected to be less than the Alternative funding policy contribution in the 40-year projection period. In this case, the *Difference* column is the amount that the Optional or Conservation funding policy contribution exceeds the Alternative contribution in 2061.

Table 3 – Switch to Optional Funding Policy in 2022

	Number (BOY)		Assets												
Year End June 30	Active	Non-Active	MVA (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	MVA (EOY)	AVA (EOY)	Actuarial Accrued Liability	Unfunded Liability	Projected Unfunded Liability	Funded Ratio
2020	12	20	$2,993,335	$413,535	$410	$123,371	$50,458	$145,654	$80,150	$2,979,023	$3,015,928	$11,969,701	$8,953,773	$9,315,145	25.20%
2021	12	19	$2,979,023	$419,281	$484	$131,921	$51,664	$149,916	$124,794	$3,017,553	$3,042,157	$12,371,172	$9,329,015	$9,171,930	24.59%
2022	11	19	$3,017,553	$445,844	$496	$646,583	$48,773	$145,067	$136,533	$3,548,169	$3,560,471	$12,745,748	$9,185,277	$9,020,759	27.93%
2023	10	20	$3,548,169	$480,006	$508	$639,902	$46,955	$146,215	$158,211	$4,058,938	$4,058,938	$13,092,522	$9,033,584	$8,861,344	31.00%
2024	10	20	$4,058,938	$507,795	$521	$630,441	$45,570	$152,644	$179,241	$4,558,518	$4,558,518	$13,419,862	$8,861,344	$8,680,562	33.97%
2025	9	19	$4,558,518	$538,778	$498	$614,373	$42,770	$156,450	$199,506	$5,032,341	$5,032,341	$13,712,903	$8,680,562	$8,492,097	36.70%
2026	8	20	$5,032,341	$568,140	$510	$592,346	$39,368	$160,350	$218,573	$5,474,328	$5,474,328	$13,966,425	$8,492,097	$8,295,622	39.20%
2027	8	20	$5,474,328	$604,639	$523	$577,826	$37,311	$164,671	$236,332	$5,885,306	$5,885,306	$14,180,928	$8,295,622	$8,090,797	41.50%
2028	7	20	$5,885,306	$621,622	$517	$565,653	$35,762	$169,846	$253,261	$6,287,689	$6,287,689	$14,378,486	$8,090,797	$7,877,267	43.73%
2029	7	20	$6,287,689	$630,912	$530	$552,079	$34,095	$174,750	$269,950	$6,687,121	$6,687,121	$14,564,388	$7,877,267	$7,654,661	45.91%
2030	6	20	$6,687,121	$642,839	$523	$535,958	$32,271	$180,296	$286,414	$7,078,698	$7,078,698	$14,733,359	$7,654,661	$7,422,596	48.05%
2031	6	20	$7,078,698	$652,801	$536	$522,612	$30,704	$184,784	$302,627	$7,466,088	$7,466,088	$14,888,684	$7,422,596	$7,180,668	50.15%
2032	6	20	$7,466,088	$673,985	$549	$502,104	$28,280	$189,384	$318,260	$7,829,582	$7,829,582	$15,010,250	$7,180,668	$6,928,457	52.16%
2033	5	20	$7,829,582	$697,180	$541	$474,956	$25,220	$194,610	$332,696	$8,159,343	$8,159,343	$15,087,800	$6,928,457	$6,665,529	54.08%
2034	4	20	$8,159,343	$698,149	$532	$466,017	$24,536	$200,811	$346,618	$8,498,644	$8,498,644	$15,164,173	$6,665,529	$6,391,426	56.04%
2035	4	20	$8,498,644	$711,490	$545	$452,154	$23,055	$206,622	$360,557	$8,828,997	$8,828,997	$15,220,423	$6,391,426	$6,105,679	58.01%
2036	4	20	$8,828,997	$721,446	$559	$432,250	$21,546	$218,372	$374,184	$9,153,344	$9,153,344	$15,259,023	$6,105,679	$5,758,397	59.99%
2037	3	20	$9,153,344	$722,630	$549	$469,832	$20,818	$226,176	$388,884	$9,535,875	$9,535,875	$15,294,272	$5,758,397	$5,397,679	62.35%
2038	3	20	$9,535,875	$732,055	$563	$452,480	$18,694	$231,796	$404,651	$9,910,878	$9,910,878	$15,308,557	$5,397,679	$5,022,905	64.74%
2039	3	20	$9,910,878	$744,339	$577	$425,843	$15,974	$243,218	$419,953	$10,270,950	$10,270,950	$15,293,855	$5,022,905	$4,633,425	67.16%
2040	2	20	$10,270,950	$747,441	$566	$411,178	$14,498	$249,257	$434,979	$10,632,855	$10,632,855	$15,266,280	$4,633,425	$4,227,393	69.65%
2041	2	19	$10,632,855	$748,017	$554	$399,903	$13,458	$255,448	$450,219	$11,003,312	$11,003,312	$15,230,705	$4,227,393	$3,804,105	72.24%
2042	2	19	$11,003,312	$746,958	$568	$389,448	$12,643	$261,794	$465,882	$11,385,553	$11,385,553	$15,189,658	$3,804,105	$3,362,827	74.96%
2043	2	19	$11,385,553	$743,572	$582	$373,282	$12,098	$275,702	$482,139	$11,784,620	$11,784,620	$15,147,447	$3,362,827	$2,902,796	77.80%
2044	2	18	$11,784,620	$746,539	$568	$360,899	$10,929	$282,552	$498,896	$12,190,789	$12,190,789	$15,093,585	$2,902,796	$2,423,213	80.77%
2045	1	18	$12,190,789	$753,502	$553	$340,164	$9,032	$292,437	$515,744	$12,594,111	$12,594,111	$15,017,324	$2,423,213	$1,923,248	83.86%
2046	1	18	$12,594,111	$748,874	$567	$318,904	$8,554	$311,969	$532,936	$13,017,033	$13,017,033	$14,940,281	$1,923,248	$1,402,033	87.13%
2047	1	18	$13,017,033	$750,353	$581	$302,432	$7,563	$324,372	$550,773	$13,451,239	$13,451,239	$14,853,272	$1,402,033	$858,668	90.56%
2048	1	18	$13,451,239	$767,379	$596	$271,328	$4,974	$343,665	$568,565	$13,871,796	$13,871,796	$14,730,464	$858,668	$292,209	94.17%
2049	0	18	$13,871,796	$776,306	$579	$251,007	$2,705	$353,735	$585,988	$14,288,346	$14,288,346	$14,580,555	$292,209	-	98.00%
2050	0	17	$14,288,346	$774,204	$561	$9,929	$1,781	$298,353	$597,483	$14,421,127	$14,421,127	$14,421,127	-	-	100.00%
2051	0	17	$14,421,127	$768,472	$575	$7,416	$1,247	-	$596,908	$14,257,651	$14,257,651	$14,257,651	-	-	100.00%
2052	0	17	$14,257,651	$760,489	$589	$5,873	$925	-	$590,089	$14,093,460	$14,093,460	$14,093,460	-	-	100.00%
2053	0	16	$14,093,460	$751,214	$568	$4,668	$690	-	$583,275	$13,930,311	$13,930,311	$13,930,311	-	-	100.00%
2054	0	16	$13,930,311	$741,233	$582	$3,320	$457	-	$576,518	$13,768,791	$13,768,791	$13,768,791	-	-	100.00%
2055	0	15	$13,768,791	$729,538	$559	$2,689	$342	-	$569,885	$13,611,610	$13,611,610	$13,611,610	-	-	100.00%
2056	0	15	$13,611,610	$716,820	$573	$2,230	$256	-	$563,460	$13,460,163	$13,460,163	$13,460,163	-	-	100.00%
2057	0	15	$13,460,163	$703,498	$587	$1,501	$140	-	$557,286	$13,315,005	$13,315,005	$13,315,005	-	-	100.00%
2058	0	14	$13,315,005	$689,441	$562	$562	-	-	$551,390	$13,176,954	$13,176,954	$13,176,954	-	-	100.00%
2059	0	14	$13,176,954	$673,233	$576	$576	-	-	$545,863	$13,049,584	$13,049,584	$13,049,584	-	-	100.00%
2060	0	13	$13,049,584	$655,966	$548	$547	-	-	$540,814	$12,934,431	$12,934,431	$12,934,431	-	-	100.00%
2061	0	13	$12,934,431	$637,619	$562	$562	-	-	$536,305	$12,833,117	$12,833,117	$12,833,117	-	-	100.00%

Table 3 – Switch to Optional Funding Policy in 2022 (Cont.)

				Employer Contributions										
Year End June 30	Closed Group Payroll	New Entrant Payroll	Total Payroll	Employee Contrib.	Gross Normal Cost	Interest on Net Normal Cost	Net Employer Normal Cost	Amortization of UAAL	Mid-Year Interest on Amortization	Premium Tax Allocation	Net Employer Amortization	Expenses	Optional Employer Contrib.	Statewide Employer Contrib.	Total Employer Contrib.
2022	$592,768	$66,833	$659,601	$47,768	$291,627	$5,128	$248,987	$531,001	$11,166	$145,067	$397,100	$496	$646,583	$5,681	$652,264
2023	$570,852	$122,887	$693,739	$45,988	$283,146	$4,987	$242,145	$532,271	$11,193	$146,215	$397,249	$508	$639,902	$10,445	$650,347
2024	$554,472	$174,614	$729,086	$44,631	$277,584	$4,899	$237,852	$533,493	$11,219	$152,644	$392,068	$521	$630,441	$14,842	$645,283
2025	$517,211	$219,882	$737,093	$41,889	$261,683	$4,622	$224,416	$534,666	$11,243	$156,450	$389,459	$498	$614,373	$18,690	$633,063
2026	$471,452	$296,462	$767,914	$38,557	$240,586	$4,248	$206,277	$534,666	$11,243	$160,350	$385,559	$510	$592,346	$25,199	$617,545
2027	$444,749	$361,102	$805,851	$36,543	$228,570	$4,038	$196,065	$534,666	$11,243	$164,671	$381,238	$523	$577,826	$30,694	$608,520
2028	$425,143	$421,001	$846,144	$35,025	$220,204	$3,894	$189,073	$534,666	$11,243	$169,846	$376,063	$517	$565,653	$35,785	$601,438
2029	$403,416	$474,835	$878,251	$33,393	$210,068	$3,715	$180,390	$534,666	$11,243	$174,750	$371,159	$530	$552,079	$40,361	$592,440
2030	$379,141	$536,582	$915,723	$31,606	$197,930	$3,498	$169,822	$534,666	$11,243	$180,296	$365,613	$523	$535,958	$45,609	$581,567
2031	$358,442	$596,537	$954,979	$30,072	$187,708	$3,315	$160,951	$534,666	$11,243	$184,784	$361,125	$536	$522,612	$50,706	$573,318
2032	$325,262	$648,922	$974,184	$27,698	$169,741	$2,987	$145,030	$534,666	$11,243	$189,384	$356,525	$549	$502,104	$55,158	$557,262
2033	$282,799	$722,152	$1,004,951	$24,701	$145,281	$2,536	$123,116	$534,666	$11,243	$194,610	$351,299	$541	$474,956	$61,383	$536,339
2034	$273,854	$802,186	$1,076,040	$24,031	$141,939	$2,479	$120,387	$534,666	$11,243	$200,811	$345,098	$532	$466,017	$68,186	$534,203
2035	$253,361	$856,336	$1,109,697	$22,580	$132,589	$2,313	$112,322	$534,666	$11,243	$206,622	$339,287	$545	$452,154	$72,789	$524,943
2036	$232,621	$931,365	$1,163,986	$21,102	$123,117	$2,145	$104,160	$534,660	$11,243	$218,372	$327,531	$559	$432,250	$79,166	$511,416
2037	$222,994	$997,729	$1,220,723	$20,389	$119,488	$2,084	$101,183	$582,036	$12,240	$226,176	$368,100	$549	$469,832	$84,807	$554,639
2038	$199,282	$1,049,348	$1,248,630	$18,309	$107,173	$1,869	$90,733	$580,767	$12,213	$231,796	$361,184	$563	$452,480	$89,195	$541,675
2039	$170,068	$1,130,657	$1,300,725	$15,645	$90,816	$1,581	$76,752	$579,545	$12,187	$243,218	$348,514	$577	$425,843	$96,106	$521,949
2040	$154,031	$1,206,911	$1,360,942	$14,199	$82,106	$1,428	$69,335	$578,371	$12,163	$249,257	$341,277	$566	$411,178	$102,587	$513,765
2041	$142,739	$1,281,636	$1,424,375	$13,181	$76,120	$1,324	$64,263	$578,371	$12,163	$255,448	$335,086	$554	$399,903	$108,939	$508,842
2042	$133,655	$1,347,028	$1,480,683	$12,383	$71,284	$1,239	$60,140	$578,371	$12,163	$261,794	$328,740	$568	$389,448	$114,497	$503,945
2043	$127,766	$1,415,666	$1,543,432	$11,849	$68,525	$1,192	$57,868	$578,371	$12,163	$275,702	$314,832	$582	$373,282	$120,332	$493,614
2044	$115,271	$1,461,395	$1,576,666	$10,704	$61,975	$1,078	$52,349	$578,371	$12,163	$282,552	$307,982	$568	$360,899	$124,219	$485,118
2045	$95,036	$1,534,197	$1,629,233	$8,846	$49,505	$855	$41,514	$578,371	$12,163	$292,437	$298,097	$553	$340,164	$130,407	$470,571
2046	$90,020	$1,608,748	$1,698,768	$8,378	$47,331	$819	$39,772	$578,371	$12,163	$311,969	$278,565	$567	$318,904	$136,744	$455,648
2047	$79,514	$1,667,216	$1,746,730	$7,407	$42,361	$735	$35,689	$578,371	$12,163	$324,372	$266,162	$581	$302,432	$141,713	$444,145
2048	$52,177	$1,708,674	$1,760,851	$4,872	$28,244	$491	$23,863	$578,371	$12,163	$343,665	$246,869	$596	$271,328	$145,237	$416,565
2049	$28,409	$1,795,233	$1,823,642	$2,649	$15,997	$281	$13,629	$578,371	$12,163	$353,735	$236,799	$579	$251,007	$152,595	$403,602
2050	$18,709	$1,867,293	$1,886,002	$1,744	$10,919	$193	$9,368	$292,219	$6,145	$298,353	$11	$561	$9,929	$158,720	$168,649
2051	$13,098	$1,941,336	$1,954,434	$1,221	$7,922	$141	$6,842	-	-	-	-	$575	$7,416	$165,014	$172,430
2052	$9,721	$2,013,248	$2,022,969	$906	$6,082	$109	$5,285	-	-	-	-	$589	$5,873	$171,126	$176,999
2053	$7,249	$2,087,244	$2,094,493	$676	$4,691	$84	$4,099	-	-	-	-	$568	$4,668	$177,416	$182,084
2054	$4,809	$2,158,322	$2,163,131	$448	$3,129	$56	$2,737	-	-	-	-	$582	$3,320	$183,457	$186,777
2055	$3,597	$2,230,979	$2,234,576	$335	$2,422	$44	$2,131	-	-	-	-	$559	$2,689	$189,633	$192,322
2056	$2,690	$2,312,030	$2,314,720	$251	$1,874	$34	$1,657	-	-	-	-	$573	$2,230	$196,523	$198,753
2057	$1,466	$2,399,182	$2,400,648	$137	$1,033	$19	$915	-	-	-	-	$587	$1,501	$203,930	$205,431
2058	-	$2,480,310	$2,480,310	-	-	-	-	-	-	-	-	$562	$562	$210,826	$211,388
2059	-	$2,576,450	$2,576,450	-	-	-	-	-	-	-	-	$576	$576	$218,998	$219,574
2060	-	$2,669,829	$2,669,829	-	-	-	-	-	-	-	-	$548	$547	$226,935	$227,482
2061	-	$2,757,651	$2,757,651	-	-	-	-	-	-	-	-	$562	$562	$234,400	$234,962

Table 4 – Switch to Conservation Funding Policy in 2022

	Number (BOY)			Assets										
Year End June 30	Active	Non-Active	Total Payroll	Assets[3] (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	Assets[3] (EOY)	Actuarial Accrued Liability	Unfunded Liability	Funded Ratio[3]
2020	12	20	$628,833	$2,993,335	$413,535	$410	$123,371	$50,458	$145,654	$80,150	$2,979,023	$11,969,701	$8,990,678	24.89%
2021	12	19	$630,043	$2,979,023	$419,281	$484	$131,921	$51,664	$149,916	$124,794	$3,017,553	$12,371,172	$9,353,619	24.39%
2022	11	19	$592,768	$3,017,553	$445,844	$496	$262,843	$48,773	$145,067	$128,464	$3,156,360	$12,745,748	$9,589,388	24.76%
2023	10	20	$570,852	$3,156,360	$480,006	$508	$297,369	$46,955	$146,215	$134,356	$3,300,741	$13,092,522	$9,791,781	25.21%
2024	10	20	$554,472	$3,300,741	$507,795	$521	$319,945	$45,570	$152,644	$140,488	$3,451,072	$13,419,862	$9,968,790	25.72%
2025	9	19	$517,211	$3,451,072	$538,778	$498	$349,378	$42,770	$156,450	$146,867	$3,607,261	$13,712,903	$10,105,642	26.31%
2026	8	20	$471,452	$3,607,261	$568,140	$510	$377,607	$39,368	$160,350	$153,491	$3,769,427	$13,966,425	$10,196,998	26.99%
2027	8	20	$444,749	$3,769,427	$604,639	$523	$411,498	$37,311	$164,671	$160,376	$3,938,121	$14,180,928	$10,242,807	27.77%
2028	7	20	$425,143	$3,938,121	$621,622	$517	$424,606	$35,762	$169,846	$167,540	$4,113,736	$14,378,486	$10,264,750	28.61%
2029	7	20	$403,416	$4,113,736	$630,912	$530	$430,395	$34,095	$174,750	$174,998	$4,296,532	$14,564,388	$10,267,856	29.50%
2030	6	20	$379,141	$4,296,532	$642,839	$523	$438,285	$32,271	$180,296	$182,760	$4,486,782	$14,733,359	$10,246,577	30.45%
2031	6	20	$358,442	$4,486,782	$652,801	$536	$445,074	$30,704	$184,784	$190,840	$4,684,847	$14,888,684	$10,203,837	31.47%
2032	6	20	$325,262	$4,684,847	$673,985	$549	$463,643	$28,280	$189,384	$199,248	$4,890,868	$15,010,250	$10,119,382	32.58%
2033	5	20	$282,799	$4,890,868	$697,180	$541	$484,079	$25,220	$194,610	$207,992	$5,105,048	$15,087,800	$9,982,752	33.84%
2034	4	20	$273,854	$5,105,048	$698,149	$532	$479,450	$24,536	$200,811	$217,093	$5,328,257	$15,164,173	$9,835,916	35.14%
2035	4	20	$253,361	$5,328,257	$711,490	$545	$488,224	$23,055	$206,622	$226,574	$5,560,697	$15,220,423	$9,659,726	36.53%
2036	4	20	$232,621	$5,560,697	$721,446	$559	$487,760	$21,546	$218,372	$236,449	$5,802,819	$15,259,023	$9,456,204	38.03%
2037	3	20	$222,994	$5,802,819	$722,630	$549	$481,792	$20,818	$226,176	$246,738	$6,055,164	$15,294,272	$9,239,108	39.59%
2038	3	20	$199,282	$6,055,164	$732,055	$563	$487,435	$18,694	$231,796	$257,456	$6,317,927	$15,308,557	$8,990,630	41.27%
2039	3	20	$170,068	$6,317,927	$744,339	$577	$490,707	$15,974	$243,218	$268,617	$6,591,527	$15,293,855	$8,702,328	43.10%
2040	2	20	$154,031	$6,591,527	$747,441	$566	$489,055	$14,498	$249,257	$280,241	$6,876,571	$15,266,280	$8,389,709	45.04%
2041	2	19	$142,739	$6,876,571	$748,017	$554	$484,360	$13,458	$255,448	$292,353	$7,173,619	$15,230,705	$8,057,086	47.10%
2042	2	19	$133,655	$7,173,619	$746,958	$568	$477,712	$12,643	$261,794	$304,976	$7,483,218	$15,189,658	$7,706,440	49.27%
2043	2	19	$127,766	$7,483,218	$743,572	$582	$461,027	$12,098	$275,702	$318,135	$7,806,026	$15,147,447	$7,341,421	51.53%
2044	2	18	$115,271	$7,806,026	$746,539	$568	$458,181	$10,929	$282,552	$331,852	$8,142,433	$15,093,585	$6,951,152	53.95%
2045	1	18	$95,036	$8,142,433	$753,502	$553	$456,936	$9,032	$292,437	$346,145	$8,492,928	$15,017,324	$6,524,396	56.55%
2046	1	18	$90,020	$8,492,928	$748,874	$567	$433,388	$8,554	$311,969	$361,043	$8,858,441	$14,940,281	$6,081,840	59.29%
2047	1	18	$79,514	$8,858,441	$750,353	$581	$423,436	$7,563	$324,372	$376,577	$9,239,455	$14,853,272	$5,613,817	62.20%
2048	1	18	$52,177	$9,239,455	$767,379	$596	$423,556	$4,974	$343,665	$392,766	$9,636,441	$14,730,464	$5,094,023	65.42%
2049	0	18	$28,409	$9,636,441	$776,306	$579	$424,408	$2,705	$353,735	$409,632	$10,050,036	$14,580,555	$4,530,519	68.93%
2050	0	17	$18,709	$10,050,036	$774,204	$561	$298,356	$1,781	$479,706	$427,233	$10,482,347	$14,421,127	$3,938,780	72.69%
2051	0	17	$13,098	$10,482,347	$768,472	$575	$277,964	$1,247	$494,982	$445,608	$10,933,101	$14,257,651	$3,324,550	76.68%
2052	0	17	$9,721	$10,933,101	$760,489	$589	$247,462	$925	$518,017	$464,769	$11,403,196	$14,093,460	$2,690,264	80.91%
2053	0	16	$7,249	$11,403,196	$751,214	$568	$221,739	$690	$534,810	$484,751	$11,893,404	$13,930,311	$2,036,907	85.38%
2054	0	16	$4,809	$11,893,404	$741,233	$582	(461,390)	$457	$1,214,970	$505,727	$12,411,353	$13,768,791	$1,357,438	90.14%
2055	0	15	$3,597	$12,411,353	$729,538	$559	(642,761)	$342	$1,386,434	$527,775	$12,953,046	$13,611,610	$658,564	95.16%
2056	0	15	$2,690	$12,953,046	$716,820	$573	$573	$256	$674,070	$549,611	$13,460,163	$13,460,163	-	100.00%
2057	0	15	$1,466	$13,460,163	$703,498	$587	$1,502	$140	-	$557,285	$13,315,005	$13,315,005	-	100.00%
2058	0	14	-	$13,315,005	$689,441	$562	$562	-	-	$551,390	$13,176,954	$13,176,954	-	100.00%
2059	0	14	-	$13,176,954	$673,233	$576	$576	-	-	$545,863	$13,049,584	$13,049,584	-	100.00%
2060	0	13	-	$13,049,584	$655,966	$548	$548	-	-	$540,813	$12,934,431	$12,934,431	-	100.00%
2061	0	13	-	$12,934,431	$637,619	$562	$562	-	-	$536,305	$12,833,117	$12,833,117	-	100.00%

[3] Market value of assets used.

Table 4 – Switch to Conservation Funding Policy in 2022 (Cont.)

	Benefit Payment Account[4]							Accumulation Account							
Year End June 30	Assets[5] (BOY)	Net Benefit Pmts and Expenses	Employer Contrib.	Employee Contrib.	99.00% of Premium Tax Allocation	Investment Income	Transfer (To)/From Accumulation Account	Assets[5] (BOY)	Net Benefit Pmts and Expenses	Employer Contrib.	1.50% of Pay Employee Contrib.	1.00% of Premium Tax Allocation	Investment Income	Statewide Employer Contrib.	Total Employer Contrib.
2022	-	$446,340	$262,843	$39,881	$143,616	-	-	$3,017,553	-	-	$8,892	$1,451	$128,464	$5,681	$268,524
2023	-	$480,514	$297,369	$38,392	$144,753	-	-	$3,156,360	-	-	$8,563	$1,462	$134,356	$10,445	$307,814
2024	-	$508,316	$319,945	$37,253	$151,118	-	-	$3,300,741	-	-	$8,317	$1,526	$140,488	$14,842	$334,787
2025	-	$539,276	$349,378	$35,012	$154,886	-	-	$3,451,072	-	-	$7,758	$1,564	$146,867	$18,690	$368,068
2026	-	$568,650	$377,607	$32,296	$158,747	-	-	$3,607,261	-	-	$7,072	$1,603	$153,491	$25,199	$402,806
2027	-	$605,162	$411,498	$30,640	$163,024	-	-	$3,769,427	-	-	$6,671	$1,647	$160,376	$30,694	$442,192
2028	-	$622,139	$424,606	$29,385	$168,148	-	-	$3,938,121	-	-	$6,377	$1,698	$167,540	$35,785	$460,391
2029	-	$631,442	$430,395	$28,044	$173,003	-	-	$4,113,736	-	-	$6,051	$1,747	$174,998	$40,361	$470,756
2030	-	$643,362	$438,285	$26,584	$178,493	-	-	$4,296,532	-	-	$5,687	$1,803	$182,760	$45,609	$483,894
2031	-	$653,337	$445,074	$25,327	$182,936	-	-	$4,486,782	-	-	$5,377	$1,848	$190,840	$50,706	$495,780
2032	-	$674,534	$463,643	$23,401	$187,490	-	-	$4,684,847	-	-	$4,879	$1,894	$199,248	$55,158	$518,801
2033	-	$697,721	$484,079	$20,978	$192,664	-	-	$4,890,868	-	-	$4,242	$1,946	$207,992	$61,383	$545,462
2034	-	$698,681	$479,450	$20,428	$198,803	-	-	$5,105,048	-	-	$4,108	$2,008	$217,093	$68,186	$547,636
2035	-	$712,035	$488,224	$19,255	$204,556	-	-	$5,328,257	-	-	$3,800	$2,066	$226,574	$72,789	$561,013
2036	-	$722,005	$487,760	$18,057	$216,188	-	-	$5,560,697	-	-	$3,489	$2,184	$236,449	$79,166	$566,926
2037	-	$723,179	$481,792	$17,473	$223,914	-	-	$5,802,819	-	-	$3,345	$2,262	$246,738	$84,807	$566,599
2038	-	$732,618	$487,435	$15,705	$229,478	-	-	$6,055,164	-	-	$2,989	$2,318	$257,456	$89,195	$576,630
2039	-	$744,916	$490,707	$13,423	$240,786	-	-	$6,317,927	-	-	$2,551	$2,432	$268,617	$96,106	$586,813
2040	-	$748,007	$489,055	$12,188	$246,764	-	-	$6,591,527	-	-	$2,310	$2,493	$280,241	$102,587	$591,642
2041	-	$748,571	$484,360	$11,317	$252,894	-	-	$6,876,571	-	-	$2,141	$2,554	$292,353	$108,939	$593,299
2042	-	$747,526	$477,712	$10,638	$259,176	-	-	$7,173,619	-	-	$2,005	$2,618	$304,976	$114,497	$592,209
2043	-	$744,154	$461,027	$10,182	$272,945	-	-	$7,483,218	-	-	$1,916	$2,757	$318,135	$120,332	$581,359
2044	-	$747,107	$458,181	$9,200	$279,726	-	-	$7,806,026	-	-	$1,729	$2,826	$331,852	$124,219	$582,400
2045	-	$754,055	$456,936	$7,606	$289,513	-	-	$8,142,433	-	-	$1,426	$2,924	$346,145	$130,407	$587,343
2046	-	$749,441	$433,388	$7,204	$308,849	-	-	$8,492,928	-	-	$1,350	$3,120	$361,043	$136,744	$570,132
2047	-	$750,934	$423,436	$6,370	$321,128	-	-	$8,858,441	-	-	$1,193	$3,244	$376,577	$141,713	$565,149
2048	-	$767,975	$423,556	$4,191	$340,228	-	-	$9,239,455	-	-	$783	$3,437	$392,766	$145,237	$568,793
2049	-	$776,885	$424,408	$2,279	$350,198	-	-	$9,636,441	-	-	$426	$3,537	$409,632	$152,595	$577,003
2050	-	$774,765	$298,356	$1,500	$474,909	-	-	$10,050,036	-	-	$281	$4,797	$427,233	$158,720	$457,076
2051	-	$769,047	$277,964	$1,051	$490,032	-	-	$10,482,347	-	-	$196	$4,950	$445,608	$165,014	$442,978
2052	-	$761,078	$247,462	$779	$512,837	-	-	$10,933,101	-	-	$146	$5,180	$464,769	$171,126	$418,588
2053	-	$751,782	$221,739	$581	$529,462	-	-	$11,403,196	-	-	$109	$5,348	$484,751	$177,416	$399,155
2054	-	$741,815	(461,390)	$385	$1,202,820	-	-	$11,893,404	-	-	$72	$12,150	$505,727	$183,457	(277,933)
2055	-	$730,097	(642,761)	$288	$1,372,570	-	-	$12,411,353	-	-	$54	$13,864	$527,775	$189,633	(453,128)
2056	-	$717,393	$573	$216	$667,329	-	$49,275	$12,953,046	-	-	$40	$6,741	$549,611	$196,523	$197,096
2057	-	-	-	-	-	-	-	$13,460,163	$704,085	$1,502	$140	-	$557,285	$203,930	$205,432
2058	-	-	-	-	-	-	-	$13,315,005	$690,003	$562	-	-	$551,390	$210,826	$211,388
2059	-	-	-	-	-	-	-	$13,176,954	$673,809	$576	-	-	$545,863	$218,998	$219,574
2060	-	-	-	-	-	-	-	$13,049,584	$656,514	$548	-	-	$540,813	$226,935	$227,483
2061	-	-	-	-	-	-	-	$12,934,431	$638,181	$562	-	-	$536,305	$234,400	$234,962

[4] Employer contributions paid from the City's General Fund are used to finance benefits not covered by the applicable employee contributions or premium tax allocation.
[5] Market value of assets used.

Table 5 – Switch to Optional Funding Policy in 2057

	Number (BOY)		Assets											
Year End June 30	Active	Non-Active	MVA (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	MVA (EOY)	AVA (EOY)	Actuarial Accrued Liability	Unfunded Liability	Projected Unfunded Liability	Funded Ratio
2020	12	20	$2,993,335	$413,535	$410	$123,371	$50,458	$145,654	$80,150	$2,979,023	$3,015,928	$11,969,701	$8,953,773	$9,315,145	24.89%
2021	12	19	$2,979,023	$419,281	$484	$131,921	$51,664	$149,916	$124,794	$3,017,553	$3,042,157	$12,371,172	$9,329,015	$9,715,359	24.39%
2022	12	19	$3,017,553	$446,117	$496	$141,155	$54,859	$145,067	$126,027	$3,038,048	$3,050,350	$12,779,056	$9,728,706	$10,136,576	23.77%
2023	12	20	$3,038,048	$480,891	$525	$151,036	$58,114	$146,215	$126,466	$3,038,463	$3,038,463	$13,187,864	$10,149,401	$10,574,087	23.04%
2024	12	20	$3,038,463	$509,636	$538	$161,609	$61,388	$152,644	$126,306	$3,030,236	$3,030,236	$13,604,323	$10,574,087	$11,005,951	22.27%
2025	12	19	$3,030,236	$543,500	$534	$172,922	$62,723	$156,450	$125,590	$3,003,887	$3,003,887	$14,009,838	$11,005,951	$11,454,412	21.44%
2026	12	20	$3,003,887	$577,006	$565	$185,027	$66,520	$160,350	$124,181	$2,962,394	$2,962,394	$14,416,806	$11,454,412	$11,921,360	20.55%
2027	12	20	$2,962,394	$616,854	$579	$197,979	$70,491	$164,671	$122,026	$2,900,128	$2,900,128	$14,821,488	$11,921,360	$12,406,840	19.57%
2028	12	20	$2,900,128	$637,315	$593	$211,838	$74,504	$169,846	$119,434	$2,837,842	$2,837,842	$15,244,682	$12,406,840	$12,906,459	18.62%
2029	12	20	$2,837,842	$651,056	$608	$226,667	$77,873	$174,750	$116,983	$2,782,451	$2,782,451	$15,688,910	$12,906,459	$13,420,794	17.74%
2030	12	20	$2,782,451	$668,832	$623	$242,534	$81,896	$180,296	$114,790	$2,732,512	$2,732,512	$16,153,306	$13,420,794	$13,951,532	16.92%
2031	12	20	$2,732,512	$684,595	$639	$259,511	$86,010	$184,784	$112,874	$2,690,457	$2,690,457	$16,641,989	$13,951,532	$14,488,769	16.17%
2032	12	20	$2,690,457	$716,924	$655	$277,677	$88,735	$189,384	$110,942	$2,639,616	$2,639,616	$17,128,385	$14,488,769	$15,035,129	15.41%
2033	12	21	$2,639,616	$754,371	$692	$297,114	$92,997	$194,610	$108,602	$2,577,876	$2,577,876	$17,613,005	$15,035,129	$15,608,923	14.64%
2034	12	21	$2,577,876	$761,076	$709	$317,912	$99,923	$200,811	$106,550	$2,541,287	$2,541,287	$18,150,210	$15,608,923	$16,194,707	14.00%
2035	12	20	$2,541,287	$786,350	$705	$340,166	$103,794	$206,622	$105,135	$2,509,949	$2,509,949	$18,704,656	$16,194,707	$16,794,674	13.42%
2036	12	21	$2,509,949	$808,493	$745	$363,978	$109,668	$218,372	$104,208	$2,496,937	$2,496,937	$19,291,611	$16,794,674	$17,412,078	12.94%
2037	12	20	$2,496,937	$817,839	$740	$389,456	$115,350	$226,176	$104,278	$2,513,618	$2,513,618	$19,925,696	$17,412,078	$18,034,738	12.61%
2038	12	20	$2,513,618	$842,815	$759	$416,718	$118,209	$231,796	$105,213	$2,541,980	$2,541,980	$20,576,718	$18,034,738	$18,665,246	12.35%
2039	12	20	$2,541,980	$873,633	$778	$445,888	$123,249	$243,218	$106,729	$2,586,653	$2,586,653	$21,251,899	$18,665,246	$19,311,123	12.17%
2040	12	20	$2,586,653	$889,904	$797	$477,100	$129,048	$249,257	$109,191	$2,660,548	$2,660,548	$21,971,671	$19,311,123	$19,972,203	12.11%
2041	12	20	$2,660,548	$901,902	$817	$510,497	$135,132	$255,448	$113,039	$2,771,945	$2,771,945	$22,744,148	$19,972,203	$20,643,120	12.19%
2042	12	20	$2,771,945	$915,965	$837	$546,232	$140,582	$261,794	$118,477	$2,922,228	$2,922,228	$23,565,348	$20,643,120	$21,316,313	12.40%
2043	12	20	$2,922,228	$932,217	$858	$584,468	$146,571	$275,702	$125,744	$3,121,638	$3,121,638	$24,437,951	$21,316,313	$21,983,059	12.77%
2044	12	20	$3,121,638	$972,038	$879	$625,381	$149,766	$282,552	$134,452	$3,340,872	$3,340,872	$25,323,931	$21,983,059	$22,645,802	13.19%
2045	12	20	$3,340,872	$1,017,347	$901	$669,158	$154,817	$292,437	$144,051	$3,583,087	$3,583,087	$26,228,889	$22,645,802	$23,298,854	13.66%
2046	12	20	$3,583,087	$1,046,038	$924	$715,999	$161,434	$311,969	$155,277	$3,880,804	$3,880,804	$27,179,658	$23,298,854	$23,937,206	14.28%
2047	12	20	$3,880,804	$1,096,911	$947	$766,119	$166,006	$324,372	$168,270	$4,207,713	$4,207,713	$28,144,919	$23,937,206	$24,538,331	14.95%
2048	12	21	$4,207,713	$1,191,096	$1,001	$819,747	$167,371	$343,665	$181,744	$4,528,143	$4,528,143	$29,066,474	$24,538,331	$25,128,435	15.58%
2049	12	21	$4,528,143	$1,264,731	$1,026	$877,129	$173,309	$353,735	$195,357	$4,861,916	$4,861,916	$29,990,351	$25,128,435	$25,581,644	16.21%
2050	12	21	$4,861,916	$1,320,076	$1,052	$938,528	$179,240	$479,706	$212,443	$5,350,705	$5,350,705	$30,932,349	$25,581,644	$26,002,954	17.30%
2051	12	21	$5,350,705	$1,373,200	$1,078	$1,004,225	$185,736	$494,982	$233,938	$5,895,308	$5,895,308	$31,898,262	$26,002,954	$26,377,751	18.48%
2052	12	21	$5,895,308	$1,423,037	$1,105	$1,074,521	$192,246	$518,017	$258,134	$6,514,084	$6,514,084	$32,891,835	$26,377,751	$26,706,460	19.80%
2053	12	22	$6,514,084	$1,471,397	$1,167	$1,149,737	$199,045	$534,810	$285,492	$7,210,604	$7,210,604	$33,917,064	$26,706,460	$26,303,124	21.26%
2054	12	22	$7,210,604	$1,525,657	$1,196	$1,230,219	$205,571	$1,214,970	$330,085	$8,664,596	$8,664,596	$34,967,720	$26,303,124	$25,651,293	24.78%
2055	12	22	$8,664,596	$1,583,314	$1,226	$1,316,334	$212,355	$1,386,434	$396,226	$10,391,405	$10,391,405	$36,042,698	$25,651,293	$24,877,110	28.83%
2056	12	22	$10,391,405	$1,636,079	$1,257	$1,408,477	$219,971	$1,421,965	$471,350	$12,275,832	$12,275,832	$37,152,942	$24,877,110	$23,657,624	33.04%
2057	11	22	$12,275,832	$1,636,079	$1,251	$1,467,970	$207,660	$1,714,503	$558,582	$14,587,217	$14,587,217	$38,244,841	$23,657,624	$22,497,916	38.14%
2058	10	23	$14,587,217	$1,687,920	$1,282	$1,203,799	$199,922	$1,843,428	$652,719	$16,797,883	$16,797,883	$39,295,799	$22,497,916	$21,288,922	42.75%
2059	10	23	$16,797,883	$1,744,894	$1,314	$935,152	$194,022	$2,095,901	$745,009	$19,021,759	$19,021,759	$40,310,681	$21,288,922	$19,631,350	47.19%
2060	9	22	$19,021,759	$1,793,767	$1,265	$859,166	$182,102	$2,509,577	$845,348	$21,622,920	$21,622,920	$41,254,270	$19,631,350	$17,837,719	52.41%
2061	8	23	$21,622,920	$1,845,701	$1,297	$789,838	$167,616	$2,573,838	$954,393	$24,261,607	$24,261,607	$42,099,326	$17,837,719		57.63%

Table 5 – Switch to Optional Funding Policy in 2057 (Cont.)

				Employer Contributions									Contribution Comparison				
Year End June 30	Closed Group Payroll	New Entrant Payroll	Total Payroll	Employee Contrib.	Gross Normal Cost	Interest on Net Normal Cost	Net Employer Normal Cost	Amortization of UAAL	Mid-Year Interest on Amortization	Premium Tax Allocation	Net Employer Amortization	Expenses	Opt. Employer Contrib.	Statewide Employer Contrib.	Total Contrib. if Switch	Alt. Employer Contrib.	Final Employer Contrib.[6]
2022	$659,601	-	$659,601	$54,859	$323,844	$5,680	$275,795	$531,001	$11,166	$145,067	$397,100	$496	$673,391	-	$673,391	$141,155	$141,155
2023	$693,739	-	$693,739	$58,114	$342,160	$5,998	$291,241	$581,452	$12,227	$146,215	$447,464	$525	$739,230	-	$739,230	$151,036	$151,036
2024	$729,086	-	$729,086	$61,388	$360,986	$6,327	$307,189	$619,319	$13,024	$152,644	$479,699	$538	$787,426	-	$787,426	$161,609	$161,609
2025	$737,093	-	$737,093	$62,723	$366,677	$6,419	$311,665	$660,323	$13,886	$156,450	$517,759	$534	$829,958	-	$829,958	$172,922	$172,922
2026	$767,914	-	$767,914	$66,520	$384,355	$6,713	$325,918	$703,102	$14,785	$160,350	$557,537	$565	$884,020	-	$884,020	$185,027	$185,027
2027	$805,851	-	$805,851	$70,491	$404,598	$7,056	$342,615	$749,731	$15,766	$164,671	$600,826	$579	$944,020	-	$944,020	$197,979	$197,979
2028	$846,144	-	$846,144	$74,504	$425,897	$7,422	$360,349	$800,806	$16,840	$169,846	$647,800	$593	$1,008,742	-	$1,008,742	$211,838	$211,838
2029	$878,251	-	$878,251	$77,873	$442,279	$7,697	$373,707	$856,901	$18,020	$174,750	$700,171	$608	$1,074,486	-	$1,074,486	$226,667	$226,667
2030	$915,723	-	$915,723	$81,896	$460,925	$8,006	$388,722	$918,385	$19,313	$180,296	$757,402	$623	$1,146,747	-	$1,146,747	$242,534	$242,534
2031	$954,979	-	$954,979	$86,010	$480,728	$8,338	$404,827	$986,096	$20,737	$184,784	$822,049	$639	$1,227,515	-	$1,227,515	$259,511	$259,511
2032	$974,184	-	$974,184	$88,735	$490,275	$8,482	$411,850	$1,061,130	$22,314	$189,384	$894,060	$655	$1,306,565	-	$1,306,565	$277,677	$277,677
2033	$1,004,951	-	$1,004,951	$92,997	$505,418	$8,713	$423,049	$1,143,919	$24,055	$194,610	$973,364	$692	$1,397,105	-	$1,397,105	$297,114	$297,114
2034	$1,076,040	-	$1,076,040	$99,923	$542,669	$9,354	$454,158	$1,236,083	$25,993	$200,811	$1,061,265	$709	$1,516,132	-	$1,516,132	$317,912	$317,912
2035	$1,109,697	-	$1,109,697	$103,794	$562,061	$9,682	$470,087	$1,340,994	$28,200	$206,622	$1,162,572	$705	$1,633,364	-	$1,633,364	$340,166	$340,166
2036	$1,163,986	-	$1,163,986	$109,668	$592,328	$10,197	$495,116	$1,424,473	$29,955	$218,372	$1,236,056	$745	$1,731,917	-	$1,731,917	$363,978	$363,978
2037	$1,220,723	-	$1,220,723	$115,350	$622,761	$10,720	$520,507	$1,477,440	$31,069	$226,176	$1,282,333	$740	$1,803,580	-	$1,803,580	$389,456	$389,456
2038	$1,248,630	-	$1,248,630	$118,209	$637,620	$10,974	$532,820	$1,530,682	$32,189	$231,796	$1,331,075	$759	$1,864,654	-	$1,864,654	$416,718	$416,718
2039	$1,300,725	-	$1,300,725	$123,249	$664,436	$11,434	$555,159	$1,584,329	$33,317	$243,218	$1,374,428	$778	$1,930,365	-	$1,930,365	$445,888	$445,888
2040	$1,360,942	-	$1,360,942	$129,048	$695,620	$11,970	$581,200	$1,638,610	$34,458	$249,257	$1,423,811	$797	$2,005,808	-	$2,005,808	$477,100	$477,100
2041	$1,424,375	-	$1,424,375	$135,132	$728,584	$12,538	$608,773	$1,695,311	$35,651	$255,448	$1,475,514	$817	$2,085,104	-	$2,085,104	$510,497	$510,497
2042	$1,480,683	-	$1,480,683	$140,582	$757,602	$13,036	$632,951	$1,753,347	$36,871	$261,794	$1,528,424	$837	$2,162,212	-	$2,162,212	$546,232	$546,232
2043	$1,543,432	-	$1,543,432	$146,571	$789,349	$13,580	$659,377	$1,812,247	$38,110	$275,702	$1,574,655	$858	$2,234,890	-	$2,234,890	$584,468	$584,468
2044	$1,576,666	-	$1,576,666	$149,766	$805,608	$13,857	$672,784	$1,871,346	$39,352	$282,552	$1,628,146	$879	$2,301,809	-	$2,301,809	$625,381	$625,381
2045	$1,629,233	-	$1,629,233	$154,817	$832,069	$14,309	$694,750	$1,929,879	$40,583	$292,437	$1,678,025	$901	$2,373,676	-	$2,373,676	$669,158	$669,158
2046	$1,698,768	-	$1,698,768	$161,434	$867,219	$14,912	$724,022	$1,988,061	$41,807	$311,969	$1,717,899	$924	$2,442,845	-	$2,442,845	$715,999	$715,999
2047	$1,746,730	-	$1,746,730	$166,006	$892,185	$15,343	$744,941	$2,045,392	$43,012	$324,372	$1,764,032	$947	$2,509,920	-	$2,509,920	$766,119	$766,119
2048	$1,760,851	-	$1,760,851	$167,371	$903,155	$15,545	$754,776	$2,101,432	$44,191	$343,665	$1,801,958	$1,001	$2,557,735	-	$2,557,735	$819,747	$819,747
2049	$1,823,642	-	$1,823,642	$173,309	$939,932	$16,196	$786,388	$2,154,205	$45,301	$353,735	$1,845,771	$1,026	$2,633,185	-	$2,633,185	$877,129	$877,129
2050	$1,886,002	-	$1,886,002	$179,240	$973,855	$16,788	$815,095	$2,206,010	$46,390	$479,706	$1,772,694	$1,052	$2,588,841	-	$2,588,841	$938,528	$938,528
2051	$1,954,434	-	$1,954,434	$185,736	$1,010,422	$17,423	$845,934	$2,245,797	$47,227	$494,982	$1,798,042	$1,078	$2,645,054	-	$2,645,054	$1,004,225	$1,004,225
2052	$2,022,969	-	$2,022,969	$192,246	$1,046,387	$18,045	$876,145	$2,282,783	$48,004	$518,017	$1,812,770	$1,105	$2,690,020	-	$2,690,020	$1,074,521	$1,074,521
2053	$2,094,493	-	$2,094,493	$199,045	$1,083,611	$18,688	$907,353	$2,315,686	$48,696	$534,810	$1,829,572	$1,167	$2,738,092	-	$2,738,092	$1,149,737	$1,149,737
2054	$2,163,131	-	$2,163,131	$205,571	$1,119,348	$19,305	$937,316	$2,344,543	$49,303	$1,214,970	$1,178,876	$1,196	$2,117,388	-	$2,117,388	$1,230,219	$1,230,219
2055	$2,234,576	-	$2,234,576	$212,355	$1,156,316	$19,942	$968,277	$2,309,135	$48,559	$1,386,434	$971,260	$1,226	$1,940,763	-	$1,940,763	$1,316,334	$1,316,334
2056	$2,314,720	-	$2,314,720	$219,971	$1,197,998	$20,662	$1,003,219	$2,251,911	$47,355	$1,421,965	$877,301	$1,257	$1,881,777	-	$1,881,777	$1,408,477	$1,408,477
2057	$2,177,775	$222,873	$2,400,648	$207,660	$1,135,139	$19,594	$951,350	$2,183,946	$45,926	$1,714,503	$515,369	$1,251	$1,467,970	$18,944	$1,486,914	$1,507,070	$1,486,914
2058	$2,097,258	$383,052	$2,480,310	$199,922	$1,102,127	$19,059	$925,382	$2,076,888	$43,675	$1,843,428	$277,135	$1,282	$1,203,799	$32,559	$1,236,358	$1,612,565	$1,236,358
2059	$2,037,079	$539,371	$2,576,450	$194,022	$1,080,477	$18,725	$909,176	$2,076,888	$43,675	$2,095,901	$24,662	$1,314	$935,152	$45,847	$980,999	$1,725,445	$980,999
2060	$1,900,186	$769,643	$2,669,829	$182,102	$1,018,583	$17,669	$857,901	$2,076,888	$43,675	$2,509,577	-	$1,265	$859,166	$65,420	$924,586	$1,846,226	$924,586
2061	$1,732,072	$1,025,579	$2,757,651	$167,616	$936,464	$16,241	$788,541	$2,035,700	$42,809	$2,573,838	-	$1,297	$789,838	$87,174	$877,012	$1,975,462	$877,012

[6] After the first occurrence of the *Total Contrib. if Switch* being smaller than the *Alt. Employer Contrib.*, this column shows the *Total Contrib. if Switch* in all subsequent years.

Table 6 – Switch to Conservation Funding Policy in 2043

	Number (BOY)			Assets										
Year End June 30	Active	Non-Active	Total Payroll	Assets[7] (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	Assets[7] (EOY)	Actuarial Accrued Liability	Unfunded Liability	Funded Ratio[7]
2020	12	20	$628,833	$2,993,335	$413,535	$410	$123,371	$50,458	$145,654	$80,150	$2,979,023	$11,969,701	$8,990,678	24.9%
2021	12	19	$630,043	$2,979,023	$419,281	$484	$131,921	$51,664	$149,916	$124,794	$3,017,553	$12,371,172	$9,353,619	24.4%
2022	12	19	$659,601	$3,017,553	$446,117	$496	$141,155	$54,859	$145,067	$126,027	$3,038,048	$12,779,056	$9,741,008	23.8%
2023	12	20	$693,739	$3,038,048	$480,891	$525	$151,036	$58,114	$146,215	$126,466	$3,038,463	$13,187,864	$10,149,401	23.0%
2024	12	20	$729,086	$3,038,463	$509,636	$538	$161,609	$61,388	$152,644	$126,306	$3,030,236	$13,604,323	$10,574,087	22.3%
2025	12	19	$737,093	$3,030,236	$543,500	$534	$172,922	$62,723	$156,450	$125,590	$3,003,887	$14,009,838	$11,005,951	21.4%
2026	12	20	$767,914	$3,003,887	$577,006	$565	$185,027	$66,520	$160,350	$124,181	$2,962,394	$14,416,806	$11,454,412	20.5%
2027	12	20	$805,851	$2,962,394	$616,854	$579	$197,979	$70,491	$164,671	$122,026	$2,900,128	$14,821,488	$11,921,360	19.6%
2028	12	20	$846,144	$2,900,128	$637,315	$593	$211,838	$74,504	$169,846	$119,434	$2,837,842	$15,244,682	$12,406,840	18.6%
2029	12	20	$878,251	$2,837,842	$651,056	$608	$226,667	$77,873	$174,750	$116,983	$2,782,451	$15,688,910	$12,906,459	17.7%
2030	12	20	$915,723	$2,782,451	$668,832	$623	$242,534	$81,896	$180,296	$114,790	$2,732,512	$16,153,306	$13,420,794	16.9%
2031	12	20	$954,979	$2,732,512	$684,595	$639	$259,511	$86,010	$184,784	$112,874	$2,690,457	$16,641,989	$13,951,532	16.2%
2032	12	20	$974,184	$2,690,457	$716,924	$655	$277,677	$88,735	$189,384	$110,942	$2,639,616	$17,128,385	$14,488,769	15.4%
2033	12	21	$1,004,951	$2,639,616	$754,371	$692	$297,114	$92,997	$194,610	$108,602	$2,577,876	$17,613,005	$15,035,129	14.6%
2034	12	21	$1,076,040	$2,577,876	$761,076	$709	$317,912	$99,923	$200,811	$106,550	$2,541,287	$18,150,210	$15,608,923	14.0%
2035	12	20	$1,109,697	$2,541,287	$786,350	$705	$340,166	$103,794	$206,622	$105,135	$2,509,949	$18,704,656	$16,194,707	13.4%
2036	12	21	$1,163,986	$2,509,949	$808,493	$745	$363,978	$109,668	$218,372	$104,208	$2,496,937	$19,291,611	$16,794,674	12.9%
2037	12	20	$1,220,723	$2,496,937	$817,839	$740	$389,456	$115,350	$226,176	$104,278	$2,513,618	$19,925,696	$17,412,078	12.6%
2038	12	20	$1,248,630	$2,513,618	$842,815	$759	$416,718	$118,209	$231,796	$105,213	$2,541,980	$20,576,718	$18,034,738	12.4%
2039	12	20	$1,300,725	$2,541,980	$873,633	$778	$445,888	$123,249	$243,218	$106,729	$2,586,653	$21,251,899	$18,665,246	12.2%
2040	12	20	$1,360,942	$2,586,653	$889,904	$797	$477,100	$129,048	$249,257	$109,191	$2,660,548	$21,971,671	$19,311,123	12.1%
2041	12	20	$1,424,375	$2,660,548	$901,902	$817	$510,497	$135,132	$255,448	$113,039	$2,771,945	$22,744,148	$19,972,203	12.2%
2042	12	20	$1,480,683	$2,771,945	$915,965	$837	$546,232	$140,582	$261,794	$118,477	$2,922,228	$23,565,348	$20,643,120	12.4%
2043	11	20	$1,393,082	$2,922,228	$932,217	$831	$545,528	$132,714	$275,702	$124,634	$3,067,758	$24,363,414	$21,295,656	12.6%
2044	10	21	$1,341,577	$3,067,758	$972,038	$852	$582,693	$127,769	$282,552	$130,803	$3,218,685	$25,132,977	$21,914,292	12.8%
2045	10	21	$1,303,082	$3,218,685	$1,017,347	$873	$621,330	$123,999	$292,437	$137,205	$3,375,436	$25,874,711	$22,499,275	13.0%
2046	9	20	$1,215,514	$3,375,436	$1,046,038	$837	$636,758	$116,381	$311,969	$143,839	$3,537,508	$26,577,870	$23,040,362	13.3%
2047	8	21	$1,107,974	$3,537,508	$1,096,911	$858	$682,893	$107,124	$324,372	$150,694	$3,704,822	$27,204,833	$23,500,011	13.6%
2048	8	21	$1,045,218	$3,704,822	$1,167,380	$879	$738,744	$101,528	$343,665	$157,785	$3,878,285	$27,755,656	$23,877,371	14.0%
2049	7	21	$999,141	$3,878,285	$1,200,169	$870	$764,980	$97,311	$353,735	$165,142	$4,058,414	$28,274,942	$24,216,528	14.4%
2050	7	21	$948,080	$4,058,414	$1,218,105	$892	$660,735	$92,777	$479,706	$172,782	$4,245,417	$28,771,974	$24,526,557	14.8%
2051	6	21	$891,031	$4,245,417	$1,241,133	$882	$672,586	$87,812	$494,982	$180,711	$4,439,493	$29,235,470	$24,795,977	15.2%
2052	6	21	$842,386	$4,439,493	$1,260,367	$904	$672,340	$83,550	$518,017	$188,944	$4,641,073	$29,672,795	$25,031,722	15.6%
2053	6	21	$764,409	$4,641,073	$1,301,267	$927	$701,896	$76,954	$534,810	$197,487	$4,850,026	$30,040,839	$25,190,813	16.1%
2054	5	21	$664,615	$4,850,026	$1,346,050	$915	$73,337	$68,627	$1,214,970	$206,336	$5,066,331	$30,316,032	$25,249,701	16.7%
2055	4	21	$643,593	$5,066,331	$1,347,921	$902	-	$66,766	$1,386,434	$217,514	$5,388,222	$30,592,435	$25,204,213	17.6%
2056	4	21	$595,432	$5,388,222	$1,373,679	$925	-	$62,735	$1,421,965	$231,315	$5,729,633	$30,830,292	$25,100,659	18.6%
2057	4	21	$546,690	$5,729,633	$1,392,901	$948	-	$58,629	$1,714,503	$251,485	$6,360,401	$31,034,325	$24,673,924	20.5%
2058	3	21	$524,065	$6,360,401	$1,395,187	$933	-	$56,648	$1,843,428	$280,915	$7,145,272	$31,235,383	$24,090,111	22.9%
2059	3	21	$468,339	$7,145,272	$1,413,384	$956	-	$50,869	$2,095,901	$319,076	$8,196,778	$31,394,804	$23,198,026	26.1%
2060	3	21	$399,682	$8,196,778	$1,437,101	$980	-	$43,467	$2,509,577	$371,810	$9,683,551	$31,494,810	$21,811,259	30.7%
2061	2	21	$361,993	$9,683,551	$1,443,090	$963	-	$39,450	$2,573,838	$436,139	$11,288,925	$31,570,600	$20,281,675	35.8%

[7] Market value of assets used.

Table 6 – Switch to Conservation Funding Policy in 2043 (Cont.)

Year End June 30	Benefit Payment Account[8]						Transfer (To)/From Acc. Account	Accumulation Account						Contribution Comparison				Final Employer Contrib.[10]
	Assets[9] (BOY)	Net Benefit Pmts and Expenses	Employer Contrib.	Employee Contrib.	100.00% of Premium Tax Allocation	Investment Income		Assets[9] (BOY)	Net Benefit Pmts and Expenses	Employer Contrib.	1.50% of Pay Employee Contrib.	0.00% of Premium Tax Allocation	Investment Income	Cons. Employer Contrib.	Statewide Employer Contrib.	Total Contrib. if Switch	Alt. Employer Contrib.	
2022	$3,017,553	$446,613	$141,155	$54,859	$145,067	$126,027	-	-	-	-	-	-	-	$256,581	-	$256,581	$141,155	$141,155
2023	$3,038,048	$481,416	$151,036	$58,114	$146,215	$126,466	-	-	-	-	-	-	-	$287,493	-	$287,493	$151,036	$151,036
2024	$3,038,463	$510,174	$161,609	$61,388	$152,644	$126,306	-	-	-	-	-	-	-	$307,078	-	$307,078	$161,609	$161,609
2025	$3,030,236	$544,034	$172,922	$62,723	$156,450	$125,590	-	-	-	-	-	-	-	$335,917	-	$335,917	$172,922	$172,922
2026	$3,003,887	$577,571	$185,027	$66,520	$160,350	$124,181	-	-	-	-	-	-	-	$362,220	-	$362,220	$185,027	$185,027
2027	$2,962,394	$617,433	$197,979	$70,491	$164,671	$122,026	-	-	-	-	-	-	-	$394,359	-	$394,359	$197,979	$197,979
2028	$2,900,128	$637,908	$211,838	$74,504	$169,846	$119,434	-	-	-	-	-	-	-	$406,250	-	$406,250	$211,838	$211,838
2029	$2,837,842	$651,664	$226,667	$77,873	$174,750	$116,983	-	-	-	-	-	-	-	$412,215	-	$412,215	$226,667	$226,667
2030	$2,782,451	$669,455	$242,534	$81,896	$180,296	$114,790	-	-	-	-	-	-	-	$420,999	-	$420,999	$242,534	$242,534
2031	$2,732,512	$685,234	$259,511	$86,010	$184,784	$112,874	-	-	-	-	-	-	-	$428,765	-	$428,765	$259,511	$259,511
2032	$2,690,457	$717,579	$277,677	$88,735	$189,384	$110,942	-	-	-	-	-	-	-	$454,073	-	$454,073	$277,677	$277,677
2033	$2,639,616	$755,063	$297,114	$92,997	$194,610	$108,602	-	-	-	-	-	-	-	$482,530	-	$482,530	$297,114	$297,114
2034	$2,577,876	$761,785	$317,912	$99,923	$200,811	$106,550	-	-	-	-	-	-	-	$477,192	-	$477,192	$317,912	$317,912
2035	$2,541,287	$787,055	$340,166	$103,794	$206,622	$105,135	-	-	-	-	-	-	-	$493,284	-	$493,284	$340,166	$340,166
2036	$2,509,949	$809,238	$363,978	$109,668	$218,372	$104,208	-	-	-	-	-	-	-	$498,658	-	$498,658	$363,978	$363,978
2037	$2,496,937	$818,579	$389,456	$115,350	$226,176	$104,278	-	-	-	-	-	-	-	$495,364	-	$495,364	$389,456	$389,456
2038	$2,513,618	$843,574	$416,718	$118,209	$231,796	$105,213	-	-	-	-	-	-	-	$512,298	-	$512,298	$416,718	$416,718
2039	$2,541,980	$874,411	$445,888	$123,249	$243,218	$106,729	-	-	-	-	-	-	-	$527,455	-	$527,455	$445,888	$445,888
2040	$2,586,653	$890,701	$477,100	$129,048	$249,257	$109,191	-	-	-	-	-	-	-	$532,810	-	$532,810	$477,100	$477,100
2041	$2,660,548	$902,719	$510,497	$135,132	$255,448	$113,039	-	-	-	-	-	-	-	$533,505	-	$533,505	$510,497	$510,497
2042	$2,771,945	$916,802	$546,232	$140,582	$261,794	$118,477	(2,922,228)	-	-	-	-	-	-	$536,636	-	$536,636	$546,232	$546,232
2043	-	$933,048	$545,528	$111,818	$275,702	-	-	$2,922,228	-	-	$20,896	-	$124,634	$545,528	$12,780	$558,308	$584,468	$558,308
2044	-	$972,890	$582,693	$107,645	$282,552	-	-	$3,067,758	-	-	$20,124	-	$130,803	$582,693	$19,983	$602,676	$625,381	$602,676
2045	-	$1,018,220	$621,330	$104,453	$292,437	-	-	$3,218,685	-	-	$19,546	-	$137,205	$621,330	$27,723	$649,053	$669,158	$649,053
2046	-	$1,046,875	$636,758	$98,148	$311,969	-	-	$3,375,436	-	-	$18,233	-	$143,839	$636,758	$41,077	$677,835	$715,999	$677,835
2047	-	$1,097,769	$682,893	$90,504	$324,372	-	-	$3,537,508	-	-	$16,620	-	$150,694	$682,893	$54,294	$737,187	$766,119	$737,187
2048	-	$1,168,259	$738,744	$85,850	$343,665	-	-	$3,704,822	-	-	$15,678	-	$157,785	$738,744	$60,829	$799,573	$819,747	$799,573
2049	-	$1,201,039	$764,980	$82,324	$353,735	-	-	$3,878,285	-	-	$14,987	-	$165,142	$764,980	$70,083	$835,063	$877,129	$835,063
2050	-	$1,218,997	$660,735	$78,556	$479,706	-	-	$4,058,414	-	-	$14,221	-	$172,782	$660,735	$79,723	$740,458	$938,528	$740,458
2051	-	$1,242,015	$672,586	$74,447	$494,982	-	-	$4,245,417	-	-	$13,365	-	$180,711	$672,586	$90,389	$762,975	$1,004,225	$762,975
2052	-	$1,261,271	$672,340	$70,914	$518,017	-	-	$4,439,493	-	-	$12,636	-	$188,944	$672,340	$100,350	$772,690	$1,074,521	$772,690
2053	-	$1,302,194	$701,896	$65,488	$534,810	-	-	$4,641,073	-	-	$11,466	-	$197,487	$701,896	$113,057	$814,953	$1,149,737	$814,953
2054	-	$1,346,965	$73,337	$58,658	$1,214,970	-	-	$4,850,026	-	-	$9,969	-	$206,336	$73,337	$127,374	$200,711	$1,230,219	$200,711
2055	-	$1,348,823	-	$57,112	$1,291,711	-	-	$5,066,331	-	-	$9,654	$94,723	$217,514	-	$135,234	$135,234	$1,316,334	$135,234
2056	-	$1,374,604	-	$53,804	$1,320,800	-	-	$5,388,222	-	-	$8,931	$101,165	$231,315	-	$146,139	$146,139	$1,408,477	$146,139
2057	-	$1,393,849	-	$50,429	$1,343,420	-	-	$5,729,633	-	-	$8,200	$371,083	$251,485	-	$157,586	$157,586	$1,507,070	$157,586
2058	-	$1,396,120	-	$48,787	$1,347,333	-	-	$6,360,401	-	-	$7,861	$496,095	$280,915	-	$166,281	$166,281	$1,612,565	$166,281
2059	-	$1,414,340	-	$43,844	$1,370,496	-	-	$7,145,272	-	-	$7,025	$725,405	$319,076	-	$179,189	$179,189	$1,725,445	$179,189
2060	-	$1,438,081	-	$37,472	$1,400,609	-	-	$8,196,778	-	-	$5,995	$1,108,968	$371,810	-	$192,962	$192,962	$1,846,226	$192,962
2061	-	$1,444,053	-	$34,020	$1,410,033	-	-	$9,683,551	-	-	$5,430	$1,163,805	$436,139	-	$203,631	$203,631	$1,975,462	$203,631

[8] Employer contributions paid from the City's General Fund are used to finance benefits not covered by the applicable employee contributions or premium tax allocation.
[9] Market value of assets used.
[10] After the first occurrence of the *Total Contrib. if Switch*, which is the sum of the *Cons. Employer Contrib.* and the *Statewide Employer Contrib.*, being smaller than the *Alt. Employer Contrib.*, this column shows the *Total Contrib. if Switch* in all subsequent years.

Section X. Participant Information

Participant Summary

The following table summarizes the counts, ages, and benefit information for plan participants used in the prior and current valuations.

		July 1, 2019		July 1, 2020
1. Actives				
a. Number		12		12
b. Average Age		35.1		36.1
c. Average Service		9.7		10.7
d. Average Salary	$	54,114	$	55,201
2. Retirees				
a. Number		11		10
b. Average Age		70.7		69.8
c. Total Annual Benefits	$	306,026	$	280,715
3. Survivors				
a. Number		3		3
b. Average Age		77.4		78.4
c. Total Annual Benefits	$	41,099	$	41,839
4. Disableds				
a. Number		3		3
b. Average Age		51.5		52.5
c. Total Annual Benefits	$	75,351	$	76,926
5. Deferred Vesteds				
a. Number		3		3
b. Average Age		45.3		46.3
c. Total Annual Benefits	$	86,958	$	86,958
6. Members Owed Refunds				
a. Number		0		0
b. Average Age		N/A		N/A
c. Total Refunds Owed	$	N/A	$	N/A

Active Age/Service Distribution Including Compensation

Shown below is the age and service distribution of active participants in the City of Princeton Firemen's Pension and Relief Fund. The compensation shown is the average projected pay for the plan year beginning July 1, 2020.

Credited Service as of July 1, 2020

Participant Age	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total
Under 25	3	-	-	-	-	-	-	**3**
	52,911	-	-	-	-	-	-	**52,911**
25 - 29	1	-	-	-	-	-	-	**1**
	46,974	-	-	-	-	-	-	**46,974**
30 - 34	-	1	-	-	-	-	-	**1**
	-	54,800	-	-	-	-	-	**54,800**
35 - 39	1	-	1	1	-	-	-	**3**
	51,022	-	56,192	49,970	-	-	-	**52,395**
40 - 44	-	-	-	-	-	-	-	**-**
	-	-	-	-	-	-	-	**-**
45 - 49	-	-	1	1	1	1	-	**4**
	-	-	59,357	50,065	68,407	66,891	-	**61,180**
50 - 54	-	-	-	-	-	-	-	**-**
	-	-	-	-	-	-	-	**-**
55 - 59	-	-	-	-	-	-	-	**-**
	-	-	-	-	-	-	-	**-**
60 - 64	-	-	-	-	-	-	-	**-**
	-	-	-	-	-	-	-	**-**
65 & Up	-	-	-	-	-	-	-	**-**
	-	-	-	-	-	-	-	**-**
Totals	**5**	**1**	**2**	**2**	**1**	**1**	**-**	**12**
	51,346	**54,800**	**57,775**	**50,018**	**68,407**	**66,891**	**-**	**55,201**

Averages

Age	36.1
Service	10.7

Participant Reconciliation

Shown below is the reconciliation of participants between the prior and current valuation date.

	Actives	Retirees	Survivors	Disableds	Deferred Vesteds	Due Refund	Total
Participants as of 7/1/2019	12	11	3	3	3	-	32
New	-	-	-	-	-	-	-
Rehired	-	-	-	-	-	-	-
Terminated - Vested	-	-	-	-	-	-	-
Terminated - Nonvested	-	-	-	-	-	-	-
Disabled	-	-	-	-	-	-	-
Retired	-	-	-	-	-	-	-
Paid Refund	-	-	-	-	-	-	-
Payments Expired	-	-	-	-	-	-	-
Deceased - No Survivor	-	(1)	-	-	-	-	(1)
Deceased - With Survivor	-	-	-	-	-	-	-
New Beneficiary	-	-	-	-	-	-	-
New QDRO	-	-	-	-	-	-	-
Corrections	-	-	-	-	-	-	-
Participants as of 7/1/2020	**12**	**10**	**3**	**3**	**3**	**-**	**31**

Section XI. Summary of Plan Provisions

Plan Year

July 1 – June 30.

Eligibility to Participate

All compensated employees of the relevant Fire or Police Department are eligible to participate in the Firemen's or Policemen's Pension and Relief Fund (Plan). If the fund uses the Optional or Conservation funding policies, only members hired prior to the date of the change to either one of these policies are eligible to participate in the Plan.

Credited Service

The number of years that the member has contributed to the employees' retirement and benefit fund.

> Absence from service because of sickness or injury for a period of two years or less shall not be construed as time out of service.
>
> *Military Service* — Any current member who has been on qualified military service in the armed forces of the United States with an honorable discharge may, within six months from his or her date of discharge, be given credit for continuous service in the paid police or fire department.
>
> A member may receive retirement eligibility service (i.e. eligibility towards the 20 years of service for normal retirement) for qualified military service only if the military service was prior to November 18, 2009 or the member repays, without interest, member assessments that were missed during the period of military service.
>
> Any member who has served in active duty with the armed forces of the United States, whether prior to or subsequent to becoming a member of a paid police or fire department, shall receive an additional 1% of Average Annual Compensation for each full continuous year so served in active military duty, up to a maximum of an additional 4%.

Average Annual Compensation

The average of the three twelve-consecutive-month periods of employment in which the member received the highest salary or compensation. While the months in each twelve-month period need to be consecutive, the three "twelve-consecutive-month periods" do not need to be consecutive.

Each twelve-consecutive-month annual compensation is limited to 120% of the *Average Adjusted Salary,* which is the average of the Adjusted Salary for the two consecutive twelve-consecutive-month periods immediately preceding the twelve-consecutive-month period used in determining benefits.

The *Adjusted Salary* for any preceding year is the respective preceding year total salary multiplied by the ratio of base salary of the year used in determining benefits to the base salary from the respective preceding year. A preceding year is either the "year one" which is the second twelve consecutive month period preceding the twelve-consecutive-month period used to determine benefits or "year two" which is the twelve-consecutive-month period immediate preceding the twelve-consecutive-month period used to determine benefits.

Employee Contributions

Participating employees hired before January 1, 2010: 7.00% of compensation.
Participating employees hired on or after January 1, 2010: 9.50% of compensation.

Employer Contributions

The municipality has elected to contribute the minimum employer contribution under the Alternative funding policy.

Normal Retirement Eligibility

Members are eligible at the earlier of age 50 with 20 years of credited service or age 65.

Normal Retirement Benefit

The annual retirement benefit equals the sum of:

- 60% of average annual compensation, for service up to 20 years; not less than $6,000
- 2% for each year of service between 20 and 25 years
- 1% for each year of service between 25 and 30 years
- Employees serving in the military are eligible for an additional 1% of average annual compensation for each year of military service up to four years.

The maximum benefit is limited to 75% of average annual compensation.

Normal Form

Life annuity with a 60% spouse's survivor benefit. The benefit payable to the spouse as of the member's date of death is determined by taking 60% of the member's benefit at the member's retirement date and indexing that amount to the date of death using the COLA methodology described in the Cost of Living Adjustment section below. No other optional forms are allowed under the Plan.

Disability Retirement Eligibility

Members are eligible after earning five years of service. There is no years of service requirement if disability is service related. Disability is defined in WV Code §8-22-23a as the inability to perform adequately the job duties required of the member, as described in the National Fire Protection Association (NFPA) Standard 1582's Chapter 9 Essential Job Tasks - Specific Evaluations of Medical Conditions in Members.

Disability Retirement Benefit

The monthly disability benefit equals the sum of:

- 60% of monthly salary at disability, but not less than $500, plus
- Employees serving in the military are eligible for an additional benefit of 1% of monthly salary at disability for each year of military service up to four years.

Disability benefits, when aggregated with monthly state workers compensation benefits, shall not exceed 100% of the member's monthly compensation at the time of disability. For permanent disabilities, the benefit is paid for life, while for temporary disabilities, the benefit is paid during the disability period not to exceed four 26-week periods.

Ordinary (non line-of-duty) disability pensions are offset by $1 per every $3 of other income. There is no offset if total other income is $18,200 (as of 2020, indexed by state minimum wage for years after 2020) or less.

Termination Benefits

Any member who terminates employment prior to retirement and has at least 20 years of credited service will be entitled to a pension benefit equal to the normal retirement benefit commencing at age 50.

Refunds: Any member who terminates from their department with fewer than 20 years of credited service and prior to age 65 shall be refunded all deductions made from his salary, without interest. Any member who receives such a refund and subsequently wishes to reenter (available only if the municipal plan is still open as of such date) the department must repay to the pension fund all sums refunded with interest at the rate of 8% per annum.

Death Benefit Eligibilty

Members are eligible after earning five years of service. There is no years of service requirement if death is service related. Retirees and terminated vested participants are also eligible.

Death Benefit

For surviving spouses, this benefit is equal to 60% of the participant's benefit at the participant's date of retirement and is indexed for cost-of-living adjustments through the commencement date of this death benefit (and annually each July thereafter) using the methodology outlined in the *Supplemental Benefit (Cost of Living Adjustment – COLA)* subsection below. This benefit may not be less than $300 per month and is payable to the spouse until death or remarriage.

Other dependents (children, parents, brothers and sisters) are also eligible for death benefits. Similar to the death benefit payable to a surviving spouse, these death benefits are derived at the participant's date of retirement and indexed for COLAs. To each dependent:

- Child: 20% of the participant's benefit until the child attains age 18 or marries; for a disabled child, payments continue beyond age 18 if the child remains disabled.
- Orphaned child: 25% of the participant's benefit until the child attains age 18 or marries; for a disabled orphaned child, payments continue beyond age 18 if the child remains disabled.
- Parent: 10% of the participant's benefit for life.
- Sibling: the sum of fifty dollars per month (but a total not to exceed $100 per month) until such individual attains the age of age 18 or marries.

The total amount, derived as the participant's date of retirement, of all benefits payable to survivors cannot exceed the amount of the participant's benefit at the participant's date of retirement. Due to the COLA methodology, the sum of the benefits payable to survivors as of any time after the participant's date of retirement *may*, in some circumstances, exceed the participant's benefit amount. In no case shall the payments to the surviving spouse and children be reduced below 65 percent of the total amount paid to all dependents.

Supplemental Benefit (Cost of Living Adjustment – COLA)

If a plan meets the criteria outlined in the *Supplemental Benefit Eligibility* subsection within *Section I. Executive Summary*, then all retirees, surviving beneficiaries, and disability pensioners shall be granted automatic cost-of-living benefits commencing on the first day of July following two years of retirement. The benefits equal the percentage increase in the Consumer Price Index, limited to 4% (2% for some disability retirees), multiplied by the sum of the allowable amount, which is the first $15,000 of the total annual benefits paid and the accumulated supplemental pension amounts for prior years. The consumer price index currently used to determine the supplemental benefit is the CPI-U US City Average all items with a base of 1982-1984 equal to 100. The increase is measured as the increase in the annual average from the second prior calendar year to the annual average from the prior calendar year.

Changes in Plan Provisions Since Prior Valuation

None.

Section XII. Actuarial Methods and Assumptions

Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal cost method calculated on an individual basis with level percentage of pay normal cost. Past service liability is allocated from the imputed date of hire, taking into account transferred and purchased service.

West Virginia Funding Policies

Under West Virginia Code §8-22-20(c)(1), there are four funding policies available for plan sponsors. Those funding policies are summarized below:

- **Standard Funding Policy:** Employer contributions equal the net employer normal cost, plus an amortization of the unfunded actuarial liability, less the State premium tax allocation applicable to the plan year. Prior to the July 1, 2020 actuarial valuation, the unfunded actuarial accrued liability was amortized over a single, closed period of 40-years from July 1, 1991, using level dollar amortization (10.0 years remaining as of July 1, 2020). Beginning with the July 1, 2020 valuation, the unfunded actuarial accrued liability as of July 1, 2019 continues to be amortized over that same closed, decreasing period but new bases will be amortized using a layered approach with the following initial amortization periods when each base is created:

    - Experience gains and losses: 15 years
    - Assumption changes: 15 years
    - Plan changes: 5 years

  The Standard funding policy is consistent with generally accepted actuarial standards of practice.

- **Alternative Funding Policy:** Employer contributions equal 107% of the prior year's employer contribution. The State premium tax allocation is contributed in addition to the employer contributions.

  The Alternative funding policy is not consistent with generally accepted actuarial standards of practice because the policy does not reflect emerging experience gains and losses and may not produce an actuarially sound pattern of contributions or funded ratio.

- **Optional Funding Policy**: Allows plan sponsors using either the Standard funding policy or Alternative funding policy to close the current local Plan to new hires and contribute to the Plan on an actuarially determined basis. The actuarially determined employer contribution is equal to the net employer normal cost, plus a level dollar amortization of the unfunded actuarial liability, less the State premium tax allocation applicable to the plan year. The closed amortization period as of July 1, 2020 is 10.0 years for sponsors who previously used the Standard funding policy and 28.5 years for sponsors who previously used the Alternative funding policy. Beginning with the July 1, 2020 valuation, the unfunded actuarial accrued liability as of July 1, 2019 continues to be amortized over those same closed, decreasing periods but new bases will be amortized using a layered approach using the same amortization periods as those used in the Standard Funding Policy listed above.

For plans that switch to the Optional Funding policy on or after the July 1, 2020 valuation, the initial unfunded actuarial accrued liability prior to any assumption changes or plan changes that became effective during the year ending on the valuation date will be amortized over the maximum of 15 years and the remaining period described above (10.0 years for sponsors who previously used the Standard funding policy and 28.5 years for sponsors who previously used the Alternative funding policy).

Members hired after the adoption date of the Optional funding policy are covered in the statewide pension plan – The Municipal Police Officers and Firefighters Retirement System (MPFRS).

The Optional funding policy is consistent with generally accepted actuarial standards of practice.

- **Conservation Funding Policy:** Allows plan sponsors using the Alternative funding policy to close the current local Plan to new hires and contribute to the plan on a pay-as-you-go basis. Sponsors using the Conservation funding policy are required to assign a portion of the State premium tax allocation and member contributions to an accumulation account that is projected to grow to 100% of the remaining actuarial liabilities at the end of a 35-year projection period.

  Members hired after the adoption date of the Conservation funding policy are covered in the statewide pension plan – MPFRS.

  This Conservation funding policy is not consistent with generally accepted actuarial principles.

This Plan is valued using the **Alternative** funding policy.

Amortization Method for GASB

Amortization Policies	
Standard and Optional Funding Policies	Same as for funding purposes (described above)
Alternative and Conservation Funding Policies	The methodology used for plans that switch to the Optional funding policy on or after July 1, 2020 for funding purposes (described above)

Basis for Selection of Actuarial Methods

While the funding policies and funding amortization methodology are defined in the West Virginia Code, the following actuarial methods used in the valuation were set by the MPOB on the basis of Bolton's 2020 *Actuarial Methods Recommendation Report*. These actuarial methods are, in the opinion of the actuaries signing this report, reasonable for the intended purpose.

Asset Method

Actuarial Value of Assets using four-year smoothing. Returns on the average market value of assets above or below the assumed rate of return are gradually recognized using straight-line amortization over a four-year period.

Roll-Forward Method

For the actuarially-based funding policies (Standard and Optional), valuation results are rolled forward one year to align the contribution calculation with the contribution year:

- To develop the projected unfunded actuarial accrued liability (UAAL), the UAAL on the valuation date is increased by the employer normal cost (which is net of employee contributions) and expected expenses, both with interest, and decreased by the expected employer contribution, including the premium tax allocation, for the fiscal year beginning on the valuation date, with interest.
- The projected normal cost for the contribution year is derived using a valuation software projection (open-group projection for plans open to new entrants and closed-group projection for plans closed to new entrants).

Projection Methods

The projections of future assets, liabilities, funded status and contributions are based on the following assumptions:

- Compensation will increase and members will leave the active workforce according to the actuarial valuation assumptions.
- For the open group projections, each active member leaving the workforce will be replaced with a new entrant so that the total number of active members remains the same throughout the projection period. The assumption made regarding the demographic makeup of new entrants is described in the *Open Group Projection New Hire Profile* section below.
- For closed group projections, new hires that replace active members who retire, terminate, die or become disabled are not assumed to enter the Plan.
- The sponsor contributes the amount determined by the applicable funding policy each year.
- For plans that are less than 100% funded as of the valuation date, the contribution during the projection period is capped at the amount needed to achieve and maintain a funded status of 100%.
- Assets grow at the assumed rate of return (discount rate).
- Non-vested members receive a refund of their accumulated employee contribution account balance during the year in which they terminate.
- For projections that illustrate a change from the Alternative funding policy to either the Optional funding policy or Conservation funding policy, new hires that replace active members who, after the change in funding policy, retire, terminate, die or become disabled are assumed to enter the statewide pension plan – The Municipal Police Officers and Firefighters Retirement System (MPFRS). For the MPFRS, employer contributions are currently equal to 8.5% of pay but can range from 8.5% - 10.5% of pay. For these projections, MPFRS employer contributions are assumed to be 8.5% of pay throughout the projection period.

Open Group Projection New Hire Profile

The active population is projected to be stable throughout the open group projections meaning that active exits are replaced by new hires. The profile for new hires contains four separate records corresponding to a different age-at-hire band (under 24, 24-27, 28-31, 32 and above). Each record contains the average (for the associated age-at-hire band) date of birth, compensation, and percentage male of all actives who have two years of service or less within the 53 plans covered by the MPOB. The four records are created using compensation for the fiscal year ending on the valuation date. The beginning salary for new entrants hired after the current plan year is equal to the new entrant profile salary increased by the general wage inflation assumption of 3.50% for each year between the new entrant's assumed date of hire and the valuation date.

Premium Tax Allocation

The premium tax allocation is projected using the following methodology:

(1) The Base Allocation is a fixed amount equal to $8,709,689 in all future years. This amount is allocated to each individual Pension and Relief Fund in proportion to the number of eligible members, which includes active members covered in either the Pension and Relief Fund or the statewide plan, Municipal Police Officers and Firefighters Retirement System ("MPFRS"). We assume that the percentage of eligible members of the Pension and Relief Fund and MPFRS for a single municipal plan (e.g. Princeton Fire) to the total eligible members for all municipalities remains constant throughout the projection period.

(2) The Excess Allocation is equal to the excess of the current year premium tax assigned to all Pension and Relief Funds over the total Base Allocation. This amount is allocated to each individual Pension and Relief Fund in proportion to the number of eligible active and retired members covered in either the Pension and Relief Fund or the MPFRS.

(3) We have assumed all Pension and Relief Funds will make the minimum statutory contribution requirement and will receive 100% of the total allocation assigned to the individual plan until they are 100% funded. Once a plan attains a funded ratio of at least 100%, the premium tax that would have been allocated to the plan had the funded ratio been lower than 100% is reallocated in subsequent years to all remaining plans that are less than 100% funded.

(4) The total available premium tax allocation, net of expenses, as of September 1, 2021, includes a Base Allocation of $8,709,689, an Excess Allocation of $10,792,704, and an Expired Premium Tax Allocation of $325,849.

(5) For the plan year ending June 30, 2021, all Pension and Relief Funds reported a total of 1,721.23 eligible active members and 2,207.00 eligible retired members. The City of Princeton Firemen's Pension and Relief Fund reported 12.58 eligible active members and 16.17 eligible retired members, based on the average number of plan participants for the 12-month period ending June 30, 2021. The Fund is eligible to receive a premium tax allocation of $145,066.57 for the fiscal year ending June 30, 2022.

(6) The total premium tax allocation is assumed to increase by 2.50% in calendar years ending on and after 2022.

Basis for Selection of Actuarial Assumptions

Unless otherwise noted, the actuarial assumptions used in the valuation were set by the MPOB on the basis of Bolton's 2020 *Experience Study Report*, which covered experience during the period from period July 1, 2014 through June 30, 2017. These assumptions are, in the opinion of the actuaries signing this report, reasonable for the intended purpose.

Discount Rate

The following table outlines the factors used to determine the discount rate:

Discount Rate Matrix for Plans Not Investing with the IMB				
Funded Ratio as of Valuation Date[11]	Equity Exposure[12]	Projected Funded Ratio after 15 Years[11]	Discount Rate – Standard and Optional Policies	Discount Rate – Alternative and Conservation Policies
30% or more	60% or more	70% or more	6.50%	6.25%
30% or more	50% or more	70% or more	6.25%	6.00%
30% or more	40% or more	60% or more	6.00%	5.50%
15% or more	30% or more	50% or more	5.75%	5.00%
15% or more	20% or more	40% or more	5.50%	4.75%
Less than 15%	Less than 20%	15% or more	5.00%	4.25%
Less than 15%	Less than 20%	Less than 15%	5.00%	4.00%

Discount Rate Matrix for Plans Investing with the IMB				
Funded Ratio as of Valuation Date[11]	Equity Exposure[12]	Projected Funded Ratio after 15 Years[11]	Discount Rate – Standard and Optional Policies[13]	Discount Rate – Alternative and Conservation Policies
30% or more	N/A	70% or more	7.00%	6.50%
30% or more	N/A	70% or more	7.00%	6.00%
15% or more	N/A	50% or more	7.00%	5.50%
15% or more	N/A	40% or more	7.00%	5.25%
Less than 15%	N/A	15% or more	7.00%	4.75%
Less than 15%	N/A	Less than 15%	7.00%	4.50%

As of June 30, 2020	
Plan Investing with the IMB	No
Actuarially-Based Funding Policy	No
Actuarial Value of Assets	$3,015,928
Liabilities Using a 5.0% Discount Rate	$10,711,690
Funded Ratio	28.16%
Equity Exposure	50%
Projected Funded Ratio after 15 Years	17%
Discount Rate	**4.25%**

[11] Funded ratios based on a 6.0% investment return assumption for plans using an actuarially sound funding policy (Standard or Optional) and a 5.0% investment return assumption for other plans (Alternative or Conservation).
[12] Based on target allocation percentage outlined in the investment policy.
[13] Assumes the IMB maintains a current growth asset target above 70%. If this policy changes, the assumption should be reviewed.

Salary Increases

The following assumed rates are used:

Years of Service	Increase
0	20.00%
1	9.00%
2	6.50%
3	6.00%
4-28	5.00%
29-33	4.00%
34+	3.50%

Pay Spiking

City of Princeton has indicated that unused accrued leave time (vacation and sick) is included in pensionable earnings used to compute the average annual compensation and, as such, a load of 6% is applied to active retirement and active termination pension benefits.

Inflation

2.50%, compounded annually.

Cost of Living Increase in Benefits

2.50% on first $15,000 of annual benefit and on the accumulated supplemental pension amounts for prior years. Assumed to be payable to all members receiving payments.

Mortality

Pre-Retirement

SOA PubS-2010(B) Employee[14] Mortality Table[15] with the 2010 base rates projected generationally from 2010 using the SOA Mortality Improvement **Scale MP-2019**.

Post Retirement

For Healthy Retirees and Beneficiaries:

SOA PubS-2010(B) Healthy Retiree Mortality Table with the 2010 base rates projected generationally from 2010 using the SOA Mortality Improvement **Scale MP-2019.**

For Disabled Retirees:

SOA PubS-2010 Disabled Retiree Mortality Table with the 2010 base rates **set forward five years** and projected generationally from 2010 using the SOA Mortality Improvement **Scale MP-2019.**

Mortality improvement projections to the valuation date represent current mortality and mortality improvement projections beyond the valuation date represent future mortality improvement.

[14] Table name abbreviations from *Society of Actuaries Pub-2010 Public Retirement Plans Mortality Tables Report* published in January 2019. For example, *PubS-2010(B) Employee* translates to the Amount-Weighted Public Safety 2010 Below Median Employee Mortality Table.

[15] *Assumes 10% of deaths are duty-related and 90% are non-duty related.*

Retirement Rates

Members need a minimum of 20 years of service in order to be eligible for normal retirement. The retirement rates below are for years of service greater than or equal to 20 years of service:

Age	Fire	Police
50	55%	60%
51-52	35%	40%
53-54	25%	40%
55-56	25%	50%
57-59	25%	40%
60	100%	100%

Terminated-vested members (members who terminate employment after attaining 20 years of service but prior to commencing pension benefits) are assumed to retire at age 50.

Termination of Employment

Sample termination rates are as follows:

Age	Fire	Police
20	15%	25%
25	7%	10%
30	5%	8%
35	2%	6%
40	2%	3.5%
45	1%	2%
50	0%	0%

Disability Rates

Sample disability rates are as follows:

Age	Rates[16]
30	0.33%
40	0.76%
50	1.18%

Marital Status

70% assumed to be married with wives 3 years younger than husbands. Widows and widowers are not expected to re-marry in the future.

[16] Assumes that 50% of disabilities are duty related and 50% are non-duty related. Also assumes that 5% of non-duty disabled members receive a 20% reduction in benefits through age 65 due to gainful employment.

Non-Vested Terminations

We value non-vested terminations based on the amount of their employee contribution account balance, which is assumed to be paid on the valuation date for current non-vested terminated members and on the termination date for future non-vested terminations.

Form of Payment

Benefits are assumed to be paid as a life annuity with a 60% spousal death benefit taking into account the re-indexing of the spouse's supplemental benefit as provided in WV Code §8-22-26a.

Non-Spouse Beneficiaries

Pre-retirement death benefits are loaded by 6% and post-retirement death benefits are loaded by 1% to estimate the impact of benefits provided to non-spouse beneficiaries (children, parents, siblings).

Administrative Expenses

Total administrative expenses for the fiscal year are equal to the average of the administrative expenses for the prior two fiscal years, increased by 2.50% annually for inflation.

Future expenses are assumed to increase by the general inflation assumption and are adjusted for headcount.

Changes in Methods/Assumptions Since Prior Valuation

Pursuant to the 2020 *Actuarial Methods Recommendations Report*, the WV MPOB adopted changes to the following methods:

- Amortization method: for the Standard and Optional funding policies, the method was changed from a single, closed amortization base to a layered amortization approach.
- Asset method: the method was changed from the market value of assets to a four-year smoothed actuarial value of assets.
- Roll-forward method: for the Standard and Optional funding policies, the method was changed from developing contributions for the valuation year to rolling valuation results forward one year to better align the contribution calculation with the expected timing of the contribution.

Pursuant to the 2020 *Experience Study Report*, the WV MPOB adopted changes to the following assumptions:

- Discount rate development and rates
- Salary increases
- Added a pay spiking assumption
- Inflation (and premium tax increase rate)
- Cost-of-living increases
- Mortality rates (tables and improvement scales)
- Retirement rates (now with separate rates for police officers and firefighters)
- Termination rates (now with separate rates for police officers and firefighters)
- Disability rates
- Marital status
- Load for non-spouse beneficiaries
- Administrative expenses

Section XIII. Glossary

Actuarial Accrued Liability (AAL)
The difference between the Actuarial Present Value of Future Benefits and the Actuarial Present Value of Future Normal Costs or the portion of the present value of future benefits allocated to service before the valuation date in accordance with the actuarial cost method. Represents the present value of benefits expected to be paid from the plan in the future allocated to service prior to the date of the measurement.

Actuarial Asset Valuation Method
The method of determining the value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value that recognizes investment gains and losses over a given period of time (rather than immediately) in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined contribution (ADC).

Actuarial Cost Method
A procedure for allocating the Actuarial Present Value of Future Benefits and the Actuarial Present Value of Future Normal costs and the Actuarial Accrued Liability. Also known as the “funding method”. Examples of actuarial cost methods include Aggregate, Entry Age Normal, Projected Unit Credit, and Pay-As-You-Go.

Actuarial Present Value of Future Benefits
The actuarial present value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund of member contributions or a future retirement benefit. It is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Aggregate Cost Method
An actuarial cost method that spreads the cost of all future benefits in excess of plan assets as a level percentage of future salary or service. The Actuarial Accrued Liability is set to the value of assets in this method.

Annual Determined Contributions of the Employer(s) (ADC)
The employer’s target or recommended periodic contribution to a pension plan, calculated in accordance with assumptions and methods that conform with the Actuarial Standards of Practice. The ADC replaced the annual required contribution (ARC) when GASB 27 was replaced by GASB 68.

Cost-of-Living-Adjustment (COLA)
A periodic increase in the amounts calculated using the plan’s basic benefit formula to account for the future effects of inflation which reduce the purchasing power of the calculated benefits.

Covered Group
Plan members included in actuarial valuation.

Demographic Assumptions
Assumptions regarding the future population of pension participants, including retirement, termination, disability and mortality assumptions. Demographic assumptions also include those relating to merit pay increases, marital status, and new hires.

Economic Assumptions
Assumptions regarding future economic factors, including inflation, investment returns, COLA, salary improvement, change in average wages, and changes in Social Security benefits.

Employer's Contributions
Contributions made in relation to the ADC. An employer has made a contribution in relation to the ADC if the employer has (a) made payments of benefits directly to or on behalf of a retiree or beneficiary, (b) made premium payments to an insurer, or (c) irrevocably transferred assets to a trust, or an equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator.

Entry Age Normal (EAN) Cost Method
An actuarial cost method that spreads the cost for each individual's expected benefits over their career, either as a level percentage of pay or service. The Actuarial Accrued Liability is the accumulated value of all past normal costs, and the unfunded accrued liability (surplus) is the excess of the Actuarial Accrued Liability over the value of assets.

Expenses
Plan expenses paid from the plan's assets (rather than directly by the employer) are divided into administrative and investment-related expenses.

Funded Ratio
The actuarial value of assets expressed as a percentage of the plan's Actuarial Accrued Liability.

GASB
Government Accounting Standards Board.

GASB No. 67 and GASB No. 68
These are the government accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems while Statement No. 67 sets the rules for the systems themselves.

Investment Return Assumption or Investment Rate of Return (Discount Rate)
The assumed rate of future investment earnings on the plan's assets, reflecting the current investment policy and expected future economic conditions. This rate is used to adjust, or discount, a series of future payments to reflect the time value of money and show future amounts in today's dollars.

Level Dollar Amortization Method
Amortization payments are calculated so that they are a level dollar amount over a given number of years.

Level Percentage of Projected Payroll Amortization Method

Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases due to inflation. In dollars adjusted for inflation, the payments can be expected to remain level (disregarding changes due to future actuarial experience differing from expectations).

Normal Cost

That portion of the Actuarial Present Value Future Benefits and expenses which is allocated to a valuation year by the actuarial cost method.

Payroll Growth Rate

An actuarial assumption with respect to future increases in total covered payroll attributable to inflation; used in applying the level percentage of projected payroll amortization method.

Plan Members

The individuals covered by the terms of a pension plan. The plan membership generally includes employees in active service, terminated employees who have accumulated benefits but are not yet receiving them, and retired employees and beneficiaries currently receiving benefits.

Post-Employment

The period between termination of employment and retirement as well as the period after retirement.

Salary Improvement

An actuarial assumption regarding the increase in employees' salaries, reflecting cost-of-living, merit and longevity increases.

Supplemental Benefits

Benefits that accumulate after a member's retirement based on an annual COLA increase in the amount of a retired participant's benefit intended to adjust the benefit for inflation.

Unfunded Actuarial Accrued Liabilities

The excess of the Actuarial Present Value of Future Benefits as of the date of a pension plan valuation, over the sum of (1) the actuarial value of the assets of the plan and (2) the Actuarial Present Value of Future Normal Costs determined by any of several actuarial cost methods. For plans that explicitly define an Actuarial Accrued Liability, this amount equals the excess of the Actuarial Accrued Liability over the actuarial value of assets.

Vested Plan Benefits

All benefits to which current participants have a vested right based on pay and service through the valuation date. A participant has a vested right to a benefit if he/she would still be eligible to receive that benefit if employment terminated on the valuation date.