



**Municipal Pensions  
Oversight Board**

**City of Morgantown  
West Virginia  
Firemen's Pension Plan**

Actuarial Valuation as of July 1, 2021  
to Determine the City's Contribution for  
the Fiscal Year Ending June 30, 2023

**Bolton**

Submitted by:

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# Bolton

Employee Benefits, Actuarial & Investment Consulting

September 30, 2022

Mr. Kevin Tennant  
Finance Director  
389 Spruce Street  
Morgantown, WV 26505

Firefighter Tanner Dalton  
Pension Board Secretary  
City of Morgantown  
Firemen's Pension and Relief Fund

Re: *City of Morgantown Firemen's Pension and Relief Fund*  
*Actuarial Valuation Report for the Year Beginning July 1, 2021*

Dear Mr. Tennant and Firefighter Dalton:

The following sets forth the actuarial valuation of the City of Morgantown Firemen's Pension and Relief Fund as of July 1, 2021. 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 2023 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.

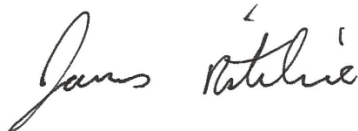
The purpose of this report is to provide information on:

- The sponsor's funding requirements for the fiscal year ending June 30, 2023, 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, 2023
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2023

If the City is considering the issuance of pension obligation bonds, the City should contact Bolton and the Municipal Pensions Oversight Board for the determination of the adjustments to information in the valuation report required under WV Code.

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 Morgantown Firemen’s Pension and Relief Fund (the Plan) as of July 1, 2021. 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 Morgantown (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 2022	FYE 2023
1. Prior Year Alternative Contribution	\$ 878,136	\$ 939,606
2. 7% Increase in Alternative Contribution	\$ 61,470	\$ 65,772
3. Current Year Preliminary Alternative Contribution	\$ 939,606	\$ 1,005,378
4. Additional Contribution for Benefit Overpayments	\$ 41,463	\$ 41,463
5. Required Alternative Contribution (3. + 4.)	\$ 981,069	\$ 1,046,841
6. Additional Contribution to Satisfy 15-Year Solvency Test on an Open Group Basis	\$ 0	\$ 0
7. Employer Contribution Requirement to Receive 100% of Premium Tax (5. + 6.)	\$ 981,069	\$ 1,046,841
8. Additional Contribution to Satisfy 15-Year Solvency Test on a Closed Group Basis	\$ 0	\$ 0
9. Employer Contribution Requirement to Receive 100% Premium Tax and Grant Supplemental Benefits (COLA) (7. + 8.)	\$ 981,069	\$ 1,046,841

Amortization Period to Eliminate Unfunded Liability	FYE 2022	FYE 2023
1. Net City Contribution	\$ 981,069	\$ 1,046,841
2. Estimated Premium Tax Allocation	\$ 629,777	\$ 587,680
3. Total City Contribution Plus Premium Tax (1. + 2.)	\$ 1,610,846	\$ 1,634,521
4. Net Employer Normal Cost with Interest	\$ 1,662,303	\$ 1,724,008
5. Payment Towards Unfunded Liability (3. – 4.)	\$ (51,457)	\$ (89,487)
<b>6. Estimated Number of Years this ‘Payment Towards Unfunded Liability’ Would Take to Eliminate the Unfunded Liability</b>	<b>Never</b>	<b>Never</b>



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

	July 1, 2019	July 1, 2020	July 1, 2021
Actuarial Accrued Liability (AAL)	\$ 51,879,109	\$ 53,209,890	\$ 53,445,583
Actuarial Value of Assets (AVA)	\$ 13,539,956	\$ 14,049,019	\$ 14,995,169
Unfunded Actuarial Accrued Liability	\$ 38,339,153	\$ 39,160,871	\$ 38,450,414
Funding Percentage	26.1%	26.4%	28.1%

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 2023 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.<sup>1</sup> 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, 2019	July 1, 2020	July 1, 2021	Conservative Measures
Inactive AAL Percent of Total AAL	52.9%	55.6%	61.2%	<50%
Assets (MVA) to Payroll	3.6	3.8	4.4	<5
Liabilities to Payroll	13.9	14.9	14.4	<5
Benefit Payments to Contributions	0.9	1.0	1.0	<3

<sup>1</sup> 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 *excluding* expected overpayments are expected to increase by 7.0% between FY 2022 and 2023 from \$939,606 to \$1,005,378. City contributions *including* expected overpayments are expected to increase by 6.7% from \$981,069 to \$1,046,841.
- In the past, the plan overpaid certain retirees and beneficiaries. On August 6, 2019, the Morgantown City Council approved the continuation of those overpayments as allowed by West Virginia Code 8-22-27a(d). The Actuarial Accrued Liability has reflected the overpayments since commencement of those benefits; however, the first contribution developed under the Alternative funding policy that accounted for these overpayments was the FY 2020 contribution. For FY 2023, an additional \$41,463 has been added to the City's required contribution of \$1,005,378, totaling a contribution of \$1,046,841. This additional contribution represents the total estimated amount of benefit overpayments without interest for FY 2023.
- No additional contributions are required to stay "solvent" for the next 15 years. Making the \$1,046,841 contribution will allow the plan to pay COLAs and receive premium tax payments.
- This valuation uses the same 4.25% discount rate as the prior valuation.
- Contributions under this policy are not based on actuarial liabilities and plan assets. However, liabilities increased by 0.4% and assets increased by 6.7%.
- The Plan's funded ratio increased from 26.4% to 28.1% and the Plan is expected to be 100% funded in 2060.
- The return on the market value of assets for FY 2021 was 22.4%, while the return on the actuarial value of assets for FY 2021 was 7.4%.

## Changes in Methods, Assumptions, and Plan Amendments

There were no changes in methods or assumptions reflected in this valuation.

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

## Sources of Information

The July 1, 2021 participant data and market value of assets were provided by or at the direction of the City of Morgantown. 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, 2021 valuation, the 15-year period would end on June 30, 2036. 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 Morgantown 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 Morgantown (the City). This liability 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.

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. The purpose of this report is to provide information on the following:

- The sponsor's funding requirements for the fiscal year ending June 30, 2023, 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, 2023
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2023

This report is neither intended nor necessarily suitable for other purposes, including any analysis surrounding the consideration of pension obligation bonds (POBs). WV Code §8-33-4a(d) requires the POB analysis to be based on the most recent actuarial valuation report with appropriate adjustments for timing, experience and other factors. Cities considering the issuance of POBs should contact Bolton and the MPOB to determine the appropriate adjustments that must be made for purposes of meeting the requirement of the Code. Bolton is not responsible for the consequences of any other use or the reliance upon this report by any other party.

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. We have not audited the census or asset data provided; however, based on our review, the data appears to be reasonable and consistent with previously provided information. Unless otherwise noted in our report, we believe the information provided is sufficiently complete and reliable for purposes of the results presented in this report. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information. The City is solely responsible for the validity and completeness of this information.

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.

The City of Morgantown Firemen's Pension Fund Board of Trustees is solely responsible for selecting the plan's investment manager and assisting the investment manager in the selection of the plan's investment policies, asset allocations and individual investments. Bolton's actuaries have not provided any investment advice to the City.

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. 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.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward-looking projection over a very long period of time, no one projection is uniquely “correct” and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future.

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

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. 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 are not responsible for the consequences of any decision by the City to make contributions at a future time rather than an earlier time. The City is responsible for funding the cost of the plan.

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

The 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.

The calculations in this report 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.



We make every effort to ensure that our calculations are accurately performed. 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.

Bolton does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretation on which this report is based reflects Bolton's understanding as an actuarial firm. Bolton recommends that recipients of this report consult with legal counsel when making any decisions regarding compliance with ERISA, the Internal Revenue Code, or any other statute or regulation.

The MPOB, Pension Board, or the City should notify Bolton promptly after receipt of this report if the City disagrees 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 herein. The report will be deemed final and acceptable to the City unless 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 to 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)		7/1/2020	7/1/2021
1. Normal Cost	\$	1,860,548	\$ 1,945,826
2.a. Administrative Expenses FYE (MOY)	\$	2,701	\$ 2,843
2.b. Administrative Expenses (BOY)	\$	2,645	\$ 2,784
3. Gross Normal Cost (1. + 2.b.)	\$	1,863,193	\$ 1,948,610
4. Expected Employee Contributions (BOY)	\$	291,154	\$ 310,705
5. Net Employer Normal Cost (3. – 4.)	\$	1,572,039	\$ 1,637,905
(% of Compensation)		44.83%	44.90%

### 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		7/1/2020	7/1/2021
Projection Date		7/1/2021	7/1/2022
1. Projected Normal Cost	\$	1,931,099	\$ 2,009,124
2.a. Projected Administrative Expenses (MOY)	\$	2,769	\$ 2,914
2.b. Projected Administrative Expenses (BOY)	\$	2,712	\$ 2,854
3. Projected Gross Normal Cost (1. + 2.b.)	\$	1,933,811	\$ 2,011,978
4. Projected Employee Contributions (BOY)	\$	305,744	\$ 323,477
5. Projected Net Employer Normal Cost (3. – 4.)	\$	1,628,067	\$ 1,688,501
(% of Compensation)		44.70%	44.87%



## Unfunded Actuarial Accrued Liability

Below is a summary of the key valuation results.

		7/1/2020		7/1/2021	
1. Actuarial Accrued Liability	<u>Count</u>			<u>Count</u>	
a. Active	57	\$ 23,635,499		59	\$ 20,729,827
b. Retirees	43	26,567,127		45	30,219,316
c. Survivors	15	2,219,920		14	2,146,360
d. Disableds	2	787,344		1	350,080
e. Deferred Vesteds	0	0		0	0
f. Former Members Due Refunds	0	0		0	0
<b>g. Total</b>	<b>117</b>	<b>\$ 53,209,890</b>		<b>119</b>	<b>\$ 53,445,583</b>
2. Present Value of Future Normal Costs		\$ 20,582,379		\$ 23,644,565	
3. Present Value of Benefits (1.g. + 2.)		\$ 73,792,269		\$ 77,090,148	
4. Actuarial Value of Assets		\$ 14,049,019		\$ 14,995,169	
5. Unfunded Actuarial Accrued Liability (1.g. – 4.)		\$ 39,160,871		\$ 38,450,414	
6. Funded Ratio (4. / 1.g.)		26.40%		28.06%	

## 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	7/1/2020	7/1/2021
1. Unfunded Actuarial Accrued Liability on Valuation Date	\$ 39,160,871	\$ 38,450,414
2. Net Employer Normal Cost, Excluding Expenses (BOY)	\$ 1,569,394	\$ 1,635,121
3. Expected Expenses (MOY)	\$ 2,701	\$ 2,843
4. Expected Employer Contribution Fiscal Year Beginning on the Valuation Date	\$ 920,414	\$ 981,069
5. Expected Premium Tax Allocation Fiscal Year Beginning on the Valuation Date	\$ 638,747	\$ 629,777
6. Projected Unfunded Actuarial Accrued Liability on Valuation Date + 1 Year	\$ 40,872,111	\$ 40,147,353



## 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 2022	FYE 2023
1. Prior Year Alternative Contribution	\$ 878,136	\$ 939,606
2. 7% Increase in Alternative Contribution	\$ 61,470	\$ 65,772
3. Current Year Preliminary Alternative Contribution	\$ 939,606	\$ 1,005,378
4. Additional Contribution for Benefit Overpayments	\$ 41,463	\$ 41,463
5. Required Alternative Contribution (3. + 4.)	\$ 981,069	\$ 1,046,841
6. Additional Contribution to Satisfy 15-Year Solvency Test on an Open Group Basis	\$ 0	\$ 0
7. Employer Contribution Requirement to Receive 100% of Premium Tax (5. + 6.)	\$ 981,069	\$ 1,046,841
8. Additional Contribution to Satisfy 15-Year Solvency Test on a Closed Group Basis	\$ 0	\$ 0
9. Employer Contribution Requirement to Receive 100% Premium Tax and Grant Supplemental Benefits (COLA) (7. + 8.)	\$ 981,069	\$ 1,046,841



## 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 2022	FYE 2023
1. Projected Gross Normal Cost, Including Administrative Expenses (BOY)	\$ 1,933,811	\$ 2,011,978
2. Projected Employee Contributions (BOY)	\$ 305,744	\$ 323,477
3. Projected Net Employer Normal Cost (BOY) (1. – 2.)	\$ 1,628,067	\$ 1,688,501
4. Interest on Normal Cost	\$ 34,236	\$ 35,507
5. Projected Total Employer Normal Cost with Interest (3. + 4.)	\$ 1,662,303	\$ 1,724,008
6. Amortization of Projected Unfunded Liability	\$ 2,361,786	\$ 2,401,098
7. Interest on Projected Unfunded Liability Payment	\$ 49,666	\$ 50,492
8. Unfunded Liability Payment with Interest (6. + 7.)	\$ 2,411,452	\$ 2,451,590
9. Estimated Premium Tax Allocation	\$ 629,777	\$ 587,680
10. Unfunded Liability Payment Net of Premium Tax Allocation (8. – 9., not less than 0)	\$ 1,781,675	\$ 1,863,910
11. Net Employer Contribution (5. + 10.)	\$ 3,443,978	\$ 3,587,918
<b>12. Actuarially Determined Contribution for GASB Purposes (5. + 8., not less than 0)</b>	<b>\$ 4,073,755</b>	<b>\$ 4,175,598</b>





### Schedule of Amortization Bases for GASB Purposes

Below is a schedule of the amortization bases as of July 1, 2022 used to develop the Actuarially Determined Contribution for GASB purposes.

Description	Date Established	Remaining Years	Outstanding Amount	Payment / (Credit)
Initial Unfunded	7/1/2022	27.5	\$ 40,147,353	\$ 2,401,098
<b>Total</b>			<b>\$ 40,147,353</b>	<b>\$ 2,401,098</b>

## Section V. Assets

### Asset Allocation

The table below shows the amount of funds invested in each account as of June 30, 2020 and June 30, 2021.

<b>Assets Held by Category</b>	<b>June 30, 2020</b>		<b>June 30, 2021</b>	
Cash and Deposits	\$	1,022,866	\$	836,768
<b>Receivables</b>				
Contributions	\$	11,673	\$	12,448
Investment Income		0		0
<b>Total Receivables</b>	<b>\$</b>	<b>11,673</b>	<b>\$</b>	<b>12,448</b>
<b>Investment</b>				
Government Securities	\$	1,265,353	\$	1,490,750
Fixed Income		2,227,750		2,562,454
Equities		7,238,170		9,873,719
Alternative Investments		1,824,939		1,753,356
Other		0		0
<b>Total Investments</b>	<b>\$</b>	<b>12,556,212</b>	<b>\$</b>	<b>15,680,279</b>
<b>Total Assets</b>	<b>\$</b>	<b>13,590,751</b>	<b>\$</b>	<b>16,529,495</b>
<b>Payables</b>				
Investment Expense	\$	0	\$	0
Benefits and Withdrawals		0		0
Administrative Expense		599		599
<b>Total Payables</b>	<b>\$</b>	<b>599</b>	<b>\$</b>	<b>599</b>
<b>Net Position</b>	<b>\$</b>	<b>13,590,152</b>	<b>\$</b>	<b>16,528,896</b>



## Reconciliation of Assets

Below is a reconciliation of assets (unaudited) from July 1, 2019 through June 30, 2021.

Plan Year Ending	June 30, 2020	June 30, 2021
1. Beginning of Year Market Value of Assets	\$ 13,539,956	\$ 13,590,152
Adjustments to Market Value of Assets	0	0
<b>Beginning of Year Market Value of Assets</b>	<b>\$ 13,539,956</b>	<b>\$ 13,590,152</b>
2. Additions		
a. Contributions		
(i) Local Government	\$ 933,095	\$ 920,455
(ii) State Government	631,772	638,747
(iii) Employee	306,452	309,002
(iv) Total	1,871,319	1,868,204
b. Receivable Contributions		
(i) Local Government	0	0
(ii) State Government	0	0
(iii) Employee Contributions	11,673	12,448
(iv) Total	11,673	12,448
c. Earnings on Investments		
(i) Net Appreciation/(Depreciation)	(399,813)	1,339,377
(ii) Net Realized Gain (Loss) on Sale/Exchange	(73,821)	1,369,920
(iii) Interest and Dividends	575,896	431,732
(iv) Other Income	0	0
(v) Investment Expense	(103,880)	(112,729)
(vi) Receivable Investment Income	0	0
(vii) Payable Investment Expenses	0	0
(viii) Net Investment Income	(1,618)	3,028,300
d. Other Revenue	0	0
<b>e. Total Additions</b>	<b>\$ 1,881,374</b>	<b>\$ 4,908,952</b>
3. Disbursements		
a. Benefit Payments	\$ 1,799,950	\$ 1,967,798
b. Withdrawals	28,090	0
c. Administrative Expenses		
(i) Municipal Fees	0	1,740
(ii) Other Expenses	2,539	71
(iii) Total Administrative Expenses	2,539	1,811
d. Payable Benefits and Withdrawals	0	0
e. Payable Administrative Expenses	599	599
<b>f. Total Disbursements</b>	<b>\$ 1,831,178</b>	<b>\$ 1,970,208</b>
4. Net Increase (2.e. – 3.f.)	50,196	2,938,744
<b>5. Net Assets (1. + 4.)</b>	<b>\$ 13,590,152</b>	<b>\$ 16,528,896</b>
6. Rate of Return Net of Investment Fees (2I / [A + B – I] Method <sup>2</sup> )	0.0%	22.4%

<sup>2</sup> 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, 2021

MVA (Gain)/Loss for Plan Year Ended June 30, 2021	
Market Value of Assets (MVA)	
a. MVA as of 7/1/2020	\$ 13,590,152
b. Interest on a. to 6/30/2021	577,581
c. Contributions with Interest to 6/30/2021	1,919,938
d. Benefit Payments with Interest to 6/30/2021	2,009,179
e. Administrative Expenses with Interest to 6/30/2021	2,448
f. Expected MVA at 6/30/2021 (a. + b. + c. – d. – e.)	14,076,044
g. Actual MVA at 6/30/2021	16,528,896
h. MVA (Gain)/Loss (f. - g.)	(2,452,852)

### Development of Actuarial Value of Assets

The actuarial asset value as of July 1, 2021 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, 2021
1.	Market Value of Assets			\$ 16,528,896
2.	Spreading of Investment (Gains)/Losses			
	Fiscal Year	(Gain)/Loss	% Deferred	Amount Deferred
	2021	\$ (2,452,852)	75%	\$ (1,839,639)
	2020	611,823	50%	305,912
	2019	0	25%	0
	a. Total Deferred			(1,533,727)
3.	Actuarial Value of Assets (1. + 2.a.)			\$ 14,995,169
4.	Rate of Return Net of Investment Fees (2I / [A + B – I] Method)			7.40%



## Section VI. Experience (Gain)/Loss

### Experience (Gain)/Loss for Plan Year Ended June 30, 2021

Experience (Gain)/Loss for Plan Year Ended June 30, 2021		
1. Liabilities		
a. Actuarial Accrued Liability as of 7/1/2020	\$	53,209,890
b. Normal Cost as of 7/1/2020		1,860,548
c. Interest on a. and b. to 6/30/2021		2,340,494
d. Benefit Payments with Interest to 6/30/2021		2,009,179
e. Effect of Assumption Changes		0
f. Expected Liability at 7/1/2021 (a. + b. + c. - d. + e.)		55,401,753
g. Actual Liability at 7/1/2021		53,445,583
h. Liability (Gain)/Loss (g. - f.)		(1,956,170)
2. Actuarial Value of Assets (AVA)		
a. AVA as of 7/1/2020	\$	14,049,019
b. Interest on a. to 6/30/2021		597,083
c. Contributions with Interest to 6/30/2021		1,919,938
d. Benefit Payments with Interest to 6/30/2021		2,009,179
e. Administrative Expenses with Interest to 6/30/2021		2,448
f. Expected AVA at 6/30/2021 (a. + b. + c. - d. - e.)		14,554,413
g. Actual AVA at 6/30/2021		14,995,169
h. AVA (Gain)/Loss (f. - g.)		(440,756)
3. Total (Gain)/Loss (1h. + 2h.)	\$	(2,396,926)

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

Pension plans are complicated financial instruments designed to provide income security for plan participants as they move through their working lives and into retirement. As such they can be subject to many different forces that can put the plan in better or worse positions over time. The primary risk that a plan sponsor incurs from a defined benefit plan is the risk of substantial increases in annual contributions.

The “maturity” level of a plan can indicate the likely sensitivity the plan will have to different events whether positive or negative. Variations in the investment returns are a common source of these types of events or shocks. Other sources might be experience that differs from that assumed, assumption changes or plan changes.

Actuarial Standard of Practice No. 51 *Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions* requires actuaries to provide information so that users of the report can better understand the potential for future results to vary from the results presented in this report and identify risks on the plan’s future financial condition. This standard does not require the assessment to be based on numerical calculations. In some cases, a more in-depth review of plan risk is warranted.

Examples of risk common to most public plans include the following (generally listed from greatest to least risk):

- Investment risk: The potential that investment returns will be different than expected. The Trustees are well aware of this risk. This valuation reflects the smoothing of asset returns, which reduces the risk of wide year-by-year contribution changes due to investment return fluctuations but does not ultimately reduce the risk inherent in a defined benefit plan.
- Contribution risk: Most commonly this is associated with the potential that actual future contributions are not made in accordance with the plan’s actuarially based funding policy. When this occurs, it can create negative long-term problems.
- Longevity and other demographic risks: The potential that mortality or other demographic experience will be different than expected.
- Asset/liability mismatch risk: The potential that changes in asset values are not matched by changes in the value of liabilities.
- Cash flow risks: The potential that contributions coming into the plan will not cover benefit payments. While common in well-funded plans, this still requires the use of interest, dividends or principal to cover benefit payments. When assets need to be sold (or more cash held) it can be an issue. Poorly funded plans with DROP lump sum payments can magnify the issue.

One item left off this list is “interest rate risk” (i.e., the potential that interest rates will be different than expected). This risk is common in corporate ERISA plans where funding is based on bond rates. Interest rates on bonds are still an important consideration when setting an expected return assumption and can change over time.



There are several plan maturity measures that can be significant to understanding the risks associated with the plan. The following table shows four commonly used measures of the relative riskiness of a pension plan, relative to the plan sponsor and the employee group covered by the plan and how they have changed over time.

Risk Measure	July 1, 2019	July 1, 2020	July 1, 2021	Conservative Measures
Inactive AAL Percent of Total AAL	52.9%	55.6%	61.2%	<50%
Assets (MVA) to Payroll	3.6	3.8	4.4	<5
Liabilities to Payroll	13.9	14.9	14.4	<5
Benefit Payments to Contributions	0.9	1.0	1.0	<3

The Assets to Payroll ratio, also called the Asset Volatility Ratio (AVR) is equal to the market value of assets (MVA) divided by payroll. A higher AVR implies that the plan is exposed to greater contribution volatility. The current *Assets to Payroll* of 4.4 indicates that a 1% asset gain/loss is about 4.4% of the annual payroll.

The Liabilities to Payroll ratio also call the Liability Volatility Ratio (LVR) is equal to the Actuarial Accrued Liability (AAL) divided by payroll. A higher LVR implies that the plan is exposed to greater contribution volatility due to changes in liability measurements. Similarly, the current *Liabilities to Payroll* of 14.4 indicates that a 1% change in liability is about 14.4% of the annual payroll.

The use of payroll in these risk measures is generally an easily available substitute for the employer's revenue and often reflects the employer's ability to afford the plan. Each of these measures are a measure of plan maturity. The common evolution of a pension plan is to become more mature over time. Mature plans present more risk to plan sponsors because changes to the liability or assets will result in large changes in the unfunded liability as compared to the overall size of the employer as measured by payroll. As a result, the change in the metrics over time can be as important as the nominal size of the metric itself.

## Additional Review

In some instances, more detailed quantitative assessment of risks is warranted either by the above maturity metrics, part of a periodic self-assessment of risks, or due to changes in investment allocations and capital market assumptions. The following are examples of tests 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. A scenario test could show, 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. A sensitivity analysis could demonstrate, for example, the impact of 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 type of analysis could show, for example, 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. A stress test could show, for example, 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)

Year End June 30	Number (BOY)		Assets											Actuarial Accrued Liability	Unfunded Liability	Projected Unfunded Liability	MVA Funded Ratio
	Active	Non-Active	Total Payroll	MVA (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	MVA (EOY)	AVA (EOY)					
2021	57	60	\$3,580,333	\$13,590,152	\$1,967,798	\$2,410	\$920,455	\$321,450	\$638,747	\$3,028,300	\$16,528,896	\$14,995,169	\$53,445,583	\$38,450,414	\$40,147,353	30.93%	
2022	59	60	\$3,724,403	\$16,528,896	\$2,126,620	\$2,843	\$981,069	\$317,239	\$629,777	\$698,243	\$17,025,761	\$15,952,291	\$55,574,203	\$39,621,912	\$41,397,212	30.64%	
2023	59	61	\$3,842,629	\$17,025,761	\$2,210,954	\$2,914	\$1,046,841	\$330,279	\$587,680	\$718,357	\$17,495,050	\$16,881,837	\$57,773,170	\$40,891,333	\$42,711,147	30.28%	
2024	59	61	\$3,991,810	\$17,495,050	\$2,295,328	\$2,987	\$1,117,217	\$346,166	\$591,788	\$738,427	\$17,990,333	\$17,990,333	\$60,062,204	\$42,071,871	\$43,911,839	29.95%	
2025	59	61	\$4,161,676	\$17,990,333	\$2,342,658	\$3,062	\$1,192,395	\$362,766	\$621,005	\$761,024	\$18,581,803	\$18,581,803	\$62,493,642	\$43,911,839	\$45,780,267	29.73%	
2026	59	60	\$4,272,246	\$18,581,803	\$2,426,707	\$3,112	\$1,272,761	\$375,077	\$635,673	\$786,650	\$19,222,145	\$19,222,145	\$65,002,412	\$45,780,267	\$47,641,678	29.57%	
2027	59	62	\$4,335,412	\$19,222,145	\$2,590,009	\$3,243	\$1,358,726	\$385,757	\$655,190	\$812,870	\$19,841,436	\$19,841,436	\$67,483,114	\$47,641,678	\$49,473,323	29.40%	
2028	59	64	\$4,366,365	\$19,841,436	\$2,789,031	\$3,379	\$1,450,642	\$393,919	\$679,575	\$837,620	\$20,410,782	\$20,410,782	\$69,884,105	\$49,473,323	\$51,337,343	29.21%	
2029	59	67	\$4,553,807	\$20,410,782	\$2,939,561	\$3,548	\$1,548,892	\$416,255	\$704,569	\$861,709	\$20,999,098	\$20,999,098	\$72,336,441	\$51,337,343	\$53,225,902	29.03%	
2030	59	68	\$4,712,472	\$20,999,098	\$3,063,554	\$3,666	\$1,653,967	\$434,779	\$721,229	\$887,052	\$21,628,905	\$21,628,905	\$74,854,807	\$53,225,902	\$55,124,004	28.89%	
2031	59	69	\$4,854,831	\$21,628,905	\$3,199,057	\$3,787	\$1,766,352	\$451,932	\$738,307	\$914,050	\$22,296,702	\$22,296,702	\$77,420,706	\$55,124,004	\$57,029,401	28.80%	
2032	59	70	\$5,014,409	\$22,296,702	\$3,326,538	\$3,912	\$1,886,482	\$469,821	\$755,811	\$943,018	\$23,021,384	\$23,021,384	\$80,050,785	\$57,029,401	\$58,918,334	28.76%	
2033	59	71	\$5,170,492	\$23,021,384	\$3,454,965	\$4,041	\$2,014,993	\$486,835	\$785,979	\$974,809	\$23,824,994	\$23,824,994	\$82,743,328	\$58,918,334	\$60,796,921	28.79%	
2034	59	73	\$5,389,166	\$23,824,994	\$3,553,529	\$4,206	\$2,152,436	\$508,700	\$828,854	\$1,011,138	\$24,768,387	\$24,768,387	\$85,565,308	\$60,796,921	\$62,680,441	28.95%	
2035	59	73	\$5,608,764	\$24,768,387	\$3,622,433	\$4,311	\$2,299,445	\$530,547	\$848,533	\$1,053,745	\$25,873,913	\$25,873,913	\$88,554,354	\$62,680,441	\$64,488,146	29.22%	
2036	59	73	\$5,772,734	\$25,873,913	\$3,734,853	\$4,419	\$2,456,698	\$546,898	\$912,686	\$1,103,364	\$27,154,287	\$27,154,287	\$91,642,433	\$64,488,146	\$66,266,531	29.63%	
2037	59	74	\$6,006,987	\$27,154,287	\$3,825,534	\$4,564	\$2,624,922	\$569,686	\$949,311	\$1,160,657	\$28,628,765	\$28,628,765	\$94,895,296	\$66,266,531	\$68,011,231	30.17%	
2038	59	74	\$6,231,690	\$28,628,765	\$3,896,080	\$4,678	\$2,804,934	\$591,645	\$971,821	\$1,226,557	\$30,322,964	\$30,322,964	\$98,334,195	\$68,011,231	\$69,666,998	30.84%	
2039	59	74	\$6,436,339	\$30,322,964	\$3,999,352	\$4,795	\$2,997,566	\$611,244	\$1,023,642	\$1,301,939	\$32,253,208	\$32,253,208	\$101,920,206	\$69,666,998	\$71,219,861	31.65%	
2040	59	75	\$6,590,289	\$32,253,208	\$4,162,591	\$4,952	\$3,203,666	\$626,121	\$1,047,971	\$1,385,696	\$34,349,119	\$34,349,119	\$105,568,980	\$71,219,861	\$72,684,229	32.54%	
2041	59	77	\$6,817,460	\$34,349,119	\$4,319,206	\$5,152	\$3,424,267	\$647,808	\$1,072,907	\$1,477,094	\$36,646,837	\$36,646,837	\$109,331,066	\$72,684,229	\$73,984,899	33.52%	
2042	59	77	\$6,935,306	\$36,646,837	\$4,553,678	\$5,281	\$3,660,388	\$659,198	\$1,107,181	\$1,575,740	\$39,090,385	\$39,090,385	\$113,075,284	\$73,984,899	\$75,142,563	34.57%	
2043	59	80	\$7,134,529	\$39,090,385	\$4,801,044	\$5,532	\$3,913,118	\$678,055	\$1,133,610	\$1,680,650	\$41,689,242	\$41,689,242	\$116,831,805	\$75,142,563	\$76,070,669	35.68%	
2044	59	81	\$7,276,849	\$41,689,242	\$5,051,051	\$5,711	\$4,183,664	\$691,557	\$1,190,551	\$1,793,011	\$44,491,263	\$44,491,263	\$120,561,932	\$76,070,669	\$76,783,682	36.90%	
2045	59	82	\$7,519,692	\$44,491,263	\$5,269,444	\$5,896	\$4,473,274	\$714,657	\$1,252,895	\$1,915,388	\$47,572,137	\$47,572,137	\$124,355,819	\$76,783,682	\$77,277,575	38.25%	
2046	59	83	\$7,794,705	\$47,572,137	\$5,460,363	\$6,086	\$4,783,282	\$740,725	\$1,303,392	\$2,050,435	\$50,983,522	\$50,983,522	\$128,261,097	\$77,277,575	\$77,491,286	39.75%	
2047	59	84	\$8,063,940	\$50,983,522	\$5,630,081	\$6,282	\$5,115,199	\$766,333	\$1,380,657	\$2,200,989	\$54,810,337	\$54,810,337	\$132,301,623	\$77,491,286	\$77,436,574	41.43%	
2048	59	85	\$8,336,140	\$54,810,337	\$5,814,653	\$6,484	\$5,470,510	\$792,213	\$1,413,773	\$2,368,455	\$59,034,151	\$59,034,151	\$136,470,725	\$77,436,574	\$77,075,603	43.26%	
2049	59	85	\$8,615,053	\$59,034,151	\$6,004,647	\$6,646	\$5,850,851	\$818,706	\$1,447,716	\$2,553,238	\$63,693,369	\$63,693,369	\$140,768,972	\$77,075,603	\$75,835,385	45.25%	
2050	59	86	\$8,908,121	\$63,693,369	\$6,201,466	\$6,859	\$6,258,055	\$846,553	\$2,010,463	\$2,768,094	\$69,368,209	\$69,368,209	\$145,203,594	\$75,835,385	\$74,183,001	47.77%	
2051	59	87	\$9,217,014	\$69,368,209	\$6,396,215	\$7,079	\$6,693,951	\$875,909	\$2,059,136	\$3,015,982	\$75,609,893	\$75,609,893	\$149,792,894	\$74,183,001	\$71,877,174	50.48%	
2052	59	88	\$9,509,571	\$75,609,893	\$6,618,331	\$7,306	\$7,160,584	\$903,719	\$2,288,041	\$3,291,789	\$82,628,389	\$82,628,389	\$154,505,563	\$71,877,174	\$68,750,506	53.48%	
2053	59	89	\$9,853,530	\$82,628,389	\$6,832,091	\$7,540	\$7,660,096	\$936,411	\$2,643,742	\$3,604,247	\$90,633,254	\$90,633,254	\$159,383,760	\$68,750,506	\$62,469,859	56.86%	
2054	59	89	\$10,203,721	\$90,633,254	\$7,048,198	\$7,729	\$8,194,377	\$969,678	\$5,217,154	\$4,005,963	\$101,964,859	\$101,964,859	\$164,434,718	\$62,469,859	\$55,362,473	62.01%	
2055	59	90	\$10,564,827	\$101,964,859	\$7,268,434	\$7,976	\$8,767,005	\$1,003,991	\$5,347,734	\$4,498,422	\$114,305,601	\$114,305,601	\$169,668,074	\$55,362,473	\$46,838,685	67.37%	
2056	59	91	\$10,947,583	\$114,305,601	\$7,488,543	\$8,230	\$9,379,523	\$1,040,365	\$5,991,898	\$5,045,461	\$128,266,075	\$128,266,075	\$175,104,760	\$46,838,685	\$36,524,500	73.25%	
2057	59	91	\$11,322,537	\$128,266,075	\$7,729,380	\$8,436	\$10,035,058	\$1,076,007	\$6,898,244	\$5,667,306	\$144,204,874	\$144,204,874	\$180,729,374	\$36,524,500	\$24,706,465	79.79%	
2058	59	92	\$11,739,488	\$144,204,874	\$7,965,211	\$8,705	\$10,736,659	\$1,115,617	\$7,422,303	\$6,366,348	\$161,871,885	\$161,871,885	\$186,578,350	\$24,706,465	\$10,725,053	86.76%	
2059	59	93	\$12,176,280	\$161,871,885	\$8,191,515	\$8,982	\$11,487,540	\$1,157,118	\$8,488,844	\$7,151,522	\$181,956,412	\$181,956,412	\$192,681,465	\$10,725,053	-	94.43%	
2060	59	93	\$12,613,437	\$181,956,412	\$8,425,848	\$9,207	\$12,291,058	\$1,198,659	\$4,104,530	\$7,925,755	\$199,041,359	\$199,041,359	\$199,041,359	-	-	100.00%	
2061	59	94	\$13,067,106	\$199,041,359	\$8,668,027	\$9,499	\$5,642,507	\$1,241,784	-	\$8,421,548	\$205,669,672	\$205,669,672	\$205,669,672	-	-	100.00%	
2062	59	94	\$13,534,494	\$205,669,672	\$8,925,208	\$9,736	\$5,845,512	\$1,286,195	-	\$8,703,041	\$212,569,476	\$212,569,476	\$212,569,476	-	-	100.00%	



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

Year End June 30	Number (BOY)		Total Payroll	Assets										Actuarial Accrued Liability	Unfunded Liability	Projected Unfunded Liability	MVA Funded Ratio
	Active	Non-Active		MVA (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	MVA (EOY)	AVA (EOY)					
2021	57	60	\$3,580,333	\$13,590,152	\$1,967,798	\$2,410	\$920,455	\$321,450	\$638,747	\$3,028,300	\$16,528,896	\$14,995,169	\$53,445,583	\$38,450,414	\$40,147,353	30.93%	
2022	59	60	\$3,724,403	\$16,528,896	\$2,126,620	\$2,843	\$981,069	\$317,239	\$629,777	\$698,243	\$17,025,761	\$15,952,291	\$55,574,203	\$39,621,912	\$41,296,995	30.64%	
2023	56	61	\$3,590,623	\$17,025,761	\$2,209,750	\$2,914	\$1,046,841	\$307,510	\$587,680	\$717,904	\$17,473,032	\$16,859,819	\$57,650,934	\$40,791,115	\$42,383,636	30.31%	
2024	53	61	\$3,441,360	\$17,473,032	\$2,290,937	\$2,910	\$1,117,217	\$296,061	\$591,788	\$736,531	\$17,920,782	\$17,920,782	\$59,665,144	\$41,744,362	\$43,237,778	30.04%	
2025	50	61	\$3,341,705	\$17,920,782	\$2,333,134	\$2,904	\$1,192,395	\$288,053	\$621,005	\$756,700	\$18,442,897	\$18,442,897	\$61,680,675	\$43,237,778	\$44,644,358	29.90%	
2026	48	60	\$3,202,389	\$18,442,897	\$2,406,475	\$2,896	\$1,272,761	\$277,383	\$635,673	\$779,122	\$18,998,465	\$18,998,465	\$63,642,823	\$44,644,358	\$45,901,401	29.85%	
2027	45	62	\$2,973,119	\$18,998,465	\$2,548,183	\$2,941	\$1,358,726	\$260,445	\$655,190	\$801,615	\$19,523,317	\$19,523,317	\$65,424,718	\$45,901,401	\$46,964,022	29.84%	
2028	41	64	\$2,683,671	\$19,523,317	\$2,715,819	\$2,958	\$1,450,642	\$237,933	\$679,575	\$822,368	\$19,995,058	\$19,995,058	\$66,959,080	\$46,964,022	\$47,858,856	29.86%	
2029	37	67	\$2,486,770	\$19,995,058	\$2,835,491	\$3,003	\$1,548,892	\$223,357	\$704,569	\$842,184	\$20,475,566	\$20,475,566	\$68,334,422	\$47,858,856	\$48,605,290	29.96%	
2030	34	68	\$2,338,554	\$20,475,566	\$2,927,369	\$3,019	\$1,653,967	\$212,329	\$721,229	\$863,002	\$20,995,705	\$20,995,705	\$69,600,995	\$48,605,290	\$49,179,732	30.17%	
2031	32	69	\$2,175,759	\$20,995,705	\$3,022,945	\$3,064	\$1,766,352	\$199,855	\$738,307	\$885,557	\$21,559,767	\$21,559,767	\$70,739,499	\$49,179,732	\$49,571,016	30.48%	
2032	29	70	\$2,025,620	\$21,559,767	\$3,108,612	\$3,078	\$1,886,482	\$187,755	\$755,811	\$910,367	\$22,188,492	\$22,188,492	\$71,759,508	\$49,571,016	\$49,746,660	30.92%	
2033	27	71	\$1,874,735	\$22,188,492	\$3,189,696	\$3,123	\$2,014,993	\$175,073	\$785,979	\$938,452	\$22,910,170	\$22,910,170	\$72,656,830	\$49,746,660	\$49,693,879	31.53%	
2034	25	72	\$1,760,816	\$22,910,170	\$3,244,987	\$3,168	\$2,152,436	\$165,072	\$828,854	\$971,542	\$23,779,919	\$23,779,919	\$73,473,798	\$49,693,879	\$49,433,097	32.37%	
2035	23	72	\$1,679,433	\$23,779,919	\$3,274,178	\$3,180	\$2,299,445	\$158,043	\$848,533	\$1,011,249	\$24,819,831	\$24,819,831	\$74,252,928	\$49,433,097	\$48,881,780	33.43%	
2036	22	71	\$1,566,334	\$24,819,831	\$3,329,784	\$3,191	\$2,456,698	\$147,826	\$912,686	\$1,058,717	\$26,062,783	\$26,062,783	\$74,944,563	\$48,881,780	\$48,054,267	34.78%	
2037	20	72	\$1,468,621	\$26,062,783	\$3,366,793	\$3,236	\$2,624,922	\$138,892	\$949,311	\$1,114,883	\$27,520,762	\$27,520,762	\$75,575,029	\$48,054,267	\$46,946,795	36.42%	
2038	19	72	\$1,384,226	\$27,520,762	\$3,385,396	\$3,281	\$2,804,934	\$131,247	\$971,821	\$1,180,553	\$29,220,640	\$29,220,640	\$76,167,435	\$46,946,795	\$45,494,692	38.36%	
2039	18	72	\$1,280,212	\$29,220,640	\$3,420,892	\$3,326	\$2,997,566	\$121,459	\$1,023,642	\$1,256,985	\$31,196,074	\$31,196,074	\$76,690,766	\$45,494,692	\$43,670,470	40.68%	
2040	16	72	\$1,129,304	\$31,196,074	\$3,485,876	\$3,333	\$3,203,666	\$107,261	\$1,047,971	\$1,344,122	\$33,409,885	\$33,409,885	\$77,080,355	\$43,670,470	\$41,451,309	43.34%	
2041	14	73	\$989,766	\$33,409,885	\$3,542,514	\$3,378	\$3,424,267	\$94,057	\$1,072,907	\$1,441,902	\$35,897,126	\$35,897,126	\$77,348,435	\$41,451,309	\$38,770,839	46.41%	
2042	12	73	\$803,583	\$35,897,126	\$3,636,771	\$3,383	\$3,660,388	\$76,464	\$1,107,181	\$1,550,944	\$38,651,949	\$38,651,949	\$77,422,788	\$38,770,839	\$35,596,733	49.92%	
2043	9	75	\$614,877	\$38,651,949	\$3,725,789	\$3,427	\$3,913,118	\$58,485	\$1,133,610	\$1,671,644	\$41,699,590	\$41,699,590	\$77,296,323	\$35,596,733	\$31,863,462	53.95%	
2044	7	75	\$446,725	\$41,699,590	\$3,798,912	\$3,429	\$4,183,664	\$42,489	\$1,190,551	\$1,806,181	\$45,120,134	\$45,120,134	\$76,983,596	\$31,863,462	\$27,547,357	58.61%	
2045	5	75	\$323,515	\$45,120,134	\$3,844,121	\$3,429	\$4,473,274	\$30,790	\$1,252,895	\$1,957,758	\$48,987,301	\$48,987,301	\$76,534,658	\$27,547,357	\$22,630,249	64.01%	
2046	3	75	\$231,522	\$48,987,301	\$3,861,507	\$3,427	\$4,783,282	\$22,021	\$1,303,392	\$2,129,144	\$53,360,206	\$53,360,206	\$75,990,455	\$22,630,249	\$17,056,215	70.22%	
2047	2	74	\$174,643	\$53,360,206	\$3,855,078	\$3,423	\$5,115,199	\$16,616	\$1,380,657	\$2,323,619	\$58,337,796	\$58,337,796	\$75,394,011	\$17,056,215	\$10,822,466	77.38%	
2048	2	73	\$124,147	\$58,337,796	\$3,840,370	\$3,462	\$5,470,510	\$11,815	\$1,413,773	\$2,543,542	\$63,933,604	\$63,933,604	\$74,756,070	\$10,822,466	\$3,877,940	85.52%	
2049	1	72	\$82,823	\$63,933,604	\$3,815,202	\$3,454	\$5,850,851	\$7,878	\$1,447,716	\$2,790,523	\$70,211,916	\$70,211,916	\$74,089,856	\$3,877,940	-	94.77%	
2050	1	71	\$52,939	\$70,211,916	\$3,783,627	\$3,492	\$3,990,460	\$5,042	-	\$2,988,388	\$73,408,687	\$73,408,687	\$73,408,687	-	-	100.00%	
2051	0	70	\$33,846	\$73,408,687	\$3,738,266	\$3,480	\$22,207	\$3,221	-	\$3,041,719	\$72,734,088	\$72,734,088	\$72,734,088	-	-	100.00%	
2052	0	68	\$19,925	\$72,734,088	\$3,686,674	\$3,465	\$14,441	\$1,896	-	\$3,013,943	\$72,074,229	\$72,074,229	\$72,074,229	-	-	100.00%	
2053	0	67	\$13,687	\$72,074,229	\$3,626,617	\$3,499	\$11,276	\$1,302	-	\$2,987,082	\$71,443,773	\$71,443,773	\$71,443,773	-	-	100.00%	
2054	0	65	\$9,433	\$71,443,773	\$3,562,564	\$3,479	\$8,967	\$897	-	\$2,961,578	\$70,849,172	\$70,849,172	\$70,849,172	-	-	100.00%	
2055	0	64	\$4,748	\$70,849,172	\$3,496,360	\$3,511	\$6,099	\$451	-	\$2,937,629	\$70,293,480	\$70,293,480	\$70,293,480	-	-	100.00%	
2056	0	62	\$3,557	\$70,293,480	\$3,424,700	\$3,486	\$5,504	\$338	-	\$2,915,505	\$69,786,641	\$69,786,641	\$69,786,641	-	-	100.00%	
2057	0	60	\$2,039	\$69,786,641	\$3,350,735	\$3,458	\$4,625	\$194	-	\$2,895,499	\$69,332,766	\$69,332,766	\$69,332,766	-	-	100.00%	
2058	0	59	\$864	\$69,332,766	\$3,273,688	\$3,485	\$3,925	\$82	-	\$2,877,811	\$68,937,411	\$68,937,411	\$68,937,411	-	-	100.00%	
2059	0	57	\$645	\$68,937,411	\$3,193,156	\$3,451	\$3,794	\$61	-	\$2,862,700	\$68,607,359	\$68,607,359	\$68,607,359	-	-	100.00%	
2060	0	55	-	\$68,607,359	\$3,110,345	\$3,413	\$3,413	-	-	\$2,850,406	\$68,347,420	\$68,347,420	\$68,347,420	-	-	100.00%	
2061	0	54	-	\$68,347,420	\$3,024,401	\$3,435	\$3,435	-	-	\$2,841,166	\$68,164,185	\$68,164,185	\$68,164,185	-	-	100.00%	
2062	0	52	-	\$68,164,185	\$2,936,050	\$3,390	\$3,390	-	-	\$2,835,236	\$68,063,371	\$68,063,371	\$68,063,371	-	-	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 2062 assuming the municipality elects one of the new funding policies for the next fiscal year:

Contribution Comparison for FYE June 30, 2023							
		Local Plan		State Plan		Total	
Funding Policy	AVA Funded Status	Amount	% of Pay	Amount	% of Pay	Amount	% of Pay
Alternative	28.1%	\$1,046,841	27.2%	N/A	N/A	\$1,046,841	27.2%
Optional	28.1%	\$3,489,765	97.2%	\$21,421	8.5%	\$3,511,186	91.4%
Conservation	28.1%	\$1,371,333	38.2%	\$21,421	8.5%	\$1,392,754	36.2%

Contribution Comparison for FYE June 30, 2062							
		Local Plan		State Plan		Total	
Funding Policy	100% Funded Year	Amount	% of Pay	Amount	% of Pay	Amount	% of Pay
Alternative	2060	\$5,845,512	43.2%	N/A	N/A	\$5,845,512	43.2%
Optional	2050	\$3,390	N/A	\$1,150,432	8.5%	\$1,153,822	8.5%
Conservation	2055	\$3,390	N/A	\$1,150,432	8.5%	\$1,153,822	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 2062).

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	2054	\$8,194,737	\$5,151,777	\$(3,042,960)
Conservation	2036	\$2,456,698	\$2,428,347	\$(28,351)

Contribution Comparison for FYE June 30, 2062				
		Current Policy	New Policy	Difference
Funding Policy	AVA Funded Status	Total (Local + State) Contribution in FYE 2062	Total (Local + State) Contribution in FYE 2062	New Policy Contribution Minus Alternative
Optional	95%	\$5,845,512	\$3,477,970	\$(2,367,542)
Conservation	96%	\$5,845,512	\$1,139,372	\$(4,706,140)

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 2062” 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 2062.

**Table 3 – Switch to Optional Funding Policy in 2023**

Year End June 30	Number (BOY)		Assets										Actuarial Accrued Liability	Unfunded Liability	Projected Unfunded Liability	AVA Funded Ratio
	Active	Non-Active	MVA (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	MVA (EOY)	AVA (EOY)					
2021	57	60	\$13,590,152	\$1,967,798	\$2,410	\$920,455	\$321,450	\$638,747	\$3,028,300	\$16,528,896	\$14,995,169	\$53,445,583	\$38,450,414	\$40,147,353	28.06%	
2022	59	60	\$16,528,896	\$2,126,620	\$2,843	\$981,069	\$317,239	\$629,777	\$698,243	\$17,025,761	\$15,952,291	\$55,574,203	\$39,621,912	\$38,802,699	28.70%	
2023	56	61	\$17,025,761	\$2,209,750	\$2,914	\$3,489,765	\$307,510	\$587,680	\$769,276	\$19,967,328	\$19,354,115	\$57,650,934	\$38,296,819	\$37,471,421	33.57%	
2024	53	61	\$19,967,328	\$2,290,937	\$2,910	\$3,381,513	\$296,061	\$591,788	\$890,154	\$22,832,997	\$22,832,997	\$59,665,144	\$36,832,147	\$35,992,766	38.27%	
2025	50	61	\$22,832,997	\$2,333,134	\$2,904	\$3,272,677	\$288,053	\$621,005	\$1,009,215	\$25,687,909	\$25,687,909	\$61,680,675	\$35,992,766	\$35,178,705	41.65%	
2026	48	60	\$25,687,909	\$2,406,475	\$2,896	\$3,146,095	\$277,383	\$635,673	\$1,126,429	\$28,464,118	\$28,464,118	\$63,642,823	\$35,178,705	\$34,330,047	44.72%	
2027	45	62	\$28,464,118	\$2,548,183	\$2,941	\$3,027,054	\$260,445	\$655,190	\$1,238,988	\$31,094,671	\$31,094,671	\$65,424,718	\$34,330,047	\$33,445,321	47.53%	
2028	41	64	\$31,094,671	\$2,715,819	\$2,958	\$2,876,228	\$237,933	\$679,575	\$1,344,129	\$33,513,759	\$33,513,759	\$66,959,080	\$33,445,321	\$32,522,994	50.05%	
2029	37	67	\$33,513,759	\$2,835,491	\$3,003	\$2,765,915	\$223,357	\$704,569	\$1,442,322	\$35,811,428	\$35,811,428	\$68,334,422	\$32,522,994	\$31,561,467	52.41%	
2030	34	68	\$35,811,428	\$2,927,369	\$3,019	\$2,688,401	\$212,329	\$721,229	\$1,536,529	\$38,039,528	\$38,039,528	\$69,600,995	\$31,561,467	\$30,559,075	54.65%	
2031	32	69	\$38,039,528	\$3,022,945	\$3,064	\$2,601,266	\$199,855	\$738,307	\$1,627,477	\$40,180,424	\$40,180,424	\$70,739,499	\$30,559,075	\$29,514,082	56.80%	
2032	29	70	\$40,180,424	\$3,108,612	\$3,078	\$2,518,098	\$187,755	\$755,811	\$1,715,028	\$42,245,426	\$42,245,426	\$71,759,508	\$29,514,082	\$28,424,676	58.87%	
2033	27	71	\$42,245,426	\$3,189,696	\$3,123	\$2,419,124	\$175,073	\$785,979	\$1,799,371	\$44,232,154	\$44,232,154	\$72,656,830	\$28,424,676	\$27,288,971	60.88%	
2034	25	72	\$44,232,154	\$3,244,987	\$3,168	\$2,325,536	\$165,072	\$828,854	\$1,881,366	\$46,184,827	\$46,184,827	\$73,473,798	\$27,288,971	\$26,104,999	62.86%	
2035	23	72	\$46,184,827	\$3,274,178	\$3,180	\$2,271,024	\$158,043	\$848,533	\$1,962,860	\$48,147,929	\$48,147,929	\$74,252,928	\$26,104,999	\$24,870,707	64.84%	
2036	22	71	\$48,147,929	\$3,329,784	\$3,191	\$2,154,582	\$147,826	\$912,686	\$2,043,808	\$50,073,856	\$50,073,856	\$74,944,563	\$24,870,707	\$23,583,958	66.81%	
2037	20	72	\$50,073,856	\$3,366,793	\$3,236	\$2,075,246	\$138,892	\$949,311	\$2,123,795	\$51,991,071	\$51,991,071	\$75,575,029	\$23,583,958	\$22,242,522	68.79%	
2038	19	72	\$51,991,071	\$3,385,396	\$3,281	\$2,015,510	\$131,247	\$971,821	\$2,203,941	\$53,924,913	\$53,924,913	\$76,167,435	\$22,242,522	\$20,793,942	70.80%	
2039	18	72	\$53,924,913	\$3,420,892	\$3,326	\$1,965,808	\$121,459	\$1,023,642	\$2,285,220	\$55,896,824	\$55,896,824	\$76,690,766	\$20,793,942	\$19,235,533	72.89%	
2040	16	72	\$55,896,824	\$3,485,876	\$3,333	\$1,915,167	\$107,261	\$1,047,971	\$2,366,808	\$57,844,822	\$57,844,822	\$77,080,355	\$19,235,533	\$17,549,899	75.04%	
2041	14	73	\$57,844,822	\$3,542,514	\$3,378	\$1,884,632	\$94,057	\$1,072,907	\$2,448,010	\$59,798,536	\$59,798,536	\$77,348,435	\$17,549,899	\$15,792,625	77.31%	
2042	12	73	\$59,798,536	\$3,636,771	\$3,383	\$1,761,317	\$76,464	\$1,107,181	\$2,526,819	\$61,630,163	\$61,630,163	\$77,422,788	\$15,792,625	\$13,960,667	79.60%	
2043	9	75	\$61,630,163	\$3,725,789	\$3,427	\$1,642,152	\$58,485	\$1,133,610	\$2,600,462	\$63,335,656	\$63,335,656	\$77,296,323	\$13,960,667	\$12,050,851	81.94%	
2044	7	75	\$63,335,656	\$3,798,912	\$3,429	\$1,497,170	\$42,489	\$1,190,551	\$2,669,220	\$64,932,745	\$64,932,745	\$76,983,596	\$12,050,851	\$10,059,869	84.35%	
2045	5	75	\$64,932,745	\$3,844,121	\$3,429	\$1,371,345	\$30,790	\$1,252,895	\$2,734,564	\$66,474,789	\$66,474,789	\$76,534,658	\$10,059,869	\$7,984,269	86.86%	
2046	3	75	\$66,474,789	\$3,861,507	\$3,427	\$1,272,386	\$22,021	\$1,303,392	\$2,798,532	\$68,006,186	\$68,006,186	\$75,990,455	\$7,984,269	\$5,820,456	89.49%	
2047	2	74	\$68,006,186	\$3,855,078	\$3,423	\$1,165,580	\$16,616	\$1,380,657	\$2,863,017	\$69,573,555	\$69,573,555	\$75,394,011	\$5,820,456	\$3,564,682	92.28%	
2048	2	73	\$69,573,555	\$3,840,370	\$3,462	\$1,106,780	\$11,815	\$1,413,773	\$2,929,297	\$71,191,388	\$71,191,388	\$74,756,070	\$3,564,682	\$1,213,038	95.23%	
2049	1	72	\$71,191,388	\$3,815,202	\$3,454	\$1,050,461	\$7,878	\$1,447,716	\$2,998,031	\$72,876,818	\$72,876,818	\$74,089,856	\$1,213,038	-	98.36%	
2050	1	71	\$72,876,818	\$3,783,627	\$3,492	\$30,971	\$5,042	\$1,238,547	\$3,044,428	\$73,408,687	\$73,408,687	\$73,408,687	-	-	100.00%	
2051	0	70	\$73,408,687	\$3,738,266	\$3,480	\$22,207	\$3,221	-	\$3,041,719	\$72,734,088	\$72,734,088	\$72,734,088	-	-	100.00%	
2052	0	68	\$72,734,088	\$3,686,674	\$3,465	\$14,441	\$1,896	-	\$3,013,943	\$72,074,229	\$72,074,229	\$72,074,229	-	-	100.00%	
2053	0	67	\$72,074,229	\$3,626,617	\$3,499	\$11,276	\$1,302	-	\$2,987,082	\$71,443,773	\$71,443,773	\$71,443,773	-	-	100.00%	
2054	0	65	\$71,443,773	\$3,562,564	\$3,479	\$8,967	\$897	-	\$2,961,578	\$70,849,172	\$70,849,172	\$70,849,172	-	-	100.00%	
2055	0	64	\$70,849,172	\$3,496,360	\$3,511	\$6,099	\$451	-	\$2,937,629	\$70,293,480	\$70,293,480	\$70,293,480	-	-	100.00%	
2056	0	62	\$70,293,480	\$3,424,700	\$3,486	\$5,504	\$338	-	\$2,915,505	\$69,786,641	\$69,786,641	\$69,786,641	-	-	100.00%	
2057	0	60	\$69,786,641	\$3,350,735	\$3,458	\$4,626	\$194	-	\$2,895,498	\$69,332,766	\$69,332,766	\$69,332,766	-	-	100.00%	
2058	0	59	\$69,332,766	\$3,273,688	\$3,485	\$3,924	\$82	-	\$2,877,812	\$68,937,411	\$68,937,411	\$68,937,411	-	-	100.00%	
2059	0	57	\$68,937,411	\$3,193,156	\$3,451	\$3,794	\$61	-	\$2,862,700	\$68,607,359	\$68,607,359	\$68,607,359	-	-	100.00%	
2060	0	55	\$68,607,359	\$3,110,345	\$3,413	\$3,413	-	-	\$2,850,406	\$68,347,420	\$68,347,420	\$68,347,420	-	-	100.00%	
2061	0	54	\$68,347,420	\$3,024,401	\$3,435	\$3,436	-	-	\$2,841,165	\$68,164,185	\$68,164,185	\$68,164,185	-	-	100.00%	
2062	0	52	\$68,164,185	\$2,936,050	\$3,390	\$3,390	-	-	\$2,835,236	\$68,063,371	\$68,063,371	\$68,063,371	-	-	100.00%	

Table 3 – Switch to Optional Funding Policy in 2023 (Cont.)

Year End June 30	Closed Group Payroll	New Entrant Payroll	Total Payroll	Employer Contributions										Total Employer Contrib.	
				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.
2023	\$3,590,623	\$252,006	\$3,842,629	\$301,177	\$1,890,692	\$33,426	\$1,622,941	\$2,401,098	\$50,492	\$587,680	\$1,863,910	\$2,914	\$3,489,765	\$21,421	\$3,511,186
2024	\$3,441,360	\$550,450	\$3,991,810	\$289,963	\$1,825,571	\$32,292	\$1,567,900	\$2,353,010	\$49,481	\$591,788	\$1,810,703	\$2,910	\$3,381,513	\$46,788	\$3,428,301
2025	\$3,341,705	\$819,971	\$4,161,676	\$282,120	\$1,786,052	\$31,626	\$1,535,558	\$2,306,712	\$48,508	\$621,005	\$1,734,215	\$2,904	\$3,272,677	\$69,698	\$3,342,375
2026	\$3,202,389	\$1,069,857	\$4,272,246	\$271,670	\$1,724,508	\$30,552	\$1,483,390	\$2,248,205	\$47,277	\$635,673	\$1,659,809	\$2,896	\$3,146,095	\$90,938	\$3,237,033
2027	\$2,973,119	\$1,362,293	\$4,335,412	\$255,081	\$1,610,401	\$28,501	\$1,383,821	\$2,248,205	\$47,277	\$655,190	\$1,640,292	\$2,941	\$3,027,054	\$115,795	\$3,142,849
2028	\$2,683,671	\$1,682,694	\$4,366,365	\$233,033	\$1,464,500	\$25,896	\$1,257,363	\$2,248,205	\$47,277	\$679,575	\$1,615,907	\$2,958	\$2,876,228	\$143,029	\$3,019,257
2029	\$2,486,770	\$2,067,037	\$4,553,807	\$218,757	\$1,366,618	\$24,138	\$1,171,999	\$2,248,205	\$47,277	\$704,569	\$1,590,913	\$3,003	\$2,765,915	\$175,698	\$2,941,613
2030	\$2,338,554	\$2,373,918	\$4,712,472	\$207,956	\$1,296,200	\$22,885	\$1,111,129	\$2,248,205	\$47,277	\$721,229	\$1,574,253	\$3,019	\$2,688,401	\$201,783	\$2,890,184
2031	\$2,175,759	\$2,679,072	\$4,854,831	\$195,739	\$1,215,325	\$21,441	\$1,041,027	\$2,248,205	\$47,277	\$738,307	\$1,557,175	\$3,064	\$2,601,266	\$227,721	\$2,828,987
2032	\$2,025,620	\$2,988,789	\$5,014,409	\$183,888	\$1,139,149	\$20,088	\$975,349	\$2,248,205	\$47,277	\$755,811	\$1,539,671	\$3,078	\$2,518,098	\$254,047	\$2,772,145
2033	\$1,874,735	\$3,295,757	\$5,170,492	\$171,467	\$1,059,295	\$18,670	\$906,498	\$2,248,205	\$47,277	\$785,979	\$1,509,503	\$3,123	\$2,419,124	\$280,139	\$2,699,263
2034	\$1,760,816	\$3,628,350	\$5,389,166	\$161,672	\$999,787	\$17,625	\$855,740	\$2,248,205	\$47,277	\$828,854	\$1,466,628	\$3,168	\$2,325,536	\$308,410	\$2,633,946
2035	\$1,679,433	\$3,929,331	\$5,608,764	\$154,788	\$958,776	\$16,907	\$820,895	\$2,248,205	\$47,277	\$848,533	\$1,446,949	\$3,180	\$2,271,024	\$333,993	\$2,605,017
2036	\$1,566,334	\$4,206,400	\$5,772,734	\$144,781	\$897,546	\$15,830	\$768,595	\$2,248,205	\$47,277	\$912,686	\$1,382,796	\$3,191	\$2,154,582	\$357,544	\$2,512,126
2037	\$1,468,621	\$4,538,366	\$6,006,987	\$136,031	\$846,921	\$14,949	\$725,839	\$2,248,205	\$47,277	\$949,311	\$1,346,171	\$3,236	\$2,075,246	\$385,761	\$2,461,007
2038	\$1,384,226	\$4,847,464	\$6,231,690	\$128,544	\$802,930	\$14,182	\$688,568	\$2,248,205	\$47,277	\$971,821	\$1,323,661	\$3,281	\$2,015,510	\$412,034	\$2,427,544
2039	\$1,280,212	\$5,156,127	\$6,436,339	\$118,957	\$747,285	\$13,213	\$641,541	\$2,296,294	\$48,289	\$1,023,642	\$1,320,941	\$3,326	\$1,965,808	\$438,271	\$2,404,079
2040	\$1,129,304	\$5,460,985	\$6,590,289	\$105,052	\$661,306	\$11,697	\$567,951	\$2,342,592	\$49,262	\$1,047,971	\$1,343,883	\$3,333	\$1,915,167	\$464,184	\$2,379,351
2041	\$989,766	\$5,827,694	\$6,817,460	\$92,120	\$584,340	\$10,351	\$502,571	\$2,401,098	\$50,492	\$1,072,907	\$1,378,683	\$3,378	\$1,884,632	\$495,354	\$2,379,986
2042	\$803,583	\$6,131,723	\$6,935,306	\$74,889	\$479,897	\$8,517	\$413,525	\$2,401,098	\$50,492	\$1,107,181	\$1,344,409	\$3,383	\$1,761,317	\$521,196	\$2,282,513
2043	\$614,877	\$6,519,652	\$7,134,529	\$57,280	\$371,419	\$6,606	\$320,745	\$2,401,098	\$50,492	\$1,133,610	\$1,317,980	\$3,427	\$1,642,152	\$554,170	\$2,196,322
2044	\$446,725	\$6,830,124	\$7,276,849	\$41,614	\$269,523	\$4,793	\$232,702	\$2,401,098	\$50,492	\$1,190,551	\$1,261,039	\$3,429	\$1,497,170	\$580,561	\$2,077,731
2045	\$323,515	\$7,196,177	\$7,519,692	\$30,156	\$195,892	\$3,485	\$169,221	\$2,401,098	\$50,492	\$1,252,895	\$1,198,695	\$3,429	\$1,371,345	\$611,675	\$1,983,020
2046	\$231,522	\$7,563,183	\$7,794,705	\$21,567	\$139,841	\$2,487	\$120,761	\$2,401,098	\$50,492	\$1,303,392	\$1,148,198	\$3,427	\$1,272,386	\$642,871	\$1,915,257
2047	\$174,643	\$7,889,297	\$8,063,940	\$16,274	\$105,619	\$1,879	\$91,224	\$2,401,098	\$50,492	\$1,380,657	\$1,070,933	\$3,423	\$1,165,580	\$670,590	\$1,836,170
2048	\$124,147	\$8,211,993	\$8,336,140	\$11,572	\$75,724	\$1,349	\$65,501	\$2,401,098	\$50,492	\$1,413,773	\$1,037,817	\$3,462	\$1,106,780	\$698,019	\$1,804,799
2049	\$82,823	\$8,532,230	\$8,615,053	\$7,716	\$49,961	\$888	\$43,133	\$2,401,098	\$50,492	\$1,447,716	\$1,003,874	\$3,454	\$1,050,461	\$725,240	\$1,775,701
2050	\$52,939	\$8,855,182	\$8,908,121	\$4,938	\$31,851	\$566	\$27,479	\$1,213,054	\$25,509	\$1,238,547	\$16	\$3,492	\$30,971	\$752,690	\$783,661
2051	\$33,846	\$9,183,168	\$9,217,014	\$3,155	\$21,496	\$386	\$18,727	-	-	-	-	\$3,480	\$22,207	\$780,569	\$802,776
2052	\$19,925	\$9,489,646	\$9,509,571	\$1,857	\$12,607	\$226	\$10,976	-	-	-	-	\$3,465	\$14,441	\$806,620	\$821,061
2053	\$13,687	\$9,839,843	\$9,853,530	\$1,275	\$8,892	\$160	\$7,777	-	-	-	-	\$3,499	\$11,276	\$836,387	\$847,663
2054	\$9,433	\$10,194,288	\$10,203,721	\$879	\$6,254	\$113	\$5,488	-	-	-	-	\$3,479	\$8,967	\$866,514	\$875,481
2055	\$4,748	\$10,560,079	\$10,564,827	\$442	\$2,976	\$53	\$2,587	-	-	-	-	\$3,511	\$6,099	\$897,607	\$903,706
2056	\$3,557	\$10,944,026	\$10,947,583	\$331	\$2,308	\$42	\$2,019	-	-	-	-	\$3,486	\$5,504	\$930,242	\$935,746
2057	\$2,039	\$11,320,498	\$11,322,537	\$190	\$1,333	\$24	\$1,167	-	-	-	-	\$3,458	\$4,626	\$962,242	\$966,868
2058	\$864	\$11,738,624	\$11,739,488	\$80	\$511	\$9	\$440	-	-	-	-	\$3,485	\$3,924	\$997,783	\$1,001,707
2059	\$645	\$12,175,635	\$12,176,280	\$60	\$396	\$7	\$343	-	-	-	-	\$3,451	\$3,794	\$1,034,929	\$1,038,723
2060	-	\$12,613,437	\$12,613,437	-	-	-	-	-	-	-	-	\$3,413	\$3,413	\$1,072,142	\$1,075,555
2061	-	\$13,067,106	\$13,067,106	-	-	-	-	-	-	-	-	\$3,435	\$3,436	\$1,110,704	\$1,114,140
2062	-	\$13,534,494	\$13,534,494	-	-	-	-	-	-	-	-	\$3,390	\$3,390	\$1,150,432	\$1,153,822



**Table 4 – Switch to Conservation Funding Policy in 2023**

Year End June 30	Number (BOY)			Assets								Actuarial Accrued Liability	Unfunded Liability	MVA Funded Ratio
	Active	Non-Active	Total Payroll	Assets <sup>3</sup> (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	Assets <sup>3</sup> (EOY)			
2021	57	60	\$3,580,333	\$13,590,152	\$1,967,798	\$2,410	\$920,455	\$321,450	\$638,747	\$3,028,300	\$16,528,896	\$53,445,583	\$36,916,687	30.93%
2022	59	60	\$3,724,403	\$16,528,896	\$2,126,620	\$2,843	\$981,069	\$317,239	\$629,777	\$698,243	\$17,025,761	\$55,574,203	\$38,548,442	30.64%
2023	56	61	\$3,590,623	\$17,025,761	\$2,209,750	\$2,914	\$1,371,333	\$307,510	\$587,680	\$724,727	\$17,804,347	\$57,650,934	\$39,846,587	30.88%
2024	53	61	\$3,441,360	\$17,804,347	\$2,290,937	\$2,910	\$1,457,618	\$296,061	\$591,788	\$757,770	\$18,613,737	\$59,665,144	\$41,051,407	31.20%
2025	50	61	\$3,341,705	\$18,613,737	\$2,333,134	\$2,904	\$1,477,106	\$288,053	\$621,005	\$792,138	\$19,456,001	\$61,680,675	\$42,224,674	31.54%
2026	48	60	\$3,202,389	\$19,456,001	\$2,406,475	\$2,896	\$1,544,351	\$277,383	\$635,673	\$827,890	\$20,331,927	\$63,642,823	\$43,310,896	31.95%
2027	45	62	\$2,973,119	\$20,331,927	\$2,548,183	\$2,941	\$1,680,086	\$260,445	\$655,190	\$865,045	\$21,241,569	\$65,424,718	\$44,183,149	32.47%
2028	41	64	\$2,683,671	\$21,241,569	\$2,715,819	\$2,958	\$1,841,524	\$237,933	\$679,575	\$903,613	\$22,185,437	\$66,959,080	\$44,773,643	33.13%
2029	37	67	\$2,486,770	\$22,185,437	\$2,835,491	\$3,003	\$1,947,870	\$223,357	\$704,569	\$943,665	\$23,166,404	\$68,334,422	\$45,168,018	33.90%
2030	34	68	\$2,338,554	\$23,166,404	\$2,927,369	\$3,019	\$2,031,908	\$212,329	\$721,229	\$985,310	\$24,186,792	\$69,600,995	\$45,414,203	34.75%
2031	32	69	\$2,175,759	\$24,186,792	\$3,022,945	\$3,064	\$2,120,483	\$199,855	\$738,307	\$1,028,625	\$25,248,053	\$70,739,499	\$45,491,446	35.69%
2032	29	70	\$2,025,620	\$25,248,053	\$3,108,612	\$3,078	\$2,198,508	\$187,755	\$755,811	\$1,073,681	\$26,352,118	\$71,759,508	\$45,407,390	36.72%
2033	27	71	\$1,874,735	\$26,352,118	\$3,189,696	\$3,123	\$2,259,888	\$175,073	\$785,979	\$1,120,556	\$27,500,795	\$72,656,830	\$45,156,035	37.85%
2034	25	72	\$1,760,816	\$27,500,795	\$3,244,987	\$3,168	\$2,280,641	\$165,072	\$828,854	\$1,169,339	\$28,696,546	\$73,473,798	\$44,777,252	39.06%
2035	23	72	\$1,679,433	\$28,696,546	\$3,274,178	\$3,180	\$2,295,973	\$158,043	\$848,533	\$1,220,133	\$29,941,870	\$74,252,928	\$44,311,058	40.32%
2036	22	71	\$1,566,334	\$29,941,870	\$3,329,784	\$3,191	\$2,295,958	\$147,826	\$912,686	\$1,273,024	\$31,238,389	\$74,944,563	\$43,706,174	41.68%
2037	20	72	\$1,468,621	\$31,238,389	\$3,366,793	\$3,236	\$2,303,855	\$138,892	\$949,311	\$1,328,095	\$32,588,513	\$75,575,029	\$42,986,516	43.12%
2038	19	72	\$1,384,226	\$32,588,513	\$3,385,396	\$3,281	\$2,306,372	\$131,247	\$971,821	\$1,385,448	\$33,994,724	\$76,167,435	\$42,172,711	44.63%
2039	18	72	\$1,280,212	\$33,994,724	\$3,420,892	\$3,326	\$2,298,320	\$121,459	\$1,023,642	\$1,445,180	\$35,459,107	\$76,690,766	\$41,231,659	46.24%
2040	16	72	\$1,129,304	\$35,459,107	\$3,485,876	\$3,333	\$2,350,917	\$107,261	\$1,047,971	\$1,507,368	\$36,983,415	\$77,080,355	\$40,096,940	47.98%
2041	14	73	\$989,766	\$36,983,415	\$3,542,514	\$3,378	\$2,393,774	\$94,057	\$1,072,907	\$1,572,107	\$38,570,368	\$77,348,435	\$38,778,067	49.87%
2042	12	73	\$803,583	\$38,570,368	\$3,636,771	\$3,383	\$2,468,563	\$76,464	\$1,107,181	\$1,639,494	\$40,221,916	\$77,422,788	\$37,200,872	51.95%
2043	9	75	\$614,877	\$40,221,916	\$3,725,789	\$3,427	\$2,546,344	\$58,485	\$1,133,610	\$1,709,625	\$41,940,764	\$77,296,323	\$35,355,559	54.26%
2044	7	75	\$446,725	\$41,940,764	\$3,798,912	\$3,429	\$2,576,002	\$42,489	\$1,190,551	\$1,782,623	\$43,730,088	\$76,983,596	\$33,253,508	56.80%
2045	5	75	\$323,515	\$43,730,088	\$3,844,121	\$3,429	\$2,568,718	\$30,790	\$1,252,895	\$1,858,631	\$45,593,572	\$76,534,658	\$30,941,086	59.57%
2046	3	75	\$231,522	\$45,593,572	\$3,861,507	\$3,427	\$2,542,994	\$22,021	\$1,303,392	\$1,937,800	\$47,534,845	\$75,990,455	\$28,455,610	62.55%
2047	2	74	\$174,643	\$47,534,845	\$3,855,078	\$3,423	\$2,463,848	\$16,616	\$1,380,657	\$2,020,286	\$49,557,751	\$75,394,011	\$25,836,260	65.73%
2048	2	73	\$124,147	\$49,557,751	\$3,840,370	\$3,462	\$2,420,106	\$11,815	\$1,413,773	\$2,106,244	\$51,665,857	\$74,756,070	\$23,090,213	69.11%
2049	1	72	\$82,823	\$51,665,857	\$3,815,202	\$3,454	\$2,364,304	\$7,878	\$1,447,716	\$2,195,825	\$53,862,924	\$74,089,856	\$20,226,932	72.70%
2050	1	71	\$52,939	\$53,862,924	\$3,783,627	\$3,492	\$1,772,408	\$5,042	\$2,010,463	\$2,289,191	\$56,152,909	\$73,408,687	\$17,255,778	76.49%
2051	0	70	\$33,846	\$56,152,909	\$3,738,266	\$3,480	\$1,679,897	\$3,221	\$2,059,136	\$2,386,509	\$58,539,926	\$72,734,088	\$14,194,162	80.48%
2052	0	68	\$19,925	\$58,539,926	\$3,686,674	\$3,465	\$1,400,501	\$1,896	\$2,288,041	\$2,487,953	\$61,028,178	\$72,074,229	\$11,046,051	84.67%
2053	0	67	\$13,687	\$61,028,178	\$3,626,617	\$3,499	\$985,277	\$1,302	\$2,643,742	\$2,593,702	\$63,622,085	\$71,443,773	\$7,821,688	89.05%
2054	0	65	\$9,433	\$63,622,085	\$3,562,564	\$3,479	-	\$897	\$5,217,154	\$2,738,679	\$68,012,772	\$70,849,172	\$2,836,400	96.00%
2055	0	64	\$4,748	\$68,012,772	\$3,496,360	\$3,511	\$3,511	\$451	\$2,898,634	\$2,877,983	\$70,293,480	\$70,293,480	-	100.00%
2056	0	62	\$3,557	\$70,293,480	\$3,424,700	\$3,486	\$5,504	\$338	-	\$2,915,505	\$69,786,641	\$69,786,641	-	100.00%
2057	0	60	\$2,039	\$69,786,641	\$3,350,735	\$3,458	\$4,625	\$194	-	\$2,895,499	\$69,332,766	\$69,332,766	-	100.00%
2058	0	59	\$864	\$69,332,766	\$3,273,688	\$3,485	\$3,925	\$82	-	\$2,877,811	\$68,937,411	\$68,937,411	-	100.00%
2059	0	57	\$645	\$68,937,411	\$3,193,156	\$3,451	\$3,794	\$61	-	\$2,862,700	\$68,607,359	\$68,607,359	-	100.00%
2060	0	55	-	\$68,607,359	\$3,110,345	\$3,413	\$3,413	-	-	\$2,850,406	\$68,347,420	\$68,347,420	-	100.00%
2061	0	54	-	\$68,347,420	\$3,024,401	\$3,435	\$3,435	-	-	\$2,841,166	\$68,164,185	\$68,164,185	-	100.00%
2062	0	52	-	\$68,164,185	\$2,936,050	\$3,390	\$3,390	-	-	\$2,835,236	\$68,063,371	\$68,063,371	-	100.00%

<sup>3</sup> Market value of assets used.



Table 4 – Switch to Conservation Funding Policy in 2023 (Cont.)

Year End June 30	Benefit Payment Account <sup>4</sup>							Transfer (To)/From Accumulation Account	Accumulation Account						
	Assets <sup>5</sup> (BOY)	Net Benefit Pmts and Expenses	Employer Contrib.	Employee Contrib.	100.00% of Premium Tax Allocation	Investment Income	Assets <sup>5</sup> (BOY)		Net Benefit Pmts and Expenses	Employer Contrib.	1.50% of Pay Employee Contrib.	0.00% of Premium Tax Allocation	Investment Income	Statewide Employer Contrib.	Total Employer Contrib.
2023	-	\$2,212,664	\$1,371,333	\$253,651	\$587,680	-	-	\$17,025,761	-	-	\$53,859	-	\$724,727	\$21,421	\$1,392,754
2024	-	\$2,293,847	\$1,457,618	\$244,441	\$591,788	-	-	\$17,804,347	-	-	\$51,620	-	\$757,770	\$46,788	\$1,504,406
2025	-	\$2,336,038	\$1,477,106	\$237,927	\$621,005	-	-	\$18,613,737	-	-	\$50,126	-	\$792,138	\$69,698	\$1,546,804
2026	-	\$2,409,371	\$1,544,351	\$229,347	\$635,673	-	-	\$19,456,001	-	-	\$48,036	-	\$827,890	\$90,938	\$1,635,289
2027	-	\$2,551,124	\$1,680,086	\$215,848	\$655,190	-	-	\$20,331,927	-	-	\$44,597	-	\$865,045	\$115,795	\$1,795,881
2028	-	\$2,718,777	\$1,841,524	\$197,678	\$679,575	-	-	\$21,241,569	-	-	\$40,255	-	\$903,613	\$143,029	\$1,984,553
2029	-	\$2,838,494	\$1,947,870	\$186,055	\$704,569	-	-	\$22,185,437	-	-	\$37,302	-	\$943,665	\$175,698	\$2,123,568
2030	-	\$2,930,388	\$2,031,908	\$177,251	\$721,229	-	-	\$23,166,404	-	-	\$35,078	-	\$985,310	\$201,783	\$2,233,691
2031	-	\$3,026,009	\$2,120,483	\$167,219	\$738,307	-	-	\$24,186,792	-	-	\$32,636	-	\$1,028,625	\$227,721	\$2,348,204
2032	-	\$3,111,690	\$2,198,508	\$157,371	\$755,811	-	-	\$25,248,053	-	-	\$30,384	-	\$1,073,681	\$254,047	\$2,452,555
2033	-	\$3,192,819	\$2,259,888	\$146,952	\$785,979	-	-	\$26,352,118	-	-	\$28,121	-	\$1,120,556	\$280,139	\$2,540,027
2034	-	\$3,248,155	\$2,280,641	\$138,660	\$828,854	-	-	\$27,500,795	-	-	\$26,412	-	\$1,169,339	\$308,410	\$2,589,051
2035	-	\$3,277,358	\$2,295,973	\$132,852	\$848,533	-	-	\$28,696,546	-	-	\$25,191	-	\$1,220,133	\$333,993	\$2,629,966
2036	-	\$3,332,975	\$2,295,958	\$124,331	\$912,686	-	-	\$29,941,870	-	-	\$23,495	-	\$1,273,024	\$357,544	\$2,653,502
2037	-	\$3,370,029	\$2,303,855	\$116,863	\$949,311	-	-	\$31,238,389	-	-	\$22,029	-	\$1,328,095	\$385,761	\$2,689,616
2038	-	\$3,388,677	\$2,306,372	\$110,484	\$971,821	-	-	\$32,588,513	-	-	\$20,763	-	\$1,385,448	\$412,034	\$2,718,406
2039	-	\$3,424,218	\$2,298,320	\$102,256	\$1,023,642	-	-	\$33,994,724	-	-	\$19,203	-	\$1,445,180	\$438,271	\$2,736,591
2040	-	\$3,489,209	\$2,350,917	\$90,321	\$1,047,971	-	-	\$35,459,107	-	-	\$16,940	-	\$1,507,368	\$464,184	\$2,815,101
2041	-	\$3,545,892	\$2,393,774	\$79,211	\$1,072,907	-	-	\$36,983,415	-	-	\$14,846	-	\$1,572,107	\$495,354	\$2,889,128
2042	-	\$3,640,154	\$2,468,563	\$64,410	\$1,107,181	-	-	\$38,570,368	-	-	\$12,054	-	\$1,639,494	\$521,196	\$2,989,759
2043	-	\$3,729,216	\$2,546,344	\$49,262	\$1,133,610	-	-	\$40,221,916	-	-	\$9,223	-	\$1,709,625	\$554,170	\$3,100,514
2044	-	\$3,802,341	\$2,576,002	\$35,788	\$1,190,551	-	-	\$41,940,764	-	-	\$6,701	-	\$1,782,623	\$580,561	\$3,156,563
2045	-	\$3,847,550	\$2,568,718	\$25,937	\$1,252,895	-	-	\$43,730,088	-	-	\$4,853	-	\$1,858,631	\$611,675	\$3,180,393
2046	-	\$3,864,934	\$2,542,994	\$18,548	\$1,303,392	-	-	\$45,593,572	-	-	\$3,473	-	\$1,937,800	\$642,871	\$3,185,865
2047	-	\$3,858,501	\$2,463,848	\$13,996	\$1,380,657	-	-	\$47,534,845	-	-	\$2,620	-	\$2,020,286	\$670,590	\$3,134,438
2048	-	\$3,843,832	\$2,420,106	\$9,953	\$1,413,773	-	-	\$49,557,751	-	-	\$1,862	-	\$2,106,244	\$698,019	\$3,118,125
2049	-	\$3,818,656	\$2,364,304	\$6,636	\$1,447,716	-	-	\$51,665,857	-	-	\$1,242	-	\$2,195,825	\$725,240	\$3,089,544
2050	-	\$3,787,119	\$1,772,408	\$4,248	\$2,010,463	-	-	\$53,862,924	-	-	\$794	-	\$2,289,191	\$752,690	\$2,525,098
2051	-	\$3,741,746	\$1,679,897	\$2,713	\$2,059,136	-	-	\$56,152,909	-	-	\$508	-	\$2,386,509	\$780,569	\$2,460,466
2052	-	\$3,690,139	\$1,400,501	\$1,597	\$2,288,041	-	-	\$58,539,926	-	-	\$299	-	\$2,487,953	\$806,620	\$2,207,121
2053	-	\$3,630,116	\$985,277	\$1,097	\$2,643,742	-	-	\$61,028,178	-	-	\$205	-	\$2,593,702	\$836,387	\$1,821,664
2054	-	\$3,566,043	-	\$756	\$5,217,154	-	(1,651,867)	\$63,622,085	-	-	\$141	-	\$2,738,679	\$866,514	\$866,514
2055	-	\$3,499,871	\$3,511	\$380	\$2,898,634	-	\$597,346	\$68,012,772	-	-	\$71	-	\$2,877,983	\$897,607	\$901,118
2056	-	-	-	-	-	-	-	\$70,293,480	\$3,428,186	\$5,504	\$338	-	\$2,915,505	\$930,242	\$935,746
2057	-	-	-	-	-	-	-	\$69,786,641	\$3,354,193	\$4,625	\$194	-	\$2,895,499	\$962,242	\$966,867
2058	-	-	-	-	-	-	-	\$69,332,766	\$3,277,173	\$3,925	\$82	-	\$2,877,811	\$997,783	\$1,001,708
2059	-	-	-	-	-	-	-	\$68,937,411	\$3,196,607	\$3,794	\$61	-	\$2,862,700	\$1,034,929	\$1,038,723
2060	-	-	-	-	-	-	-	\$68,607,359	\$3,113,758	\$3,413	-	-	\$2,850,406	\$1,072,142	\$1,075,555
2061	-	-	-	-	-	-	-	\$68,347,420	\$3,027,836	\$3,435	-	-	\$2,841,166	\$1,110,704	\$1,114,139
2062	-	-	-	-	-	-	-	\$68,164,185	\$2,939,440	\$3,390	-	-	\$2,835,236	\$1,150,432	\$1,153,822

<sup>4</sup> 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.

<sup>5</sup> Market value of assets (MVA) used.

**Table 5 – Switch to Optional Funding Policy in 2054**

Year End June 30	Number (BOY)		Assets									Actuarial Accrued Liability	Unfunded Liability	Projected Unfunded Liability	AVA Funded Ratio
	Active	Non-Active	MVA (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	MVA (EOY)	AVA (EOY)				
2021	57	60	\$13,590,152	\$1,967,798	\$2,410	\$920,455	\$321,450	\$638,747	\$3,028,300	\$16,528,896	\$14,995,169	\$53,445,583	\$38,450,414	\$40,147,353	30.93%
2022	59	60	\$16,528,896	\$2,126,620	\$2,843	\$981,069	\$317,239	\$629,777	\$698,243	\$17,025,761	\$15,952,291	\$55,574,203	\$39,621,912	\$41,397,212	30.64%
2023	59	61	\$17,025,761	\$2,210,954	\$2,914	\$1,046,841	\$330,279	\$587,680	\$718,357	\$17,495,050	\$16,881,837	\$57,773,170	\$40,891,333	\$42,711,147	30.28%
2024	59	61	\$17,495,050	\$2,295,328	\$2,987	\$1,117,217	\$346,166	\$591,788	\$738,427	\$17,990,333	\$17,990,333	\$60,062,204	\$42,071,871	\$43,911,839	29.95%
2025	59	61	\$17,990,333	\$2,342,658	\$3,062	\$1,192,395	\$362,766	\$621,005	\$761,024	\$18,581,803	\$18,581,803	\$62,493,642	\$43,911,839	\$45,780,267	29.73%
2026	59	60	\$18,581,803	\$2,426,707	\$3,112	\$1,272,761	\$375,077	\$635,673	\$786,650	\$19,222,145	\$19,222,145	\$65,002,412	\$45,780,267	\$47,641,678	29.57%
2027	59	62	\$19,222,145	\$2,590,009	\$3,243	\$1,358,726	\$385,757	\$655,190	\$812,870	\$19,841,436	\$19,841,436	\$67,483,114	\$47,641,678	\$49,473,323	29.40%
2028	59	64	\$19,841,436	\$2,789,031	\$3,379	\$1,450,642	\$393,919	\$679,575	\$837,620	\$20,410,782	\$20,410,782	\$69,884,105	\$49,473,323	\$51,337,343	29.21%
2029	59	67	\$20,410,782	\$2,939,561	\$3,548	\$1,548,892	\$416,255	\$704,569	\$861,709	\$20,999,098	\$20,999,098	\$72,336,441	\$51,337,343	\$53,225,902	29.03%
2030	59	68	\$20,999,098	\$3,063,554	\$3,666	\$1,653,967	\$434,779	\$721,229	\$887,052	\$21,628,905	\$21,628,905	\$74,854,807	\$53,225,902	\$55,124,004	28.89%
2031	59	69	\$21,628,905	\$3,199,057	\$3,787	\$1,766,352	\$451,932	\$738,307	\$914,050	\$22,296,702	\$22,296,702	\$77,420,706	\$55,124,004	\$57,029,401	28.80%
2032	59	70	\$22,296,702	\$3,326,538	\$3,912	\$1,886,482	\$469,821	\$755,811	\$943,018	\$23,021,384	\$23,021,384	\$80,050,785	\$57,029,401	\$58,918,334	28.76%
2033	59	71	\$23,021,384	\$3,454,965	\$4,041	\$2,014,993	\$486,835	\$785,979	\$974,809	\$23,824,994	\$23,824,994	\$82,743,328	\$58,918,334	\$60,796,921	28.79%
2034	59	73	\$23,824,994	\$3,553,529	\$4,206	\$2,152,436	\$508,700	\$828,854	\$1,011,138	\$24,768,387	\$24,768,387	\$85,565,308	\$60,796,921	\$62,680,441	28.95%
2035	59	73	\$24,768,387	\$3,622,433	\$4,311	\$2,299,445	\$530,547	\$848,533	\$1,053,745	\$25,873,913	\$25,873,913	\$88,554,354	\$62,680,441	\$64,488,146	29.22%
2036	59	73	\$25,873,913	\$3,734,853	\$4,419	\$2,456,698	\$546,898	\$912,686	\$1,103,364	\$27,154,287	\$27,154,287	\$91,642,433	\$64,488,146	\$66,266,531	29.63%
2037	59	74	\$27,154,287	\$3,825,534	\$4,564	\$2,624,922	\$569,686	\$949,311	\$1,160,657	\$28,628,765	\$28,628,765	\$94,895,296	\$66,266,531	\$68,011,231	30.17%
2038	59	74	\$28,628,765	\$3,896,080	\$4,678	\$2,804,934	\$591,645	\$971,821	\$1,226,557	\$30,322,964	\$30,322,964	\$98,334,195	\$68,011,231	\$69,666,998	30.84%
2039	59	74	\$30,322,964	\$3,999,352	\$4,795	\$2,997,566	\$611,244	\$1,023,642	\$1,301,939	\$32,253,208	\$32,253,208	\$101,920,206	\$69,666,998	\$71,219,861	31.65%
2040	59	75	\$32,253,208	\$4,162,591	\$4,952	\$3,203,666	\$626,121	\$1,047,971	\$1,385,696	\$34,349,119	\$34,349,119	\$105,568,980	\$71,219,861	\$72,684,229	32.54%
2041	59	77	\$34,349,119	\$4,319,206	\$5,152	\$3,424,267	\$647,808	\$1,072,907	\$1,477,094	\$36,646,837	\$36,646,837	\$109,331,066	\$72,684,229	\$73,984,899	33.52%
2042	59	77	\$36,646,837	\$4,553,678	\$5,281	\$3,660,388	\$659,198	\$1,107,181	\$1,575,740	\$39,090,385	\$39,090,385	\$113,075,284	\$73,984,899	\$75,142,563	34.57%
2043	59	80	\$39,090,385	\$4,801,044	\$5,532	\$3,913,118	\$678,055	\$1,133,610	\$1,680,650	\$41,689,242	\$41,689,242	\$116,831,805	\$75,142,563	\$76,070,669	35.68%
2044	59	81	\$41,689,242	\$5,051,051	\$5,711	\$4,183,664	\$691,557	\$1,190,551	\$1,793,011	\$44,491,263	\$44,491,263	\$120,561,932	\$76,070,669	\$76,783,682	36.90%
2045	59	82	\$44,491,263	\$5,269,444	\$5,896	\$4,473,274	\$714,657	\$1,252,895	\$1,915,388	\$47,572,137	\$47,572,137	\$124,355,819	\$76,783,682	\$77,277,575	38.25%
2046	59	83	\$47,572,137	\$5,460,363	\$6,086	\$4,783,282	\$740,725	\$1,303,392	\$2,050,435	\$50,983,522	\$50,983,522	\$128,261,097	\$77,277,575	\$77,491,286	39.75%
2047	59	84	\$50,983,522	\$5,630,081	\$6,282	\$5,115,199	\$766,333	\$1,380,657	\$2,200,989	\$54,810,337	\$54,810,337	\$132,301,623	\$77,491,286	\$77,436,574	41.43%
2048	59	85	\$54,810,337	\$5,814,653	\$6,484	\$5,470,510	\$792,213	\$1,413,773	\$2,368,455	\$59,034,151	\$59,034,151	\$136,470,725	\$77,436,574	\$77,075,603	43.26%
2049	59	85	\$59,034,151	\$6,004,647	\$6,646	\$5,850,851	\$818,706	\$1,447,716	\$2,553,238	\$63,693,369	\$63,693,369	\$140,768,972	\$77,075,603	\$75,835,385	45.25%
2050	59	86	\$63,693,369	\$6,201,466	\$6,859	\$6,258,055	\$846,553	\$2,010,463	\$2,768,094	\$69,368,209	\$69,368,209	\$145,203,594	\$75,835,385	\$74,183,001	47.77%
2051	59	87	\$69,368,209	\$6,396,215	\$7,079	\$6,693,951	\$875,909	\$2,059,136	\$3,015,982	\$75,609,893	\$75,609,893	\$149,792,894	\$74,183,001	\$71,877,174	50.48%
2052	59	88	\$75,609,893	\$6,618,331	\$7,306	\$7,160,584	\$903,719	\$2,288,041	\$3,291,789	\$82,628,389	\$82,628,389	\$154,505,563	\$71,877,174	\$68,750,506	53.48%
2053	59	89	\$82,628,389	\$6,832,091	\$7,540	\$7,660,096	\$936,411	\$2,643,742	\$3,604,247	\$90,633,254	\$90,633,254	\$159,383,760	\$68,750,506	\$65,380,326	56.86%
2054	56	89	\$90,633,254	\$7,044,360	\$7,572	\$5,094,897	\$902,831	\$5,217,154	\$3,939,456	\$98,735,660	\$98,735,660	\$164,115,986	\$65,380,326	\$62,175,356	60.16%
2055	53	90	\$98,735,660	\$7,254,529	\$7,654	\$4,512,445	\$858,671	\$5,347,734	\$4,268,955	\$106,461,282	\$106,461,282	\$168,636,638	\$62,175,356	\$58,699,908	63.13%
2056	50	91	\$106,461,282	\$7,458,099	\$7,736	\$3,897,287	\$826,096	\$5,991,898	\$4,592,937	\$114,303,665	\$114,303,665	\$173,003,573	\$58,699,908	\$54,151,348	66.07%
2057	48	91	\$114,303,665	\$7,664,938	\$7,817	\$3,801,569	\$795,746	\$6,898,244	\$4,938,295	\$123,064,764	\$123,064,764	\$177,216,112	\$54,151,348	\$48,874,395	69.44%
2058	45	92	\$123,064,764	\$7,836,581	\$7,897	\$3,639,737	\$753,212	\$7,422,303	\$5,313,753	\$132,349,291	\$132,349,291	\$181,223,686	\$48,874,395	\$42,284,201	73.03%
2059	41	93	\$132,349,291	\$7,976,488	\$7,917	\$3,415,130	\$698,918	\$8,488,844	\$5,721,967	\$142,689,745	\$142,689,745	\$184,973,946	\$42,284,201	\$35,196,350	77.14%
2060	37	93	\$142,689,745	\$8,127,546	\$7,873	\$3,170,433	\$643,186	\$8,701,937	\$6,156,424	\$153,226,306	\$153,226,306	\$188,422,656	\$35,196,350	\$27,584,253	81.32%
2061	34	94	\$153,226,306	\$8,282,705	\$7,946	\$3,013,353	\$606,439	\$8,920,357	\$6,601,480	\$164,077,284	\$164,077,284	\$191,661,537	\$27,584,253	\$9,752,870	85.61%
2062	32	94	\$164,077,284	\$8,433,864	\$8,017	\$2,843,120	\$568,787	\$18,612,317	\$7,258,906	\$184,918,533	\$184,918,533	\$194,671,403	\$9,752,870	-	94.99%

Table 5 – Switch to Optional Funding Policy in 2054 (Cont.)

Year End June 30	Closed Group Payroll	New Entrant Payroll	Total Payroll	Employer Contributions										Contribution Comparison			
				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. <sup>6</sup>
2023	\$3,842,629	-	\$3,842,629	\$330,279	\$2,009,124	\$35,447	\$1,721,094	\$2,401,098	\$50,492	\$587,680	\$1,863,910	\$2,914	\$3,587,918	-	\$3,587,918	\$1,046,841	\$1,046,841
2024	\$3,991,810	-	\$3,991,810	\$346,166	\$2,088,509	\$36,789	\$1,786,262	\$2,525,987	\$53,119	\$591,788	\$1,987,318	\$2,987	\$3,776,567	-	\$3,776,567	\$1,117,217	\$1,117,217
2025	\$4,161,676	-	\$4,161,676	\$362,766	\$2,178,145	\$38,333	\$1,861,183	\$2,662,368	\$55,987	\$621,005	\$2,097,350	\$3,062	\$3,961,595	-	\$3,961,595	\$1,192,395	\$1,192,395
2026	\$4,272,246	-	\$4,272,246	\$375,077	\$2,235,519	\$39,285	\$1,907,452	\$2,800,169	\$58,884	\$635,673	\$2,223,380	\$3,112	\$4,133,944	-	\$4,133,944	\$1,272,761	\$1,272,761
2027	\$4,335,412	-	\$4,335,412	\$385,757	\$2,266,258	\$39,712	\$1,928,158	\$2,991,035	\$62,898	\$655,190	\$2,398,743	\$3,243	\$4,330,144	-	\$4,330,144	\$1,358,726	\$1,358,726
2028	\$4,366,365	-	\$4,366,365	\$393,919	\$2,283,587	\$39,908	\$1,937,689	\$3,194,464	\$67,176	\$679,575	\$2,582,065	\$3,379	\$4,523,133	-	\$4,523,133	\$1,450,642	\$1,450,642
2029	\$4,553,807	-	\$4,553,807	\$416,255	\$2,382,387	\$41,526	\$2,016,231	\$3,410,738	\$71,724	\$704,569	\$2,777,893	\$3,548	\$4,797,672	-	\$4,797,672	\$1,548,892	\$1,548,892
2030	\$4,712,472	-	\$4,712,472	\$434,779	\$2,467,189	\$42,928	\$2,084,293	\$3,646,342	\$76,679	\$721,229	\$3,001,792	\$3,666	\$5,089,751	-	\$5,089,751	\$1,653,967	\$1,653,967
2031	\$4,854,831	-	\$4,854,831	\$451,932	\$2,542,829	\$44,165	\$2,144,370	\$3,903,624	\$82,089	\$738,307	\$3,247,406	\$3,787	\$5,395,563	-	\$5,395,563	\$1,766,352	\$1,766,352
2032	\$5,014,409	-	\$5,014,409	\$469,821	\$2,624,643	\$45,517	\$2,210,015	\$4,184,943	\$88,005	\$755,811	\$3,517,137	\$3,912	\$5,731,064	-	\$5,731,064	\$1,886,482	\$1,886,482
2033	\$5,170,492	-	\$5,170,492	\$486,835	\$2,703,121	\$46,817	\$2,273,130	\$4,494,293	\$94,510	\$785,979	\$3,802,824	\$4,041	\$6,079,995	-	\$6,079,995	\$2,014,993	\$2,014,993
2034	\$5,389,166	-	\$5,389,166	\$508,700	\$2,814,047	\$48,699	\$2,364,523	\$4,834,885	\$101,672	\$828,854	\$4,107,703	\$4,206	\$6,476,432	-	\$6,476,432	\$2,152,436	\$2,152,436
2035	\$5,608,764	-	\$5,608,764	\$530,547	\$2,926,743	\$50,619	\$2,457,742	\$5,213,474	\$109,634	\$848,533	\$4,474,575	\$4,311	\$6,936,628	-	\$6,936,628	\$2,299,445	\$2,299,445
2036	\$5,772,734	-	\$5,772,734	\$546,898	\$3,009,987	\$52,033	\$2,526,386	\$5,502,677	\$115,715	\$912,686	\$4,705,706	\$4,419	\$7,236,511	-	\$7,236,511	\$2,456,698	\$2,456,698
2037	\$6,006,987	-	\$6,006,987	\$569,686	\$3,130,974	\$54,108	\$2,627,129	\$5,661,374	\$119,052	\$949,311	\$4,831,115	\$4,564	\$7,462,808	-	\$7,462,808	\$2,624,922	\$2,624,922
2038	\$6,231,690	-	\$6,231,690	\$591,645	\$3,245,908	\$56,072	\$2,722,520	\$5,817,497	\$122,336	\$971,821	\$4,968,012	\$4,678	\$7,695,210	-	\$7,695,210	\$2,804,934	\$2,804,934
2039	\$6,436,339	-	\$6,436,339	\$611,244	\$3,347,973	\$57,815	\$2,807,133	\$5,970,664	\$125,556	\$1,023,642	\$5,072,578	\$4,795	\$7,884,506	-	\$7,884,506	\$2,997,566	\$2,997,566
2040	\$6,590,289	-	\$6,590,289	\$626,121	\$3,421,862	\$59,063	\$2,867,699	\$6,116,022	\$128,613	\$1,047,971	\$5,196,664	\$4,952	\$8,069,315	-	\$8,069,315	\$3,203,666	\$3,203,666
2041	\$6,817,460	-	\$6,817,460	\$647,808	\$3,535,193	\$60,999	\$2,961,726	\$6,252,347	\$131,480	\$1,072,907	\$5,310,920	\$5,152	\$8,277,798	-	\$8,277,798	\$3,424,267	\$3,424,267
2042	\$6,935,306	-	\$6,935,306	\$659,198	\$3,594,326	\$62,008	\$3,010,713	\$6,380,903	\$134,183	\$1,107,181	\$5,407,905	\$5,281	\$8,423,899	-	\$8,423,899	\$3,660,388	\$3,660,388
2043	\$7,134,529	-	\$7,134,529	\$678,055	\$3,695,756	\$63,753	\$3,095,419	\$6,495,088	\$136,585	\$1,133,610	\$5,498,063	\$5,532	\$8,599,014	-	\$8,599,014	\$3,913,118	\$3,913,118
2044	\$7,276,849	-	\$7,276,849	\$691,557	\$3,762,153	\$64,871	\$3,149,710	\$6,596,719	\$138,722	\$1,190,551	\$5,544,890	\$5,711	\$8,700,311	-	\$8,700,311	\$4,183,664	\$4,183,664
2045	\$7,519,692	-	\$7,519,692	\$714,657	\$3,885,141	\$66,981	\$3,252,184	\$6,678,197	\$140,435	\$1,252,895	\$5,565,737	\$5,896	\$8,823,817	-	\$8,823,817	\$4,473,274	\$4,473,274
2046	\$7,794,705	-	\$7,794,705	\$740,725	\$4,024,311	\$69,371	\$3,368,213	\$6,740,792	\$141,751	\$1,303,392	\$5,579,151	\$6,086	\$8,953,450	-	\$8,953,450	\$4,783,282	\$4,783,282
2047	\$8,063,940	-	\$8,063,940	\$766,333	\$4,161,060	\$71,719	\$3,482,229	\$6,784,150	\$142,663	\$1,380,657	\$5,546,156	\$6,282	\$9,034,667	-	\$9,034,667	\$5,115,199	\$5,115,199
2048	\$8,336,140	-	\$8,336,140	\$792,213	\$4,300,443	\$74,117	\$3,598,663	\$6,802,912	\$143,058	\$1,413,773	\$5,532,197	\$6,484	\$9,137,344	-	\$9,137,344	\$5,470,510	\$5,470,510
2049	\$8,615,053	-	\$8,615,053	\$818,706	\$4,440,441	\$76,516	\$3,715,113	\$6,798,109	\$142,957	\$1,447,716	\$5,493,350	\$6,646	\$9,215,109	-	\$9,215,109	\$5,850,851	\$5,850,851
2050	\$8,908,121	-	\$8,908,121	\$846,553	\$4,588,793	\$79,062	\$3,838,737	\$6,766,419	\$142,290	\$2,010,463	\$4,898,246	\$6,859	\$8,743,842	-	\$8,743,842	\$6,258,055	\$6,258,055
2051	\$9,217,014	-	\$9,217,014	\$875,909	\$4,747,115	\$81,787	\$3,971,033	\$6,657,541	\$140,001	\$2,059,136	\$4,738,406	\$7,079	\$8,716,518	-	\$8,716,518	\$6,693,951	\$6,693,951
2052	\$9,509,571	-	\$9,509,571	\$903,719	\$4,895,902	\$84,343	\$4,095,139	\$6,512,479	\$136,950	\$2,288,041	\$4,361,388	\$7,306	\$8,463,833	-	\$8,463,833	\$7,160,584	\$7,160,584
2053	\$9,853,530	-	\$9,853,530	\$936,411	\$5,071,916	\$87,371	\$4,242,162	\$6,310,052	\$132,693	\$2,643,742	\$3,799,003	\$7,540	\$8,048,705	-	\$8,048,705	\$7,660,096	\$7,660,096
2054	\$9,534,544	\$669,177	\$10,203,721	\$902,831	\$4,940,922	\$85,308	\$4,141,994	\$6,035,564	\$126,921	\$5,217,154	\$945,331	\$7,572	\$5,094,897	\$56,880	\$5,151,777	\$8,194,737	\$5,151,777
2055	\$9,107,992	\$1,456,835	\$10,564,827	\$858,671	\$4,750,893	\$82,221	\$3,992,128	\$5,739,698	\$120,699	\$5,347,734	\$512,663	\$7,654	\$4,512,445	\$123,831	\$4,636,276	\$8,767,005	\$4,636,276
2056	\$8,790,591	\$2,156,992	\$10,947,583	\$826,096	\$4,618,525	\$80,108	\$3,889,551	\$5,739,698	\$120,699	\$5,991,898	-	\$7,736	\$3,897,287	\$183,344	\$4,080,631	\$9,379,523	\$4,080,631
2057	\$8,487,144	\$2,835,393	\$11,322,537	\$795,746	\$4,494,974	\$78,135	\$3,793,752	\$5,726,600	\$120,424	\$6,898,244	-	\$7,817	\$3,801,569	\$241,008	\$4,042,577	\$10,035,058	\$4,042,577
2058	\$8,050,652	\$3,688,836	\$11,739,488	\$753,212	\$4,294,738	\$74,801	\$3,631,840	\$5,615,300	\$118,084	\$7,422,303	-	\$7,897	\$3,639,737	\$313,551	\$3,953,288	\$10,736,659	\$3,953,288
2059	\$7,483,829	\$4,692,451	\$12,176,280	\$698,918	\$4,021,562	\$70,174	\$3,407,213	\$5,423,927	\$114,059	\$8,488,844	-	\$7,917	\$3,415,130	\$398,858	\$3,813,988	\$11,487,540	\$3,813,988
2060	\$6,888,021	\$5,725,416	\$12,613,437	\$643,186	\$3,727,364	\$65,135	\$3,162,560	\$5,063,158	\$106,473	\$8,701,937	-	\$7,873	\$3,170,433	\$486,660	\$3,657,093	\$12,291,058	\$3,657,093
2061	\$6,484,523	\$6,582,583	\$13,067,106	\$606,439	\$3,537,457	\$61,899	\$3,005,407	\$4,592,556	\$96,576	\$8,920,357	-	\$7,946	\$3,013,353	\$559,520	\$3,572,873	\$5,642,507	\$3,572,873
2062	\$6,065,669	\$7,468,825	\$13,534,494	\$568,787	\$3,333,784	\$58,391	\$2,835,103	\$3,970,675	\$83,499	\$18,612,317	-	\$8,017	\$2,843,120	\$634,850	\$3,477,970	\$5,845,512	\$3,477,970

<sup>6</sup> 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 2036**

Year End June 30	Number (BOY)			Assets								Actuarial Accrued Liability	Unfunded Liability	MVA Funded Ratio
	Active	Non-Active	Total Payroll	Assets <sup>7</sup> (BOY)	Benefit Payments	Expenses	Employer Contrib.	Employee Contrib.	Premium Tax Allocation	Investment Income	Assets <sup>7</sup> (EOY)			
2021	57	60	\$3,580,333	\$13,590,152	\$1,967,798	\$2,410	\$920,455	\$321,450	\$638,747	\$3,028,300	\$16,528,896	\$53,445,583	\$36,916,687	30.9%
2022	59	60	\$3,724,403	\$16,528,896	\$2,126,620	\$2,843	\$981,069	\$317,239	\$629,777	\$698,243	\$17,025,761	\$55,574,203	\$38,548,442	30.6%
2023	59	61	\$3,842,629	\$17,025,761	\$2,210,954	\$2,914	\$1,046,841	\$330,279	\$587,680	\$718,357	\$17,495,050	\$57,773,170	\$40,278,120	30.3%
2024	59	61	\$3,991,810	\$17,495,050	\$2,295,328	\$2,987	\$1,117,217	\$346,166	\$591,788	\$738,427	\$17,990,333	\$60,062,204	\$42,071,871	30.0%
2025	59	61	\$4,161,676	\$17,990,333	\$2,342,658	\$3,062	\$1,192,395	\$362,766	\$621,005	\$761,024	\$18,581,803	\$62,493,642	\$43,911,839	29.7%
2026	59	60	\$4,272,246	\$18,581,803	\$2,426,707	\$3,112	\$1,272,761	\$375,077	\$635,673	\$786,650	\$19,222,145	\$65,002,412	\$45,780,267	29.6%
2027	59	62	\$4,335,412	\$19,222,145	\$2,590,009	\$3,243	\$1,358,726	\$385,757	\$655,190	\$812,870	\$19,841,436	\$67,483,114	\$47,641,678	29.4%
2028	59	64	\$4,366,365	\$19,841,436	\$2,789,031	\$3,379	\$1,450,642	\$393,919	\$679,575	\$837,620	\$20,410,782	\$69,884,105	\$49,473,323	29.2%
2029	59	67	\$4,553,807	\$20,410,782	\$2,939,561	\$3,548	\$1,548,892	\$416,255	\$704,569	\$861,709	\$20,999,098	\$72,336,441	\$51,337,343	29.0%
2030	59	68	\$4,712,472	\$20,999,098	\$3,063,554	\$3,666	\$1,653,967	\$434,779	\$721,229	\$887,052	\$21,628,905	\$74,854,807	\$53,225,902	28.9%
2031	59	69	\$4,854,831	\$21,628,905	\$3,199,057	\$3,787	\$1,766,352	\$451,932	\$738,307	\$914,050	\$22,296,702	\$77,420,706	\$55,124,004	28.8%
2032	59	70	\$5,014,409	\$22,296,702	\$3,326,538	\$3,912	\$1,886,482	\$469,821	\$755,811	\$943,018	\$23,021,384	\$80,050,785	\$57,029,401	28.8%
2033	59	71	\$5,170,492	\$23,021,384	\$3,454,965	\$4,041	\$2,014,993	\$486,835	\$785,979	\$974,809	\$23,824,994	\$82,743,328	\$58,918,334	28.8%
2034	59	73	\$5,389,166	\$23,824,994	\$3,553,529	\$4,206	\$2,152,436	\$508,700	\$828,854	\$1,011,138	\$24,768,387	\$85,565,308	\$60,796,921	28.9%
2035	59	73	\$5,608,764	\$24,768,387	\$3,622,433	\$4,311	\$2,299,445	\$530,547	\$848,533	\$1,053,745	\$25,873,913	\$88,554,354	\$62,680,441	29.2%
2036	56	73	\$5,394,149	\$25,873,913	\$3,732,819	\$4,318	\$2,396,167	\$509,196	\$912,686	\$1,101,343	\$27,056,168	\$91,459,539	\$64,403,371	29.6%
2037	53	74	\$5,178,654	\$27,056,168	\$3,818,216	\$4,357	\$2,463,714	\$487,228	\$949,311	\$1,151,521	\$28,285,369	\$94,301,166	\$66,015,797	30.0%
2038	50	74	\$5,003,866	\$28,285,369	\$3,880,241	\$4,360	\$2,518,046	\$469,792	\$971,821	\$1,203,707	\$29,564,134	\$97,121,850	\$67,557,716	30.4%
2039	48	74	\$4,824,549	\$29,564,134	\$3,966,009	\$4,397	\$2,567,095	\$452,037	\$1,023,642	\$1,257,998	\$30,894,500	\$99,892,551	\$68,998,051	30.9%
2040	45	75	\$4,519,458	\$30,894,500	\$4,095,369	\$4,433	\$2,696,895	\$422,728	\$1,047,971	\$1,314,442	\$32,276,734	\$102,491,408	\$70,214,674	31.5%
2041	41	77	\$4,190,172	\$32,276,734	\$4,205,827	\$4,468	\$2,808,955	\$391,286	\$1,072,907	\$1,373,083	\$33,712,670	\$104,916,551	\$71,203,881	32.1%
2042	37	77	\$3,787,273	\$33,712,670	\$4,392,463	\$4,424	\$2,992,798	\$353,717	\$1,107,181	\$1,433,983	\$35,203,462	\$107,040,127	\$71,836,665	32.9%
2043	34	80	\$3,540,495	\$35,203,462	\$4,587,622	\$4,535	\$3,180,518	\$331,136	\$1,133,610	\$1,497,264	\$36,753,833	\$108,929,417	\$72,175,584	33.7%
2044	32	81	\$3,261,220	\$36,753,833	\$4,772,984	\$4,608	\$3,330,136	\$305,823	\$1,190,551	\$1,563,067	\$38,365,818	\$110,560,073	\$72,194,255	34.7%
2045	29	82	\$3,037,654	\$38,365,818	\$4,924,236	\$4,640	\$3,435,947	\$285,599	\$1,252,895	\$1,631,505	\$40,042,888	\$111,988,985	\$71,946,097	35.8%
2046	27	83	\$2,826,231	\$40,042,888	\$5,041,121	\$4,713	\$3,518,460	\$266,375	\$1,303,392	\$1,702,714	\$41,787,995	\$113,245,452	\$71,457,457	36.9%
2047	25	83	\$2,634,752	\$41,787,995	\$5,141,238	\$4,743	\$3,556,172	\$248,673	\$1,380,657	\$1,776,821	\$43,604,337	\$114,350,221	\$70,745,884	38.1%
2048	23	84	\$2,496,092	\$43,604,337	\$5,255,641	\$4,817	\$3,648,136	\$235,990	\$1,413,773	\$1,853,972	\$45,495,750	\$115,312,606	\$69,816,856	39.5%
2049	22	83	\$2,337,549	\$45,495,750	\$5,353,404	\$4,845	\$3,724,301	\$221,295	\$1,447,716	\$1,934,307	\$47,465,120	\$116,127,778	\$68,662,658	40.9%
2050	20	84	\$2,177,906	\$47,465,120	\$5,457,814	\$4,919	\$3,278,546	\$206,393	\$2,010,463	\$2,017,955	\$49,515,744	\$116,784,634	\$67,268,890	42.4%
2051	19	85	\$2,047,347	\$49,515,744	\$5,557,822	\$5,042	\$3,340,131	\$194,307	\$2,059,136	\$2,105,065	\$51,651,519	\$117,297,470	\$65,645,951	44.0%
2052	18	86	\$1,891,489	\$51,651,519	\$5,661,066	\$5,168	\$3,226,990	\$179,575	\$2,288,041	\$2,195,786	\$53,875,677	\$117,641,735	\$63,766,058	45.8%
2053	16	85	\$1,688,489	\$53,875,677	\$5,721,394	\$5,144	\$2,947,706	\$160,417	\$2,643,742	\$2,290,249	\$56,191,253	\$117,821,652	\$61,630,399	47.7%
2054	14	84	\$1,481,387	\$56,191,253	\$5,780,771	\$5,116	\$450,164	\$140,790	\$5,217,154	\$2,388,596	\$58,602,070	\$117,831,476	\$59,229,406	49.7%
2055	12	85	\$1,224,130	\$58,602,070	\$5,804,897	\$5,190	\$364,257	\$116,458	\$5,347,734	\$2,490,974	\$61,111,406	\$117,668,864	\$56,557,458	51.9%
2056	9	85	\$943,498	\$61,111,406	\$5,811,388	\$5,155	-	\$89,735	\$5,991,898	\$2,602,809	\$63,979,305	\$117,326,306	\$53,347,001	54.5%
2057	7	84	\$695,089	\$63,979,305	\$5,813,292	\$5,115	-	\$66,110	\$6,898,244	\$2,743,218	\$67,868,470	\$116,812,321	\$48,943,851	58.1%
2058	5	84	\$505,061	\$67,868,470	\$5,810,715	\$5,128	-	\$48,065	\$7,422,303	\$2,919,203	\$72,442,198	\$116,161,623	\$43,719,425	62.4%
2059	3	84	\$361,666	\$72,442,198	\$5,792,947	\$5,138	-	\$34,399	\$8,488,844	\$3,136,100	\$78,303,456	\$115,410,891	\$37,107,435	67.8%
2060	2	82	\$273,173	\$78,303,456	\$5,769,420	\$5,085	-	\$25,990	\$8,701,937	\$3,390,004	\$84,646,882	\$114,597,051	\$29,950,169	73.9%
2061	2	81	\$194,603	\$84,646,882	\$5,724,921	\$5,150	-	\$18,520	\$8,920,357	\$3,664,970	\$91,520,658	\$113,745,716	\$22,225,058	80.5%
2062	1	80	\$130,117	\$91,520,658	\$5,670,853	\$5,152	-	\$12,377	\$18,612,317	\$4,161,925	\$108,631,272	\$112,871,621	\$4,240,349	96.2%

<sup>7</sup> Market value of assets (MVA) used.

Table 6 – Switch to Conservation Funding Policy in 2036 (Cont.)

Year End June 30	Benefit Payment Account <sup>8</sup>							Accumulation Account					Contribution Comparison				
	Assets <sup>9</sup> (BOY)	Net Benefit Pmts and Expenses	Employer Contrib.	Employee Contrib.	100.00% of Premium Tax Allocation	Investment Income	Transfer (To)/From Acc. Account	Assets <sup>9</sup> (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.
2023	\$17,025,761	\$2,213,868	\$1,046,841	\$330,279	\$587,680	\$718,357	-	-	-	-	-	-	\$1,353,548	-	\$1,353,548	\$1,046,841	\$1,046,841
2024	\$17,495,050	\$2,298,315	\$1,117,217	\$346,166	\$591,788	\$738,427	-	-	-	-	-	-	\$1,420,238	-	\$1,420,238	\$1,117,217	\$1,117,217
2025	\$17,990,333	\$2,345,720	\$1,192,395	\$362,766	\$621,005	\$761,024	-	-	-	-	-	-	\$1,424,374	-	\$1,424,374	\$1,192,395	\$1,192,395
2026	\$18,581,803	\$2,429,819	\$1,272,761	\$375,077	\$635,673	\$786,650	-	-	-	-	-	-	\$1,483,153	-	\$1,483,153	\$1,272,761	\$1,272,761
2027	\$19,222,145	\$2,593,252	\$1,358,726	\$385,757	\$655,190	\$812,870	-	-	-	-	-	-	\$1,617,336	-	\$1,617,336	\$1,358,726	\$1,358,726
2028	\$19,841,436	\$2,792,410	\$1,450,642	\$393,919	\$679,575	\$837,620	-	-	-	-	-	-	\$1,784,411	-	\$1,784,411	\$1,450,642	\$1,450,642
2029	\$20,410,782	\$2,943,109	\$1,548,892	\$416,255	\$704,569	\$861,709	-	-	-	-	-	-	\$1,890,592	-	\$1,890,592	\$1,548,892	\$1,548,892
2030	\$20,999,098	\$3,067,220	\$1,653,967	\$434,779	\$721,229	\$887,052	-	-	-	-	-	-	\$1,981,899	-	\$1,981,899	\$1,653,967	\$1,653,967
2031	\$21,628,905	\$3,202,844	\$1,766,352	\$451,932	\$738,307	\$914,050	-	-	-	-	-	-	\$2,085,427	-	\$2,085,427	\$1,766,352	\$1,766,352
2032	\$22,296,702	\$3,330,450	\$1,886,482	\$469,821	\$755,811	\$943,018	-	-	-	-	-	-	\$2,180,034	-	\$2,180,034	\$1,886,482	\$1,886,482
2033	\$23,021,384	\$3,459,006	\$2,014,993	\$486,835	\$785,979	\$974,809	-	-	-	-	-	-	\$2,263,749	-	\$2,263,749	\$2,014,993	\$2,014,993
2034	\$23,824,994	\$3,557,735	\$2,152,436	\$508,700	\$828,854	\$1,011,138	-	-	-	-	-	-	\$2,301,018	-	\$2,301,018	\$2,152,436	\$2,152,436
2035	\$24,768,387	\$3,626,744	\$2,299,445	\$530,547	\$848,533	\$1,053,745	(25,873,913)	-	-	-	-	-	\$2,331,795	-	\$2,331,795	\$2,299,445	\$2,299,445
2036	-	\$3,737,137	\$2,396,167	\$428,284	\$912,686	-	\$25,873,913	-	-	\$80,912	-	\$1,101,343	\$2,396,167	\$32,180	\$2,428,347	\$2,456,698	\$2,428,347
2037	-	\$3,822,573	\$2,463,714	\$409,548	\$949,311	-	\$27,056,168	-	-	\$77,680	-	\$1,151,521	\$2,463,714	\$70,400	\$2,534,122	\$2,624,922	\$2,534,122
2038	-	\$3,884,601	\$2,518,046	\$394,734	\$971,821	-	\$28,285,369	-	-	\$75,058	-	\$1,203,707	\$2,518,046	\$104,365	\$2,622,411	\$2,804,934	\$2,622,411
2039	-	\$3,970,406	\$2,567,095	\$379,669	\$1,023,642	-	\$29,564,134	-	-	\$72,368	-	\$1,257,998	\$2,567,095	\$137,002	\$2,704,097	\$2,997,566	\$2,704,097
2040	-	\$4,099,802	\$2,696,895	\$354,936	\$1,047,971	-	\$30,894,500	-	-	\$67,792	-	\$1,314,442	\$2,696,895	\$176,021	\$2,872,916	\$3,203,666	\$2,872,916
2041	-	\$4,210,295	\$2,808,955	\$328,433	\$1,072,907	-	\$32,276,734	-	-	\$62,853	-	\$1,373,083	\$2,808,955	\$223,319	\$3,032,274	\$3,424,267	\$3,032,274
2042	-	\$4,396,887	\$2,992,798	\$296,908	\$1,107,181	-	\$33,712,670	-	-	\$56,809	-	\$1,433,983	\$2,992,798	\$267,583	\$3,260,381	\$3,660,388	\$3,260,381
2043	-	\$4,592,157	\$3,180,518	\$278,029	\$1,133,610	-	\$35,203,462	-	-	\$53,107	-	\$1,497,264	\$3,180,518	\$305,493	\$3,486,011	\$3,913,118	\$3,486,011
2044	-	\$4,777,592	\$3,330,136	\$256,905	\$1,190,551	-	\$36,753,833	-	-	\$48,918	-	\$1,563,067	\$3,330,136	\$341,328	\$3,671,464	\$4,183,664	\$3,671,464
2045	-	\$4,928,876	\$3,435,947	\$240,034	\$1,252,895	-	\$38,365,818	-	-	\$45,565	-	\$1,631,505	\$3,435,947	\$380,973	\$3,816,920	\$4,473,274	\$3,816,920
2046	-	\$5,045,834	\$3,518,460	\$223,982	\$1,303,392	-	\$40,042,888	-	-	\$42,393	-	\$1,702,714	\$3,518,460	\$422,320	\$3,940,780	\$4,783,282	\$3,940,780
2047	-	\$5,145,981	\$3,556,172	\$209,152	\$1,380,657	-	\$41,787,995	-	-	\$39,521	-	\$1,776,821	\$3,556,172	\$461,481	\$4,017,653	\$5,115,199	\$4,017,653
2048	-	\$5,260,458	\$3,648,136	\$198,549	\$1,413,773	-	\$43,604,337	-	-	\$37,441	-	\$1,853,972	\$3,648,136	\$496,404	\$4,144,540	\$5,470,510	\$4,144,540
2049	-	\$5,358,249	\$3,724,301	\$186,232	\$1,447,716	-	\$45,495,750	-	-	\$35,063	-	\$1,934,307	\$3,724,301	\$533,588	\$4,257,889	\$5,850,851	\$4,257,889
2050	-	\$5,462,733	\$3,278,546	\$173,724	\$2,010,463	-	\$47,465,120	-	-	\$32,669	-	\$2,017,955	\$3,278,546	\$572,068	\$3,850,614	\$6,258,055	\$3,850,614
2051	-	\$5,562,864	\$3,340,131	\$163,597	\$2,059,136	-	\$49,515,744	-	-	\$30,710	-	\$2,105,065	\$3,340,131	\$609,422	\$3,949,553	\$6,693,951	\$3,949,553
2052	-	\$5,666,234	\$3,226,990	\$151,203	\$2,288,041	-	\$51,651,519	-	-	\$28,372	-	\$2,195,786	\$3,226,990	\$647,537	\$3,874,527	\$7,160,584	\$3,874,527
2053	-	\$5,726,538	\$2,947,706	\$135,090	\$2,643,742	-	\$53,875,677	-	-	\$25,327	-	\$2,290,249	\$2,947,706	\$694,028	\$3,641,734	\$7,660,096	\$3,641,734
2054	-	\$5,785,887	\$450,164	\$118,569	\$5,217,154	-	\$56,191,253	-	-	\$22,221	-	\$2,388,596	\$450,164	\$741,398	\$1,191,562	\$8,194,737	\$1,191,562
2055	-	\$5,810,087	\$364,257	\$98,096	\$5,347,734	-	\$58,602,070	-	-	\$18,362	-	\$2,490,974	\$364,257	\$793,959	\$1,158,216	\$8,767,005	\$1,158,216
2056	-	\$5,816,543	-	\$75,583	\$5,740,960	-	\$61,111,406	-	-	\$14,152	\$250,938	\$2,602,809	-	\$850,347	\$850,347	\$9,379,523	\$850,347
2057	-	\$5,818,407	-	\$55,684	\$5,762,723	-	\$63,979,305	-	-	\$10,426	\$1,135,521	\$2,743,218	-	\$903,333	\$903,333	\$10,035,058	\$903,333
2058	-	\$5,815,843	-	\$40,489	\$5,775,354	-	\$67,868,470	-	-	\$7,576	\$1,646,949	\$2,919,203	-	\$954,926	\$954,926	\$10,736,659	\$954,926
2059	-	\$5,798,085	-	\$28,974	\$5,769,111	-	\$72,442,198	-	-	\$5,425	\$2,719,733	\$3,136,100	-	\$1,004,242	\$1,004,242	\$11,487,540	\$1,004,242
2060	-	\$5,774,505	-	\$21,892	\$5,752,613	-	\$78,303,456	-	-	\$4,098	\$2,949,324	\$3,390,004	-	\$1,048,922	\$1,048,922	\$12,291,058	\$1,048,922
2061	-	\$5,730,071	-	\$15,601	\$5,714,470	-	\$84,646,882	-	-	\$2,919	\$3,205,887	\$3,664,970	-	\$1,094,163	\$1,094,163	\$5,642,507	\$1,094,163
2062	-	\$5,676,005	-	\$10,425	\$5,665,580	-	\$91,520,658	-	-	\$1,952	\$12,946,737	\$4,161,925	-	\$1,139,372	\$1,139,372	\$5,845,512	\$1,139,372

<sup>8</sup> 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.

<sup>9</sup> Market value of assets used.

<sup>10</sup> 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, 2020		July 1, 2021	
1. Actives				
a. Number		57		59
b. Average Age		39.4		38.1
c. Average Service		11.3		9.4
d. Average Salary	\$	66,831	\$	64,855
2. Retirees				
a. Number		43		45
b. Average Age		67.1		66.2
c. Total Annual Benefits	\$	1,644,610	\$	1,852,306
3. Survivors				
a. Number		15		14
b. Average Age		64.8		69.2
c. Total Annual Benefits	\$	197,876	\$	195,546
4. Disableds				
a. Number		2		1
b. Average Age		62.1		64.7
c. Total Annual Benefits	\$	43,028	\$	20,755
5. Deferred Vesteds				
a. Number		0		0
b. Average Age		N/A		N/A
c. Total Annual Benefits	\$	N/A	\$	N/A
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 Morgantown Firemen's Pension and Relief Fund. The compensation shown is the average projected pay for the plan year beginning July 1, 2021.

Credited Service as of July 1, 2021

Participant Age	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	Total
	Under 25	3	-	-	-	-	-	-
	54,925	-	-	-	-	-	-	54,926
25 - 29	7	-	-	-	-	-	-	7
	56,677	-	-	-	-	-	-	56,676
30 - 34	10	1	1	-	-	-	-	12
	55,248	69,344	60,422	-	-	-	-	56,854
35 - 39	8	3	1	-	-	-	-	12
	59,368	69,102	61,985	-	-	-	-	62,020
40 - 44	-	1	5	7	-	-	-	13
	-	57,689	67,679	78,156	-	-	-	72,552
45 - 49	-	-	2	2	3	1	-	8
	-	-	65,192	74,851	78,197	74,314	-	73,624
50 - 54	-	-	-	-	2	1	-	3
	-	-	-	-	85,878	79,848	-	83,868
55 - 59	1	-	-	-	-	-	-	1
	54,668	-	-	-	-	-	-	54,668
60 - 64	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
65 & Up	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
<b>Totals</b>	<b>29</b>	<b>5</b>	<b>9</b>	<b>9</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>59</b>
	<b>56,676</b>	<b>66,868</b>	<b>65,688</b>	<b>77,422</b>	<b>81,269</b>	<b>77,081</b>	<b>-</b>	<b>64,855</b>

#### Averages

Age	38.1
Service	9.4



## 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 7/1/2020	57	43	15	2	-	-	117
New	8	-	-	-	-	-	8
Rehired	-	-	-	-	-	-	-
Terminated - Vested	-	-	-	-	-	-	-
Terminated - Nonvested	-	-	-	-	-	-	-
Disabled	-	-	-	-	-	-	-
Retired	(4)	4	-	-	-	-	-
Paid Refund	(2)	-	-	-	-	-	(2)
Payments Expired	-	-	(1)	-	-	-	(1)
Deceased - No Survivor	-	(2)	-	(1)	-	-	(3)
Deceased - With Survivor	-	-	-	-	-	-	-
New Beneficiary	-	-	-	-	-	-	-
New QDRO	-	-	-	-	-	-	-
Corrections	-	-	-	-	-	-	-
<b>Participants as of 7/1/2021</b>	<b>59</b>	<b>45</b>	<b>14</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>119</b>





## 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.

### 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.

### 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%.

### 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.

### 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.

### 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 2021, indexed by state minimum wage for years after 2021) or less.

### Death Benefit Eligibility

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.

### 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.

### 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 are equal to the sum of (1) the net employer normal cost and (2) an amortization of the unfunded actuarial liability, less the State premium tax allocation applicable to the plan year, not less than \$0. 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 (9.0 years remaining as of July 1, 2021). 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

West Virginia Code §8-22-20(c)(3) requires that plans contribute at least the normal cost until the plan is at least 125% funded. Upon reaching 125% funded, the actuary may provide an actuarial recommendation that the normal cost does not need to be paid by the employer for that fiscal year and the municipality may then elect to not make a contribution for that fiscal year. Other than this requirement, the Code does not detail any other policies or methodologies for a plan in a surplus position.

To orderly track the surplus position, which will become particularly relevant once a plan breaches 125% funded for the first time, and to develop an actuarially determined contribution (ADC) for GASB purposes, actuarial surpluses (the amount by which assets exceed actuarial accrued liabilities) will be amortized over 30 years using a single open amortization base and all existing prior bases will be eliminated. Provided, however, for funding purposes the credit installments from the surplus base will be inapplicable at least until the plan reaches 125% funded. Finally, if an overfunded plan subsequently becomes less than 100% funded, the surplus base will be eliminated, the unfunded actuarial accrued liability will be amortized over 15 years, and any subsequent gains and losses, assumption changes, or plan changes will be amortized according to the schedule outlined above for plans with an actuarial deficiency.

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, 2021 is 9.0 years for sponsors who previously used the Standard funding policy and 27.5 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. Similarly, surplus amortization will follow the methodology outlined in the Standard Funding Policy.

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 (9.0 years for sponsors who previously used the Standard funding policy and 27.5 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 signing actuaries, 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. Morgantown 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, 2022, includes a Base Allocation of \$8,709,689, an Excess Allocation of \$9,424,130, and an Expired Premium Tax Allocation of \$313,175.
- (5) For the plan year ending June 30, 2022, all Pension and Relief Funds reported a total of 1,729.51 eligible active members and 2,233.51 eligible retired members. The City of Morgantown Firemen’s Pension and Relief Fund reported 58.33 eligible active members and 61.25 eligible retired members, based on the average number of plan participants for the 12-month period ending June 30, 2022. The Fund is eligible to receive a premium tax allocation of \$587,680.30 for the fiscal year ending June 30, 2023.
- (6) The total premium tax allocation is assumed to increase by 2.50% in calendar years ending on and after 2023.

## 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 <b>Not Investing</b> with the IMB				
Funded Ratio as of Valuation Date <sup>11</sup>	Equity Exposure <sup>12</sup>	Projected Funded Ratio after 15 Years <sup>11</sup>	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 <b>Investing</b> with the IMB				
Funded Ratio as of Valuation Date <sup>11</sup>	Equity Exposure <sup>12</sup>	Projected Funded Ratio after 15 Years <sup>11</sup>	Discount Rate – Standard and Optional Policies <sup>13</sup>	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, 2021	
Plan Investing with the IMB	No
Actuarially-Based Funding Policy	No
Actuarial Value of Assets	\$14,995,169
Liabilities Using a 5.0% Discount Rate	\$48,113,524
Funded Ratio	31.17%
Equity Exposure	50%
Projected Funded Ratio after 15 Years	36%
<b>Discount Rate</b>	<b>4.25%</b>

<sup>11</sup> 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).

<sup>12</sup> Based on target allocation percentage outlined in the investment policy.

<sup>13</sup> Assumes the IMB maintains a current growth asset target above 70%. If this policy changes, the assumption should be reviewed.

## 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.

## 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 Morgantown 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.

## Mortality

### *Pre-Retirement*

**SOA PubS-2010(B) Employee**<sup>14</sup> Mortality Table<sup>15</sup> 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.

<sup>14</sup> 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.

<sup>15</sup> 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%

## 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.

## Disability Rates

Sample disability rates are as follows:

Age	Rates <sup>16</sup>
30	0.33%
40	0.76%
50	1.18%

<sup>16</sup> 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.



### 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.

### 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

There were no changes in methods or assumptions reflected in this valuation.

## Section XIII. Glossary

### Actuarial Accrued Liability (AAL)

The difference between the Present Value of Future Benefits and the 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 Assumptions

Estimates of future plan experience such as investment return, expected lifetimes and the likelihood of receiving a pension from the pension plan. Demographic, or “people” assumptions include rates of mortality, retirement and separation. Economic, or “money” assumptions, include expected investment return, inflation and salary increases.

### Actuarial Cost Method

A procedure for allocating the Present Value of Future Benefits into the Present Value of Future Normal Costs and the Actuarial Accrued Liability. Also known as the “funding method”.

### Actuarial Value of Assets (AVA)

The value of the assets as of a given date, used by the actuary for valuation purposes. The AVA may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined contribution (ADC).

### Actuarially Determined Contribution (ADC)

The employer’s periodic determined contribution to a pension plan, calculated in accordance with the assumptions and methods used by the plan actuary.

### Amortization Method

A procedure for payment of the Unfunded Actuarial Accrued Liability (UAAL) by means of periodic contributions of interest and principal. The components of the amortization payment for the UAAL includes the amortization period length, amortization payment increase (level dollar or level percentage of pay), and amortization type (closed or open).

### Experience Gain/Loss

A measure of the difference between actuarial experience and experience anticipated by a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

### Funded Ratio

The actuarial value of assets expressed as a percentage of the plan’s actuarial accrued liability.

### Market Value of Assets (MVA)

The value of the assets as of a given date held in the trust available to pay for benefits of the pension plan.



### Normal Cost

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

### Present Value of Future Benefits (PVFB)

The present value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, 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.

### Present Value of Future Normal Cost (PVFNC)

The portion of the Present Value of Future Benefits (PVFB) allocated to future service.

### Unfunded Actuarial Accrued Liabilities (UAAL)

The difference between the Actuarial Accrued Liability (AAL) and the Actuarial Value of Assets (AVA).