Gabriel Roeder Smith & Company
Consultants & Actuaries

MUNICIPAL POLICEMEN'S AND FIREMEN'S PENSION AND RELIEF FUNDS OF WEST VIRGINIA

CONSOLIDATED ACTUARIAL VALUATION REPORT FOR THE YEAR BEGINNING JULY 1, 2015

Municipal Policemen's and Firemen's Pension and Relief Funds of West Virginia
Consolidated Actuarial Study as of July 1, 2015

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November 16, 2016

Mr. Blair Taylor
Executive Director
West Virginia Municipal Pensions Oversight Board
301 Eagle Mountain Road, Suite 251
Charleston, WV 25311

Subject: Consolidated Actuarial Valuation Report for the Year Beginning July 1, 2015

Dear Mr. Taylor:

Upon the request of the Municipal Pensions Oversight Board, we performed an actuarial valuation as of July 1, 2015, for each of the Municipal Policemen's and Firemen's Pension and Relief Funds ("the Funds") in the State of West Virginia. These actuarial valuations have been performed in accordance with the West Virginia Code Chapter 8, Article 22, Sections 16 through 28, inclusive. This consolidated report summarizes the results of the 53 individual Actuarial Valuations .

The primary purpose of the actuarial valuation is to assess the adequacy of the funding policy currently in use by each participating Fund as defined in West Virginia Code §8-22-20, which states the "minimum standard for actuarial soundness." The assessment of the adequacy of the current funding policy was based on individual actuarial valuations as of July 1, 2015, for each participating Fund and the valuations performed in 12 prior plan years. The four statutory funding policies currently available to Plan Sponsors include the Standard funding policy as defined in West Virginia Code §8-22-20(c)(1), the Alternative funding policy as defined in West Virginia Code §8-22-20(c)(1), the Optional funding policy as defined in West Virginia Code §8-22-20(e), and the Conservation funding policy as defined in West Virginia Code §8-22-20(f).

The individual actuarial valuations were performed using a consistent and uniform set of actuarial assumptions and methods in order to establish a basis for comparing the actuarial soundness of the Funds. West Virginia Code §8-22-20(c)(4) requires (1) a review of the actuarial assumptions and methods at least once every five years and (2) a report by the actuary to the oversight board with recommendations on any changes to the actuarial process. Such a review was performed for the period July 1, 2009, through June 30, 2014. The assumptions and methods developed in that review were (1) recommended by the actuary in the report *2016 Experience Review for the Years July 1, 2009, to July 1, 2014*, (2) approved by the Municipal Pensions Oversight Board, and (3) first applied in the July 1, 2015, actuarial valuation cycle.

This consolidated report also reviews, for Plan Sponsors currently using the Standard funding policy, the impact of switching to the Optional funding policy and for Plan Sponsors currently using the Alternative funding policy, the impact of switching to either the Optional funding policy or the Conservation funding policy.

We did not review the investment policy or the administrative practices of the individual pension Funds.

Each actuarial valuation is based upon:

Asset Values – Reconciliation of the market value of assets during the plan year ending June 30, 2015, and the market value of assets held as of June 30, 2015, by investment category, as provided by the sponsor of each participating Fund.

Plan Provisions – A summary of the key plan provisions valued is set forth in Section VII of the report: Summary of Principal Funding Policies and Plan Provisions.

Actuarial Methods – Fund liabilities were measured using the Entry-Age Normal Actuarial Cost Method. The actuarial valuations were based on the market value of assets. The actuarial methods used in the valuation are set forth in Section VI of the report: Actuarial Assumptions and Methods.

Actuarial Assumptions – The actuarial assumptions used in the valuations are set forth in Section VI of the report: Actuarial Assumptions and Methods.

The actuarial valuation results disclosed in this report are based on (1) plan membership data and asset values provided by each of the individual plan sponsors, (2) actuarial assumptions and actuarial methods described in Section VI of this report, and (3) the provisions of the Funds as defined in the West Virginia Code Chapter 8, Article 22, Sections 16 through 28, inclusive. Based on these items, we certify these results to be true and correct.

To the best of our knowledge, this actuarial statement is complete and accurate, and has been prepared in accordance with generally accepted actuarial principles and practices.

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.

This report should not be relied on for any purpose other than the purpose stated.

The signing actuaries are independent of the plan sponsor.

Alex Rivera and Lance J. Weiss are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Respectfully yours,

Alex Rivera

Lance J. Weiss

Alex Rivera, FSA, EA, MAAA, FCA
Senior Consultant

Lance J. Weiss, EA, MAAA, FCA
Senior Consultant

SECTION I

EXECUTIVE SUMMARY

Executive Summary

Upon the request of the Municipal Pensions Oversight Board ("MPOB"), we performed an actuarial study as of July 1, 2015, of the Municipal Policemen's and Firemen's Pension and Relief Funds ("the Funds") of West Virginia. The primary objective of the study is to perform individual actuarial valuations for each Fund in order to provide each plan sponsor information on:

- The funding requirements for fiscal year ending June 30, 2017;
- The Fund's eligibility to receive an allocation of the premium tax for fiscal year ending June 30, 2017;
- The Fund's eligibility to provide Supplemental Benefits for the plan year beginning July 1, 2017, and;
- The advantages and disadvantages of switching to one of the available funding policy options, including the Optional funding policy and Conservation funding policy as defined in West Virginia Code §8-22-20.

The individual actuarial valuation reports have been delivered to each plan sponsor. Appendix II contains a summary of the key actuarial valuation results for each Fund.

Another objective of the study is to review the overall adequacy of the current and available funding policies. For this purpose, we reviewed the actuarial valuations as July 1, 2015, actuarial projections of the current and available funding policy options, and historical actuarial valuation results.

The four funding policies available to plan sponsors are summarized below:

- West Virginia Code §8-22-20(c)(1) defines the Standard funding policy. Under this policy, employer contributions equal the net employer normal cost, plus an amortization of the unfunded actuarial liability, and less the State premium tax allocation applicable to the plan year. The amortization is based on a 40-year closed period from July 1, 1991, using a level dollar amortization (16 years remaining as of July 1, 2015). The Standard funding policy is consistent with generally accepted actuarial standards of practice.

- West Virginia Code §8-22-20(c)(1) defines the Alternative funding policy. Under this policy, employer contributions equal 107% of the prior year's employer contribution. 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.

- West Virginia Code §8-22-20(e)(1) defines the Optional funding policy, which allows plan sponsors, using either the Standard funding policy or Alternative funding policy, to close the current local Plan, and finance obligations on an actuarially determined basis as follows: The actuarially determined employer contribution is equal to the net employer normal cost, plus an 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, 2015, is 16 years for sponsors who previously used the Standard funding policy and 34.5 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.

- West Virginia Code §8-22-20(f)(1) defines the Conservation funding policy, which allows plan sponsors using the Alternative funding policy, to close the current local Plan, and finance obligations 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 recently established statewide pension plan – the Municipal Police Officers and Firefighters Retirement System.

The details of the Standard, Alternative, Optional, and Conservation funding policies are presented in Section VII of the report.

- The actuarial assumptions and methods were recommended by the Actuary, in the report *2016 Experience Review for the Years July 1, 2009, to July 1, 2014*, and approved by the Municipal Pensions Oversight Board. The actuarial assumption update is summarized below, and the assumptions are fully disclosed in Section VI of the report.
    - The interest rate used to discount liabilities decreased for most plans due to the change in metrics used to establish the discount rate for each plan as shown in the following table:

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

Funded Ratio as of Valuation Date [1]	Liquidity Ratio [2]	Equity Exposure [3]	Projected Funded Ratio after 15 Years [1]	Discount Rate
60% or more	10	50% or more	70% or more	6.5%
40% or more	8	40% or more	60% or more	6.0%
30% or more	6	30% or more	50% or more	5.5%
15% or more	4	n/a	40% or more	5.0%
Less than 15%	n/a	n/a	15% or more	4.5%
Less than 15%	n/a	n/a	Less than 15%	4.0%

[1] Funded ratios based on a 6.0% investment return assumption for plans using an actuarially sound policy (standard or optional) and a 5.5% investment return assumption for other plans (alternative or conservation).
[2] Liquidity ratio equals assets as of the actuarial valuation date divided by expected benefit payments for the year.
[3] Based on investment policy.

- The post-retirement mortality assumption was updated from the 1994 Group Annuity Mortality table to the RP-2014 Blue Collar Total Healthy Annuitant Mortality table, with projected generational mortality improvement using the MP-2014 2-dimensional mortality improvement scales. The disabled mortality assumption was updated to the RP-2014 Blue Collar Total Healthy Annuitant Mortality table, set forward 4 years, with projected generational mortality improvement using the MP-2014 2-dimensional mortality improvement scales. The pre-retirement mortality assumption was updated to the RP-2014 Blue Collar Total Employee Mortality table, with generational mortality improvement using the MP-2014 2-dimensional mortality improvement scales.
- The wage inflation assumption used to project compensation was decreased from 4.00% to 3.75%.
- The service based compensation increase assumption was updated based on observed experience.
- General inflation, post-retirement COLA and the increase in State Insurance Premium Tax Allocation changed from 3.00% to 2.75%.
- Turnover, retirement rates and disability assumptions were updated based on observed experience.

The change in actuarial assumptions increased the total actuarial accrued liability as of June 30, 2015, by approximately $179 million.

The key findings of the actuarial study include:

- Standard plans (five plans as of July 1, 2015) or former Standard plans that selected the Optional funding policy (10 plans as of July 1, 2015) are projected to be 100% funded by the end of the 16-year projection period. This contribution policy is consistent with generally accepted actuarial standards of practice.

- As of July 1, 2015, 10 former Alternative plans have selected the Optional funding policy. These plans are projected to be fully funded as of 2050. This group includes two very large underfunded plans.

- As of July 1, 2015, two former Alternative plans have selected the Conservation funding policy. This policy may provide near-term contribution relief; however, because the contributions are based on pay-as-you-go funding, the contributions could be more volatile.

- In general, the Alternative funding policy produces contributions that grow at an annual rate of 7%, which is 3.25 percentage points higher than the assumed wage inflation assumption of 3.75%. This policy produces an ever increasing contribution pattern for which it may be difficult to budget. As of July 1, 2015, 26 of the 53 plans are still using the Alternative funding policy.

- At the end of 30 years, only 6 out of 26 Alternative plans are projected to have contribution rates that are less than 40% of pay, and only one alternative plan is projected to never have a contribution rate exceeding 40% of pay. Also after 30 years, only 10 out of 26 Alternative plans are projected to have funded ratios that exceed 80%.

- One key concern of the Alternative funding policy is the level of required annual contributions relative to the net employer normal cost and amortization of the unfunded actuarial liability. A sound funding policy generally finances, on an annual basis, the normal cost plus a portion, generally 6% or more of the unfunded actuarial liability.

The following table shows a distribution of FY 2017 and projected FY 2037 Alternative funding policy contributions, made by the sponsor and State, expressed in terms of the net normal cost plus a percentage of the unfunded actuarial liability.

Employer Contributions Plus State Premium Tax Allocation	Number of Alternative Plans Satisfying Conditions in	
	FY 2017	FY 2037
100% of Net Normal Cost plus 0% to 2% of Unfunded Actuarial Liability	19	11
100% of Net Normal Cost plus 2% to 4% of Unfunded Actuarial Liability	5	4
100% of Net Normal Cost plus 4% to 6% of Unfunded Actuarial Liability	1	2
100% of Net Normal Cost plus 6% or more of Unfunded Actuarial Liability (Sound Policy)	1	9

- Only one of the 26 Alternative plans in Fiscal Year 2017 is expected to be contributing at a level that approximates a sound funding basis. This increases to nine out of the 26 Alternative plans when we look at projected contributions in Fiscal Year 2037. (However, that takes into account 20 years of 7% increases in the annual contribution requirement.)

- For purposes of evaluating the Optional and Conservation funding policies, we performed open group projections for Standard and Alternative plans, and assumed the sponsor would select either the Optional or Conservation funding policy in the year that employer contributions are lower under these policies. Based on this rule, all Standard plans would experience a reduction in employer contribution if the Optional funding policy was adopted in FY 2017. This occurs because the net employer normal cost rate for the local plan is higher than the statutory contribution rate of 8.5% to 10.5% of pay under the Municipal Police Officers and Firefighters Retirement System.

- For the Alternative plans, the year that Optional or Conservation funding policy contributions are lower was not as apparent. The following table shows the year when contributions under the Optional or Conservation funding policy are expected to be lower than contributions under the Alternative funding policy:

	Number of Alternative Plans	
Year Municipality Contributions are lower	**If Optional Policy is selected**	**If Conservation Policy is selected**
2017	1	7
2018 to 2019	0	1
2020 to 2029	2	5
2030 to 2039	4	9
2040 to 2050	3	4
Never	16	0

- This table shows that only one Alternative plan is projected to receive immediate contribution relief if the Optional funding policy is selected in 2017. This table also shows that seven Alternative plans are projected to receive immediate contribution relief if the Conservation funding policy is selected in 2017.

- The Optional funding policy is based on sound actuarial principles and is projected to produce a reasonable pattern of contributions and funded ratios. The Conservation funding policy depends on the level of actual retirements and benefit payments made during the year, and could produce significant contribution volatility for the sponsor. The volatility is even greater for smaller plans that have fewer active members. That is, one or two unexpected retirements could significantly impact the sponsor's budget.

- The Optional and Conservation funding policies may not be viable options for many of the Alternative plans. In addition, we strongly encourage plan sponsors to consider not only the affordability of the funding policy but also the projected patterns of contributions and funded ratios in future years.

- Sponsors using the Alternative funding policy may want to consider making additional contributions in excess of the statutory minimum to ensure a reasonable pattern of growth in the funded ratio.

- Certain plans satisfied the minimum standard for "actuarial soundness" or "solvency" as defined in the statues. We understand that the minimum requirement to satisfy the statutory solvency test includes a demonstration that assets are projected to be greater than zero over a 15-year period. However, a plan could satisfy the minimum statutory standard for solvency during the first 15 years and may either (i) run out assets after the initial 15-year period, or (ii) have very low funded ratios during the projection period. We recommend that such plans make additional contributions over the statutory minimum requirement.

- The solvency projections assume the sponsor will make the minimum statutory requirement. However, a few plans have a history of making less than the statutory minimum and have forfeited State contributions provided through the premium tax allocation. For such plans, we recommend projecting sponsor contributions for purposes of the 15-year solvency test, based on the sponsor's recent experience, unless the sponsor has adopted a formal policy to correct the statutory funding deficiency.

- The Plans in the aggregate experienced unfavorable assets returns during plan the year end June 30, 2015. The average annual return was 2.8% compared to the average annual assumed return of 5.7%.

Other observations include:

- Our actuarial valuations assumes the sponsor is required to contribute at least the normal cost in order to receive the State premium tax allocation. Two plans with a funded ratio in excess of 100% as of July 1, 2015, are projected to experience an increasing funded ratio. At some point, the sponsor may no longer need additional contributions. For example, a plan that is at least 125% funded on a present value of future benefit basis, may have a sufficient cushion for future adverse experience.

- One of the key factors used to set the discount rate is the percentage of assets allocated to equities. If available, we used the target equity asset allocation contained in the Plan's investment policy. Otherwise, we used the percentage of assets invested in equities as of the valuation date. Our preference is to use the target allocation in the investment policy. We strongly encourage that all plans provide a copy of their investment policy.

- The discount rate was not increased for any plans and decreased for 48 plans. Factors that contributed towards the decrease in the discount rate include: the change in the metrics used to establish the discount rate, less than favorable investment returns and actuarial experience, changes in the equity allocation, and changes to demographic assumptions

- GASB No. 67 replaced GASB No. 25 for pension plan financial reporting requirements (effective in fiscal year ending June 30, 2014) and GASB No. 68 replaced GASB No. 27 for employer financial reporting (effective in fiscal year ending June 30, 2015). For plans that are projected to have zero assets in the future, on a closed group basis, the discount rate used for GASB Nos. 67 and 68 financial reporting purposes will be based on a blended rate of the long-term investment return rate and a 20-year tax-exempt municipal bond index rate. Under the new accounting standards, the unfunded actuarial liability will need to be recognized on the plan sponsor's balance sheet. The new accounting standards will not impact the current contribution policies. GRS will be providing a separate GASB Nos. 67 and 68 report to each plan sponsor.

The remainder of the report provides additional details supporting the preceding findings and observations.

SECTION II

ACTUARIAL VALUATION RESULTS

Actuarial Valuation Results as of July 1, 2015

Actuarial Valuation Methodology

- Individual actuarial valuations as of July 1, 2015, were performed for each Fund that participated in the study. We received usable census and asset information for all 53 Funds in the State. The table on page 16 shows a summary of the key actuarial valuation results as of July 1, 2015, for the participating Funds. The results are broken out among Funds that have elected the Standard, Alternative, Optional or Conservation funding policies.

- The actuarial valuations were based on assumptions and methods recommended by GRS, in the report *2016 Experience Review for the Years July 1, 2009, to July 1, 2014*, and approved by the Municipal Pensions Oversight Board.

- A gain/loss analysis of changes in assets and liabilities from the previous valuation was performed. In addition, the actuarial projections from the current valuation were analyzed and trends were reviewed.

- Actuarial projections (40-year open group) were performed assuming the employer would make contributions under the funding policy selected by the Plan sponsor – either the Standard funding policy, the Alternative funding policy, the Optional funding policy or the Conservation funding policy.

- The key indicators used to assess the funding adequacy were the funded ratio and the employer contribution expressed as a percentage of payroll. The funded ratio is defined as the market value of assets divided by the actuarial accrued liability. In our opinion, a Fund that has a funded ratio of less than 70% or a required contribution rate in excess of 30% of payroll could be at financial risk of not being sustainable at some point in the future – i.e., not being able to pay the promised benefits, or of having a contribution requirement that is too large to be affordable.

Key findings for Plans using the Standard Funding Policy

- Five plans, (or about 9.4% of all 53 participating Funds), covering only 1.7% of plan participants, and 1.1% of total liabilities are financed using the Standard funding policy.

- For Funds using the Standard funding policy, the funded ratios as of July 1, 2015, range from 30% to 81%. The contribution rates range from 20% to 35% of payroll for FY 2016 and 18% to 46% of payroll for FY 2017

- The average employer contribution rate is 28% of payroll for FY 2016 and 40% of payroll for FY 2017.

- The average funded ratio for all Standard plans is 62%. The unfunded actuarial accrued liability for Funds using the Standard funding policy is approximately $6.1 million or 0.5% of the total unfunded liabilities for all Funds.

- On a projected basis, the funded ratio for all Funds using the Standard funding policy increases steadily and approaches 100% by 2031 (as required by State Statutes). In addition, the projected contribution rates are generally level or decline steadily. These relationships are a direct consequence of the funding method and are consistent with the historical actuarial valuation results.

<u>Key findings for Plans using the Alternative Funding Policy</u>

- Twenty-Six plans (or about 49.1% of all 53 participating Funds), covering 50.6% of plan participants, are financed using the Alternative funding policy.

- The average employer contribution rate is 35% of payroll for FY 2016 and 36% of payroll for FY 2017.

- The average funded ratio is only 22%. The unfunded actuarial accrued liability for Funds using the Alternative policy is approximately $567 million or 48.9% of the total unfunded liabilities for all Funds.

- After 30 years only 10 out of 26 Alternative Plans are projected to be at least 80% funded.

<u>Key findings for Plans that switched from the Alternative Funding Policy to the Optional Funding Policy</u>

- Ten plans that were previously using the Alternative funding policy (or about 18.9% of all 53 participating Funds), covering 25.8% of plan participants, are now financed using the Optional funding policy.

- The average employer contribution rate is 86% of payroll for FY 2016 and 107% of payroll for FY 2017.

- The average funded ratio is only 28%. The unfunded actuarial accrued liability for these Funds is approximately $260.3 million or 22.4% of the total unfunded liabilities for all Funds.

- Under the Optional funding policy, all plans that switched from Alternative funding policy are by definition projected to be 100% funded by the end of the amortization period in 40 years. However, the funded ratios will increase at a very slow rate for many years and leave the plans vulnerable if there is another significant market downturn.

- Contributions to the closed local plans are projected to decrease in future years as new hires enter the Municipal Police Officers and Firefighters Retirement System.

Key findings for Plans that switched from the Standard Funding Policy to the Optional Funding Policy

- Ten plans, (or about 18.9% of all 53 participating Funds), covering only 2.6% of plan participants, and 1.9% of total liabilities are financed using the Optional funding policy that switched from the Standard funding policy.
- The average employer contribution rate is 49% of payroll for FY 2016 and 58% of payroll for FY 2017.
- The average funded ratio for these ten plans is 67% and the unfunded actuarial accrued liability is approximately $9.1 million or 0.8% of the total unfunded liabilities for all Funds.
- On a projected basis, the funded ratio for these Funds increases steadily and approaches 100% by 2031 (as required by State Statutes). In addition, the projected contribution rates are generally level or decline steadily. These relationships are a direct consequence of the funding method and are consistent with the historical valuation results.

Key Findings for Plans using the Conservation Funding Policy

- Two plans (or about 3.8% of all 53 participating Funds), covering 19.3% of plan participants, are financed using the Conservation funding policy.
- The average employer contribution rate is 73% of payroll for FY 2016 and 83% of payroll for FY 2017.
- The average funded ratio is only 8.6%. The unfunded actuarial accrued liability for Funds using the Conservation funding policy is approximately $318.0 million or 27.4% of the total unfunded liabilities for all Funds.
- Employer contributions will be used directly to pay benefits not covered by member contributions or the premium tax allocation. As such, employer contributions for sponsors currently using the Conservation funding policy plans are projected to increase each year for the next 20 years as projected benefit payments increase.
- The Conservation funding policy defers contributions and produces virtually no significant growth in the funded ratio until the last 10 years of the projection period. This policy is not consistent with generally accepted actuarial principles.

Historical Comparison of Funded Ratios and Contribution Rates by Funding Policy

Funds using the Alternative funding policy, in general, have much lower funded ratios, when compared to Funds using the Standard funding policy. The following tables compare the historical averages of funded ratios and contributions rates at each respective valuation date:

Funded Ratio As of July 1	Standard Policy Plans		Alternative Policy Plans		Optional Policy Plans From Standard		Optional Policy Plans From Alternative		Conservation Policy Plans	
	Number	Average	Number	Average	Number	Average	Number	Average	Number	Average
2015	5	62%	26	22%	10	67%	10	28%	2	9%
2014	5	67%	28	26%	10	71%	8	29%	2	9%
2013	8	55%	31	25%	7	70%	5	23%	2	8%
2012	8	47%	31	23%	7	63%	5	20%	2	7%
2011	9	50%	31	24%	6	62%	5	18%	2	7%

As of the July 1, 2015 actuarial valuation, ten Standard plans selected the Optional funding policy, ten Alternative plans selected the Optional funding policy and two Alternative plans selected the Conservation funding policy.

Employer Contribution Rate [2] For FY Beginning July 1	Standard Policy Plans		Alternative Policy Plans		Optional Policy Plans From Standard		Optional Policy Plans From Alternative		Conservation Policy Plans	
	Number	Average[1]	Number	Average	Number	Average	Number	Average	Number	Average
2016	4	40%	26	36%	10	58%	10	107%	2	83%
2015	4	28%	26	35%	10	49%	10	86%	2	73%
2014	4	36%	28	34%	10	43%	8	88%	2	67%
2013	7	47%	31	36%	7	44%	5	101%	2	53%
2012	7	42%	31	33%	7	36%	5	95%	2	50%
2011	8	51%	31	32%	6	47%	5	97%	2	49%

[1] One outlying Standard funding policy Fund, excluded from this table, is closed to new employees, has six retired members, no active members and no payroll.
[2] As a percentage of payroll.

- Sponsors using the Standard funding policy and former Standard plans that selected the Optional funding policy are required to contribute the net normal cost plus a 16-year (from July 1, 2015) closed level dollar amortization of the unfunded actuarial liability. By definition, these Funding Policies produce a projected funded ratio of 100% at the end of 16 years and are consistent with generally accepted actuarial standards of practice.

- Because the net employer normal cost rate for Standard plans (generally around 26% of pay) is higher than the statutory contribution rate of 8.5% to 10.5% of pay under the Municipal Police Officers and Firefighters Retirement System, all Standard plans would experience a reduction in employer contributions if the Optional funding policy was adopted, with no significant impact to the funded ratio. In fact, ten Standard plans recognized this relationship and converted from the Standard funding policy to the Optional funding policy prior to the July 1, 2015, actuarial valuation.

- Sponsors using the Alternative funding policy are required to contribute 107% of the prior year's contribution. The Alternative funding policy is not consistent with generally accepted actuarial standards of practice because the policy does not reflect emerging gains and losses and may not produce an actuarially sound pattern of contributions and funded ratio. As a direct result of this funding policy, Alternative plans are on average less than half as well funded as Standard plans.

- Unlike Standard plans, Alternative plans are generally not expected to receive immediate contribution relief from switching to the Optional funding policy because the Alternative funding policy contributions in many cases are considerably lower than the actuarially based contributions defined under the Optional policy. However, plan sponsors currently using the Alternative funding policy may find it more affordable in the long run to switch to the Optional funding policy even if it means an increase in the employer contributions in the short term.

- As an alternative to switching to the Optional funding policy, sponsors of Alternative plans may want to consider making additional contributions in excess of the statutory minimum to ensure a reasonable pattern of growth in the funded ratio.

- Standard plans and former Standard plans that have selected the Optional funding policy are projected to be 100% funded by the end of the 16-year amortization period in 2031. Under the Alternative funding policy, only 4% of plans are projected to be fully funded by 2031.

- The following table compares the percentage of funds that are projected to be fully funded by 2031 for each historical valuation:

Valuation As of July 1	Percentage of Plans that are Projected to be Fully Funded by 2031				
	Standard	Alternative	Optional from Standard	Optional from Alternative [a]	Conservation
2015	100%	4%	100%	0%	0%
2014	100%	18%	100%	13%	0%
2013	100%	19%	100%	0%	0%
2012	100%	10%	100%	0%	0%
2011	100%	10%	100%	20%	0%

[a] Former Alternative plans that selected the Optional funding policy are projected to be fully funded by 2050.

Comparison of Historical Actuarial Valuation Results

The following table compares basic historical data for plans that have participated in the actuarial valuation studies. Pay has historically decreased slightly over the last three actuarial valuation cycles, and total benefits paid have increased by approximately 3% to 4% per year.

($ in Millions)	2015	2014	2013	2012	2011
Participating Plans	53	53	53	53	53
Payroll	$76.4	$77.8	$78.6	$80.1	$78.1
Benefits Paid	$62.0	$59.5	$57.9	$56.1	$53.9

The following table compares historical actuarial information. The key observation is that the 2015 funded ratio has decreased and normal cost rate increased primarily due to the change in actuarial assumptions.

($ in Millions as of July 1)	2015	2014	2013	2012	2011
Assets	$321.2	$308.0	$272.3	$245.6	$236.1
Liability	$1,481.5	$1,272.9	$1,258.9	$1,243.9	$1,188.8
Funded Ratio	22%	24%	22%	20%	20%
Net Employer Normal Cost % of Pay	41%	29%	29%	30%	31%

The following table compares historical contributions. The employer contribution rates have increased primarily because contributions under the Alternative funding policy increase at an annual rate of 7% while payroll has increased by between approximately 3% to 6% annually. Contributions for Standard and Optional plans increased due to the change in actuarial assumptions. The State contributions depend on the premium volume for property casualty insurance.

(Plan year beginning July 1) ($ in Millions)	2016	2015	2014	2013	2012
Net Employer Contributions	$46.5	$41.2	$41.1	$39.6	$36.6
(% of Pay)	60%	54%	53%	50%	46%
State Premium Tax Allocation	$17.6	$16.8	$16.5	$15.9	$17.0
(% of Pay)	23%	22%	21%	20%	21%

The following tables compare the funded ratios and the employer contribution rates under the various funding policies. In general, the funded ratios decreased due to unfavorable investment experience and changes to the actuarial assumptions. The changes in funded ratios and contribution rates were also impacted by plans that switched from either the Alternative or Standard funding policy to the Optional funding policy. During the plan year ended June 30, 2015, two Alternative plans and no Standard plans switched to the Optional funding policy.

Funded Ratio as of July 1	**2016**	**2015**	**2014**	**2013**	**2012**
($ in Millions)					
- Standard Plans	NA	62%	67%	55%	47%
- Alternative Plans	NA	22%	26%	25%	23%
- Optional from Standard	NA	67%	71%	70%	63%
- Optional from Alternative	NA	28%	29%	23%	20%
- Conservation Plans	NA	9%	9%	8%	7%
Contributions Rates % of Pay					
(Plan year beginning July 1)					
- Standard Plans	40%	28%	36%	47%	42%
- Alternative Plans	36%	35%	34%	36%	33%
- Optional from Standard	58%	49%	43%	44%	36%
- Optional from Alternative	107%	86%	88%	101%	95%
- Conservation Plans	83%	73%	67%	53%	50%

The details of the historical actuarial valuations are shown on pages 16 and 17 and Appendix I in Section VIII. A gain/loss analysis, reconciling the unfunded liability from June 30, 2014 to June 30, 2015, is shown on pages 18 and 19. During the plan year ending June 30, 2015, the Funds in the aggregate experienced an investment return on the market value of assets of approximately 2.8%, which compares to an expected return of approximately 5.7%. The table on the following page compares the contribution requirements between the FYE 2016 and FYE 2017.

	Standard Policy	Alternative Policy	Optional Policy From Standard	Optional Policy From Alternative	Conservation Policy	All Plans [a]
Participating Plans	5	26	10	10	2	53
FYE 2016 Contributions						
Employer Contributions [a]	$431,778	$14,641,449	$999,811	$14,555,253	$10,526,610	$41,154,901
State Premium Tax Allocation	$320,929	$8,417,595	$436,192	$4,395,833	$3,182,420	$16,752,969
Employee Contributions	$111,989	$3,363,335	$182,652	$1,184,701	$1,157,409	$6,000,086
FYE 2017 Contributions						
Employer Contributions [a]	$644,224	$15,464,658	$1,157,261	$17,255,550	$12,006,919	$46,528,612
State Premium Tax Allocation	$348,114	$8,865,357	$461,514	$4,495,829	$3,409,013	$17,579,827
Employee Contributions	$125,795	$3,517,682	$152,409	$1,169,186	$1,154,937	$6,120,009

[a] For plans under the Alternative funding policy, includes any additional contributions required to satisfy both 15-year solvency tests.

Summary of Key Valuation Results as of July 1, 2015

	Standard Policy	Alternative Policy	Optional Policy From Standard	Optional Policy From Alternative	Conservation Policy	All Plans [a]
Participating Plans	5	26	10	10	2	53
Plan Membership						
(a) Actives	37	856	46	344	255	1,538
(b) Annuitants	27	1,012	51	602	456	2,148
(c) Inactives	0	10	0	10	6	26
(d) Total	64	1,878	97	956	717	3,712
Payroll	$1,541,962	$41,392,088	$2,038,032	$16,962,025	$14,467,603	$76,401,710
Expected Benefit Payments	$705,175	$28,875,583	$1,209,723	$17,047,842	$14,138,386	$61,976,709
Actuarial Accrued Liabilities						
(a) Actives	$6,713,933	$252,685,302	$10,111,282	$114,292,742	$108,908,937	$492,712,196
(b) Annuitants	$9,509,329	$469,779,180	$17,325,089	$242,468,982	$235,474,388	$974,556,968
(c) Inactives	$0	$5,302,582	$0	$5,286,759	$3,618,452	$14,207,793
(d) Total Liabilities	$16,223,262	$727,767,064	$27,436,371	$362,048,483	$348,001,777	$1,481,476,957
Market Value of Assets	$10,099,312	$161,018,878	$18,361,406	$101,780,296	$29,970,878	$321,230,770
Unfunded Liability	$6,123,950	$566,748,186	$9,074,965	$260,268,187	$318,030,899	$1,160,246,187
Funded Ratio	62%	22%	67%	28%	9%	22%
Net Employer Normal Cost	$400,146	$17,926,150	$649,969	$5,922,639	$6,521,259	$31,420,163
(% of Payroll)	26%	43%	32%	35%	45%	41%
FYE 2016 Contributions						
Employer Contributions [b]	$431,778	$14,641,449	$999,811	$14,555,253	$10,526,610	$41,154,901
(% of Payroll)	28%	35%	49%	86%	73%	54%
State Premium Tax Allocation	$320,929	$8,417,595	$436,192	$4,395,833	$3,182,420	$16,752,969
(% of Payroll)	21%	20%	21%	26%	22%	22%
Employee Contributions	$111,989	$3,363,335	$182,652	$1,184,701	$1,157,409	$6,000,086
(% of Payroll)	7.3%	8.1%	9.0%	7.0%	8.0%	7.9%
FYE 2017 Contributions						
Employer Contributions [b]	$644,224	$15,464,658	$1,157,261	$17,255,550	$12,006,919	$46,528,612
(% of Payroll)	40%	36%	58%	107%	83%	60%
State Premium Tax Allocation	$348,114	$8,865,357	$461,514	$4,495,829	$3,409,013	$17,579,827
(% of Payroll)	21%	21%	23%	28%	24%	23%
Employee Contributions	$125,795	$3,517,682	$152,409	$1,169,186	$1,154,937	$6,120,009
(% of Payroll)	7.7%	8.2%	7.6%	7.2%	8.0%	7.9%
Additional 2017 Solvency Cont.						
- To Receive State Allocation	NA	NA	NA	NA	NA	$0
- And to provide COLA Benefits	NA	$104,649	NA	NA	NA	$104,649

[a] All Funds participating in the Study.

[b] For plans under the Alternative funding policy, includes any additional contributions required to satisfy both 15-year solvency tests.

Summary of Key Valuation Results as of July 1, 2014

	Standard Policy	Alternative Policy	Optional Policy From Standard	Optional Policy From Alternative	Conservation Policy	All Plans [a]
Participating Plans	5	28	10	8	2	53
Plan Membership						
(a) Actives	35	877	60	370	280	1,622
(b) Annuitants	27	1,013	48	584	452	2,124
(c) Inactives	0	13	3	7	3	26
(d) Total	62	1,903	111	961	735	3,772
Payroll	$1,444,161	$41,297,640	$2,464,079	$17,425,023	$15,214,906	$77,845,809
Expected Benefit Payments	$704,923	$28,067,152	$1,139,009	$16,240,227	$13,396,645	$59,547,956
Actuarial Accrued Liabilities						
(a) Actives	$5,995,217	$211,528,073	$9,399,477	$102,305,386	$95,936,122	$425,164,275
(b) Annuitants	$8,507,829	$397,000,949	$14,306,113	$207,566,088	$207,620,199	$835,001,178
(c) Inactives	$0	$6,251,128	$1,101,984	$3,706,608	$1,717,808	$12,777,528
(d) Total Liabilities	$14,503,046	$614,780,150	$24,807,574	$313,578,082	$305,274,129	$1,272,942,981
Market Value of Assets	$9,770,625	$160,472,667	$17,571,488	$91,919,545	$28,219,615	$307,953,940
Unfunded Liability	$4,732,421	$454,307,483	$7,236,086	$221,658,537	$277,054,514	$964,989,041
Funded Ratio	67%	26%	71%	29%	9%	24%
Net Employer Normal Cost	$277,019	$11,865,931	$592,206	$4,550,003	$4,925,615	$22,210,774
(% of Payroll)	19%	29%	24%	26%	32%	29%
FYE 2015 Contributions						
Employer Contributions [b]	$523,663	$14,164,803	$1,058,273	$15,330,987	$9,981,537	$41,059,263
(% of Payroll)	36%	34%	43%	88%	67%	53%
State Premium Tax Allocation	$321,062	$8,362,957	$440,612	$4,168,265	$3,166,977	$16,459,873
(% of Payroll)	22%	20%	18%	24%	21%	21%
Employee Contributions	$107,740	$3,243,431	$190,434	$1,252,578	$1,217,193	$6,011,376
(% of Payroll)	7.5%	7.9%	7.7%	7.2%	8.0%	7.7%
FYE 2016 Contributions						
Employer Contributions [b]	$431,778	$14,785,187	$999,811	$14,301,933	$10,693,548	$41,212,256
(% of Payroll)	29%	35%	43%	87%	71%	53%
State Premium Tax Allocation	$320,930	$8,538,813	$436,193	$4,274,614	$3,182,420	$16,752,970
(% of Payroll)	22%	20%	19%	26%	21%	22%
Employee Contributions	$111,989	$3,363,335	$182,652	$1,184,701	$1,200,509	$6,043,186
(% of Payroll)	7.6%	8.0%	7.8%	7.2%	8.0%	7.8%
Additional 2016 Solvency Cont.						
- To Receive State Allocation	NA	$5,300	NA	NA	NA	$5,300
- And to provide COLA Benefits	NA	$164,400	NA	NA	NA	$164,400

[a] All Funds participating in the Study.
[b] For plans under the Alternative funding policy, includes any additional contributions required to satisfy both 15-year solvency tests.

(Gain) / Loss Analysis

The Funds experienced an aggregate actuarial loss of $3,439,012 during the plan year ending June 30, 2015. The key factors contributing to the experience gain included:

- **Asset Performance:** The Funds, in the aggregate, experienced an investment return of approximately 2.8% on the market value of assets during the plan year ending June 30, 2015, which compares to the average expected annual return of 5.7%. The difference in actual versus expected return produced an asset loss of $9,076,137.

- **Demographic Experience:** An actuarial valuation is based on the expectation of certain events such as salary increases, retirement, disability, mortality, and termination. Demographic or liability experience gains and losses are generated when the actual occurrence of such events are different from the expectation. Between June 30, 2014 and June 30, 2015, the Funds experienced an aggregate net liability gain of $5,637,125. The net liability gain of $5,637,125 (or 0.38% of expected liabilities) is within the range of reasonable variation and is primarily the result of the following factors:

    - Salary growth rates during the plan year July 1, 2014 to June 30, 2015 that were less than the assumed rate of 5%; and
    - Cost-of-living adjustments during the plan year July 1, 2014 to June 30, 2015 that were less than the assumed rate of 3%.

- The actuarial assumptions and methods were recommended by the Actuary in the report 2016 Experience Review for the years July 1, 2009, to July 1, 2014, and approved by the Municipal Pensions Oversight Board. The change in actuarial assumptions increased liabilities by approximately $179 million.

(Gain) / Loss Analysis

Experience (gain) loss for plan year ending June 30, 2015

	Standard Policy	Alternative Policy	Optional Policy From Standard	Optional Policy From Alternative	Conservation Policy	All Plans
Participating Plans:	5	26	10	10	2	53
1. (a) Liability as of 7/1/2014	$14,503,046	$608,139,879	$24,807,574	$320,218,353	$305,274,129	$1,272,942,981
(b) Normal Cost due 7/1/2014	374,819	14,832,014	750,160	5,827,201	6,107,816	27,892,010
(c) Interest on (a) and (b) to 6/30/2015 [a]	985,184	32,698,945	1,597,236	18,099,771	15,416,402	68,797,538
(d) Benefit Payments with interest to 6/30/2015 [a]	688,676	28,382,355	1,219,394	17,163,710	14,242,627	61,696,762
(e) Effect of Assumption Changes on Unfunded AAL at 6/30/2015	1,425,903	103,237,399	2,232,072	33,823,856	38,459,085	179,178,315
(f) Expected Liability at 7/1/2015 [(a) + (b) + (c) - (d) + (e)]	16,600,276	730,525,882	28,167,648	360,805,471	351,014,805	1,487,114,082
(g) Actual Liability at 7/1/2015	$16,223,262	$727,767,064	$27,436,371	$362,048,483	$348,001,777	$1,481,476,957
(h) Liability (Gain)/Loss [(g) - (f)]	**($377,014)**	**($2,758,818)**	**($731,277)**	**$1,243,012**	**($3,013,028)**	**($5,637,125)**
2. (a) Market Value of Assets as of 7/1/2014	$9,770,625	$157,714,607	$17,571,488	$94,677,605	$28,219,615	$307,953,940
(b) Adjustment to Market Value of Assets at Beginning of Year [b]	4,224	(10,937)	(55,317)	0	0	(62,030)
(c) Interest on (a) and (b) to 6/30/2015 [a]	667,698	8,873,064	1,153,721	5,324,692	1,410,981	17,430,156
(d) Contributions with interest to 6/30/2015 [a]	830,970	27,681,931	1,627,666	21,912,257	14,628,779	66,681,603
(e) Benefit Payments with interest to 6/30/2015 [a]	688,676	28,382,355	1,219,394	17,163,710	14,242,627	61,696,762
(f) Expected Assets at 6/30/2015 [(a) + (b) + (c) + (d) - (e)]	10,584,841	165,876,310	19,078,164	104,750,844	30,016,748	330,306,907
(g) Actual Assets at 7/1/2015	$10,099,312	$161,018,878	$18,361,406	$101,780,296	$29,970,878	$321,230,770
(h) Asset (Gain)/Loss [(f) - (g)]	**$485,529**	**$4,857,432**	**$716,758**	**$2,970,548**	**$45,870**	**$9,076,137**
3. Total (Gain)/Loss [1(h) + 2(h)]	**$108,515**	**$2,098,614**	**($14,519)**	**$4,213,560**	**($2,967,158)**	**$3,439,012**

[a] *Interest based on assumptions used for each specific plan as of June 30, 2015.*
[b] *6 plans restated their Market Value of Assets as of June 30, 2015.*

Actuarial Valuation Data as of July 1, 2015

Summary of Participant Activity – All Plans Combined

	Actives	Retirees	Disabled	Deferred Vested	Spouses and Beneficiaries	Totals
Total Participants July 1, 2014:	**1,622**	**1,333**	**284**	**26**	**507**	**3,772**
New Actives:	66					**66**
Returned to Actives Status:	2		(2)			**0**
Data Corrections/Other Changes:						**0**
Vested Terminations:	(10)		(1)	11		**0**
Non-Vested Terminations:	(75)			(2)		**(77)**
Disabled:	(18)	(7)	25			**0**
Retirements:	(47)	56		(9)		**0**
Deaths with Beneficiary:	(1)	(22)	(5)		28	**0**
Deaths w/o Beneficiary:	(1)	(18)	(1)		(25)	**(45)**
Expired Annuity or Stop Payment:					(4)	**(4)**
Net Changes:	(84)	9	16	0	(1)	**(60)**
Total Participants June 30, 2015:	**1,538**	**1,342**	**300**	**26**	**506**	**3,712**

Distribution of Active Employees by Age and Length of Service – All Plans Combined

Attained Age	Years of Service to Valuation Date: Less than 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 35	Totals	Valuation Payroll
Under 20	1									**1**	**$ 28,245**
20-24	28	44	1							**73**	**2,696,978**
25-29	18	86	72	3						**179**	**7,858,701**
30-34	6	58	145	48						**257**	**11,749,949**
35-39	4	23	107	111	41	1				**287**	**13,891,842**
40-44		8	47	93	140	37				**325**	**17,080,006**
45-49		1	4	49	87	113	31	1		**286**	**15,936,747**
50-54			2	4	30	43	12			**91**	**4,969,824**
55-59	1	1	1		4	6	9	7	4	**33**	**1,812,798**
60-64					1		1	1	3	**6**	**376,620**
65-69											**0**
Over 70											**0**
Totals	**58**	**221**	**379**	**308**	**303**	**200**	**53**	**9**	**7**	**1,538**	**$ 76,401,710**

Averages

Age:	39.1	years
Service:	12.1	years
Annual Pay:	$49,676	

Participants Summary

Active Participants	July 1, 2014	July 1, 2015
Number of Actives	1,622	1,538
Total Annual Pay	$77,845,809	$76,401,710
Average Age	38.8	39.1
Average Service	11.7	12.1

Inactive Participants	July 1, 2014		July 1, 2015	
Type	No.	Annual Benefit	No.	Annual Benefit
Retirees	1,333	$44,974,853	1,342	$46,381,674
Surviving Spouses	507	$6,746,121	506	$6,972,377
Disabled Members	284	$6,332,382	300	$6,936,009
Deferred Vested Members	26	$752,279	26	$794,027

SECTION III

ACTUARIAL PROJECTIONS –
CURRENT FUNDING POLICY

Actuarial Projections – Current Funding Policy – Distribution of Plans

The tables below show a distribution of the number of Plans, by funding policy selected, that are projected to have an employer contribution rate or funded ratio that falls within a certain range. The projections are based on the actuarial valuation as of July 1, 2015. For purposes of comparing the relationship of the projected distributions, we have selected five representative years in the 40-year projection period: 2015, 2025, 2035, 2045, and 2055.

Funded Ratio Comparison

The table below summarizes the distribution of the projected funded ratios for all Funds.

Projection Period	Target Funded Ratio	2015 Valuation Number of Plans				
		Standard Plans	Alternative Plans	Optional From Standard	Optional From Alternative	Conservation Plans
	Greater Than:					
2015	20%	5	14	9	9	0
2025	40%	5	6	10	8	0
2035	60%	5	6	10	8	0
2045	80%	5	10	10	7	2
2055	100%	5	13	10	10	2
Of Total Number of Plans:		**5**	**26**	**10**	**10**	**2**

Standard Plans or former Standard Plans that switched to the Optional Funding Policy

Based on the 2015 valuation results, 93% of Standard Plans or former Standard Plans that switched to the Optional funding policy, have a funded ratio greater than 20% as of June 30, 2015, and are projected to be fully funded by 2031. Factors that may cause the projected funded ratio to increase at a slower rate include:

- Emerging actuarial losses in the future, including decreases in assets and increases in liabilities at a rate higher than expected, and
- Actual contributions less than projected contributions.

Alternative Plans

Based on the 2015 valuation, 54% of the Alternative plans had a funded ratio of at least 20% as of June 30, 2015.

The projected funded ratios for Alternative plans are expected to increase at a much slower rate than Standard plans. By 2035, approximately only 23% of the Alternative plans are expected to be funded at over 60% compared to 100% for the Standard plans.

Our projections assume sponsors will elect the Standard funding policy if the funded ratio exceeds 80% and the Standard policy contribution is lower than the Alternative policy contribution. Switching to the Standard policy tends to stabilize the growth of the funded ratio. We project that by 2045, 10 of the 26 remaining Alternative funding policy plans, or 38%, will have switched to the Standard funding policy.

Former Alternative Plans that switched to the Optional Funding Policy

Former Alternative Plans that switched to the Optional funding policy are projected to be fully funded by 2050. Ten former Alternative Plans, some being very large and underfunded, have selected the Optional funding policy. The Optional funding policy is similar to the Standard Policy with the exception of the amortization period.

Conservation Plans

Plans using the Conservation funding policy are projected to experience very slow growth in the funded ratio. This policy effectively defers the contributions needed to produce sustainable growth in the funded ratio.

Contribution Rate Comparison

The table below summarizes the distribution of the projected contribution rates for all Funds. For comparison purposes, we have assumed a target contribution rate of less than 40% for all projection years.

		2015 Valuation Number of Plans				
Projection Period	**Target Contribution Rate**	**Standard Plans**	**Alternative Plans**	**Optional From Standard**	**Optional From Alternative**	**Conservation Plans**
	Less Than:					
2015	**40%**	4	19	4	3	0
2025	**40%**	4	13	7	4	0
2035	**40%**	5	11	10	8	0
2045	**40%**	5	6	10	10	0
2055	**40%**	5	12	10	10	2
Of Total Number of Plans:		**5**	**26**	**10**	**10**	**2**

Under the Optional funding policy and Conservation funding policy, contributions are based on total payroll and includes the contributions made to the Municipal Police Officers and Firefighters Retirement System.

Standard Plans or former Standard Plans that switched to the Optional Policy

The percentage of Standard plans and former Standard plans that have switched to the Optional funding policy with a 2015 contribution rate less than 40% of payroll is 53%. In the long-term, we would expect the contribution rate to decrease as plans become fully funded. Once the plans become fully funded, the contribution rate should approach the employer normal cost rate of approximately 25% to 35%.

Alternative Plans

Based on the 2015 valuation, 73% of the Alternative plans had a contribution rate for 2015 of less than 40%.

In the short-term, the percentage of Alternative plans with a 2015 contribution rate less than 40% is comparable to the percentage for Standard plans. However, by 2035, only 46% of Alternative plans compared to 100% of Standard plans are projected to have a contribution rate of less than 40%. The Alternative plans with a projected contribution rate of less than 40% generally have reached a funded ratio of 80% and have triggered the Standard funding policy, following a period in which employer contributions rates were very high.

Former Alternative Plans that switched to the Optional Policy

The Optional plans will eventually produce contribution rates that are less than 40%, as the unfunded actuarial liability decreases.

Conservation Plans

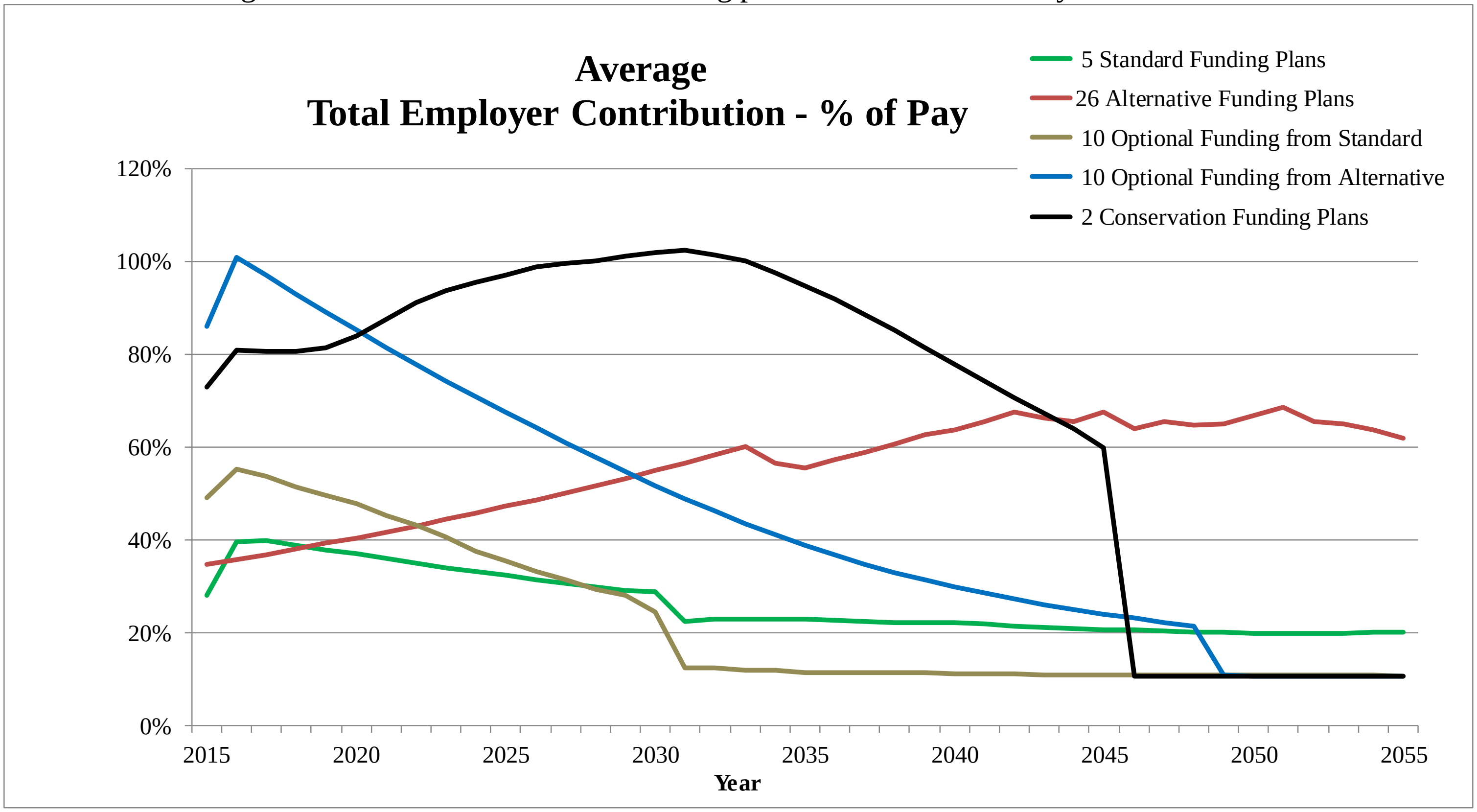
The Conservation plans are projected to experience an increase in contributions as the number of retired members increases. Eventually, plan obligations will decrease as the number of retirees decreases. However, this is not projected to occur until close to the end of the 40-year projection period.

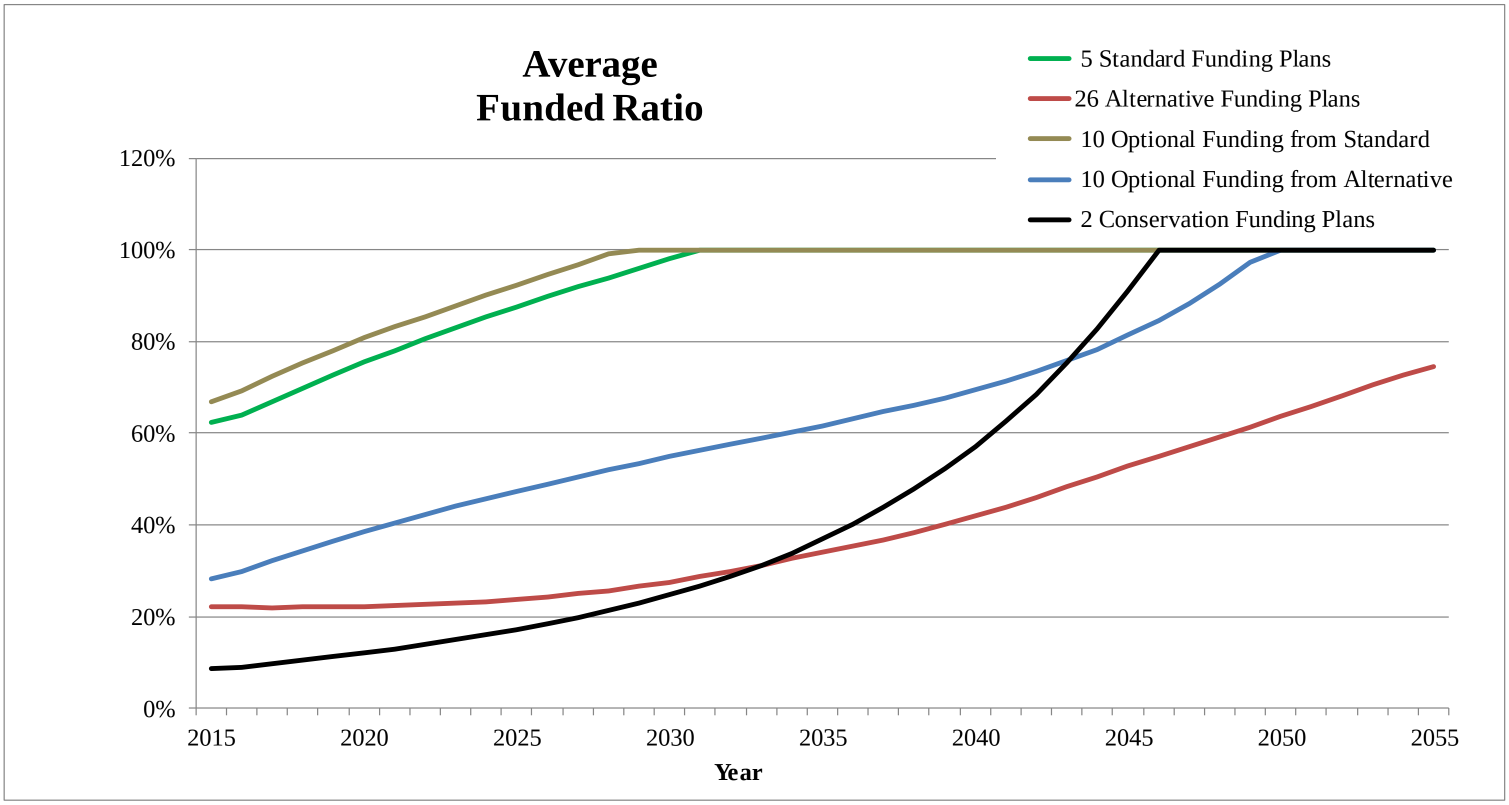
Key Observations

The projections indicate that Funds using the Standard funding policy are expected to have stable contribution rates that will produce increasing funded ratios, which ultimately approach 100% by 2031. Funds using the Alternative policy will generally have lower initial contribution rates that increase exponentially and will generally produce funded ratios that increase at a slower rate when compared to the Standard policy. However, several Alternative plans are projected to switch to the Standard funding policy after the funded ratio approaches 80% resulting in a more stable funded ratio and contribution pattern.

Optional funding policy plans are projected to experience a steady but slow growth in the funded ratio. Conservation funding policy plans are projected to experience very slow growth in the funded ratio, and contributions are effectively deferred.

The following graphs illustrate the differences in average employer contribution, as a percentage of pay, and the average funded ratio between all the funding policies over the next 40 years.





SECTION IV

ACTUARIAL PROJECTIONS –
FUNDING POLICY CHOICES

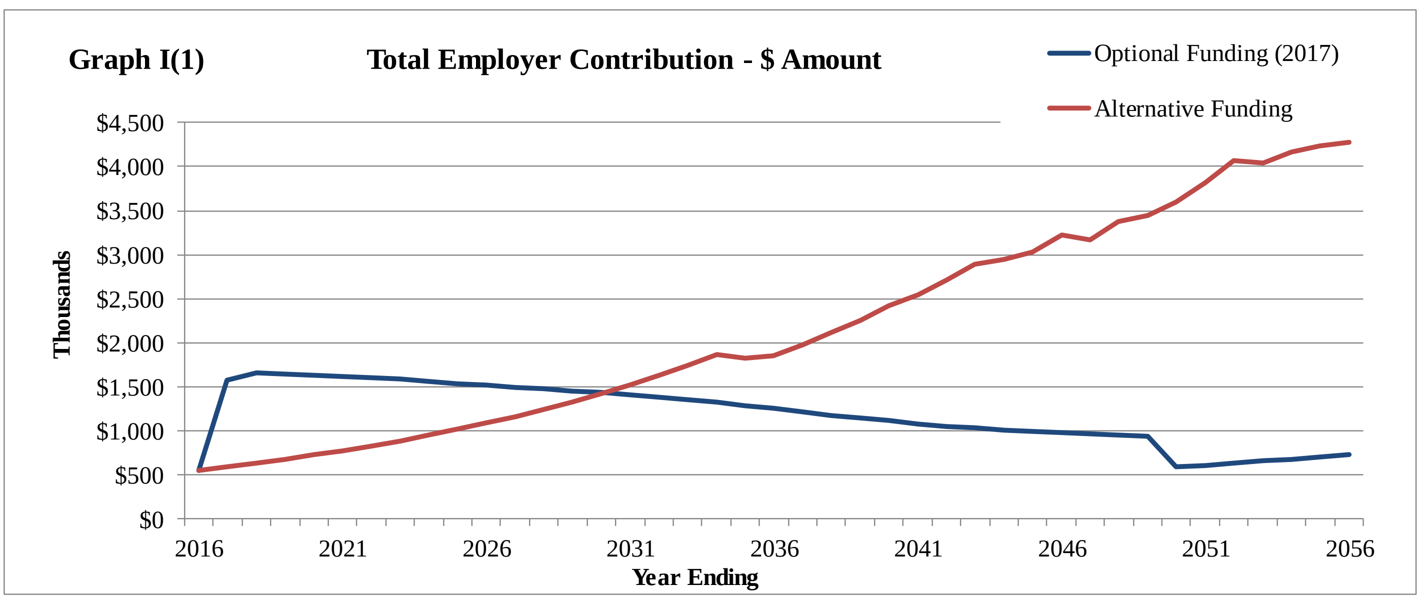
Impact of Optional Funding Policy under West Virginia Code §8-22-20(e)(1)

West Virginia Code §8-22-20(e)(1) allows Plan Sponsors using either the Standard or Alternative funding policy to close their current local police officers and firefighters pension Fund, and provide benefits to future members through the statewide cost sharing plan—the Municipal Police Officers and Firefighters Retirement System. The employer's contributions under the Municipal Police Officers and Firefighters Retirement System are fixed at 10.5% of pay, which is considerably less than the employer's normal cost rate. The key impact of West Virginia Code §8-22-20(e)(1) with respect to plan funding for Funds financing benefits under the Standard and Alternative funding policies is as follows:

- Sponsors financing benefits under the Standard funding policy are expected to receive immediate contribution relief by switching to the Optional funding policy with no significant impact to the projected funded ratio. This occurs because employer contributions for new entrants under the Municipal Police Officers and Firefighters Retirement System are fixed at 10.5% of pay, whereas the expected employer contributions for new entrants under the local plan are approximately equal to the higher net employer normal cost rate of pay.

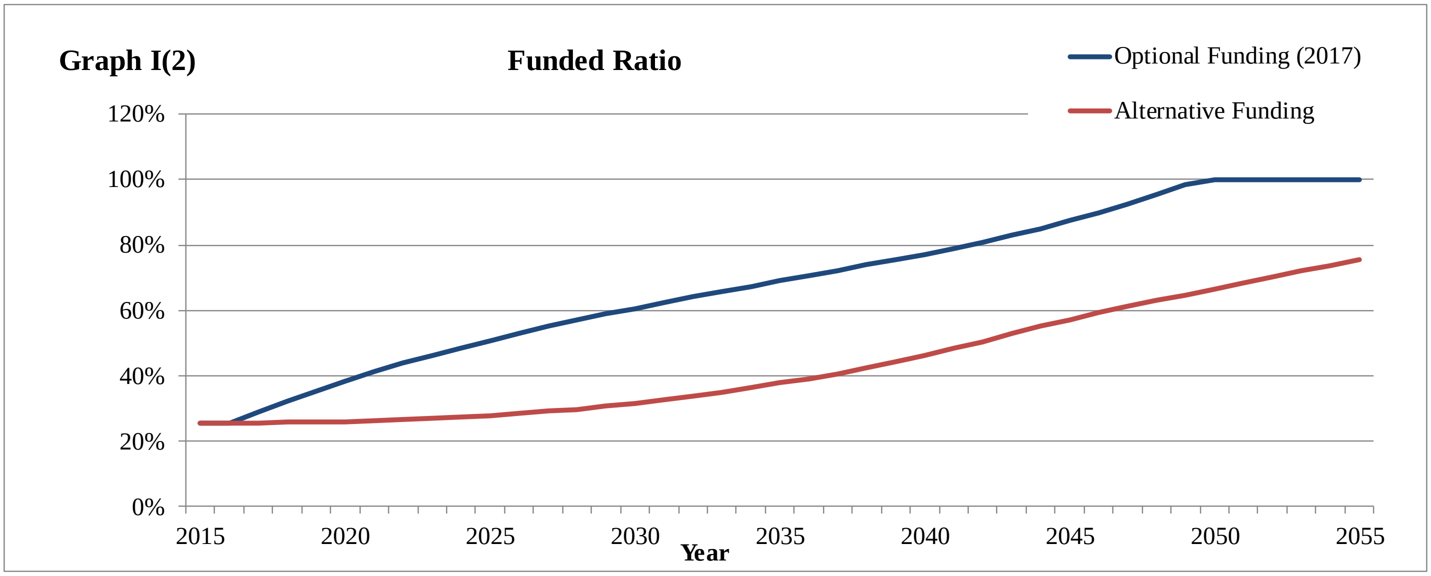
- Sponsors currently financing benefits under the Alternative policy are generally not expected to receive immediate contribution relief from switching to the Optional funding policy because the Alternative funding policy contributions in many cases are considerably lower than the actuarially based contributions defined under the Optional funding policy.

- Plan sponsors currently using the Alternative funding policy may find it more affordable in the long run to switch to the Optional funding policy even if it means an increase in the employer contributions in the short term. The following graph, for the average alternative plan, shows the difference in employer contributions between the two funding policies over the next 40 years:



As the above graph illustrates, contributing more under the Optional funding policy for the next 14 years produces significant cost reductions in the following 26 years.

The following graph for the average alternative plan shows the impact on the funded ratio between the two funding policies over the next 40 years:



The preceding graphs show: (i) Optional contributions are greater during the first 14 years but lower after the 14th year, and (ii) the Optional funding policy produces higher projected funding ratios when compared to the Alternative funding policy.

Impact of Conservation Funding Policy under West Virginia §8-22-20 (f)(1)

West Virginia Code §8-22-20(f)(1) allows Plan Sponsors using the Alternative funding policy to close their current local police officers and firefighters pension Fund, and provide benefits to future members through the statewide cost sharing plan – the Municipal Police Officers and Firefighters Retirement System. The key impact of West Virginia Code §8-22-20(f)(1) with respect to plan funding for Funds currently financing benefits under the Alternative policy follows:

- Sponsors currently financing benefits under the Alternative funding policy are generally not expected to receive immediate contribution relief by switching to the Conservation funding policy because the Alternative funding policy contributions in many cases are considerably lower than the benefit payments (net of member contributions or the premium tax allocation) defined under the Conservation funding policy.

SECTION V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions and Recommendations

Based on the results of July 1, 2015 valuation and projections, we have the following general conclusions:

- Most Funds using the Standard funding policy, or former Standard plans that elected the Optional funding policy, are using a funding policy which is consistent with actuarial standards and is expected to provide a reasonable level of funding in a reasonable period of time. We recommend that these Funds continue to make contributions based on these policies.

- The other three funding policies available to Plan Sponsors (including the Alternative, Optional from Alternative, and Conservation funding policies) were designed to provide and offer Plan Sponsors additional contribution flexibility and/or affordability. As such, each of these funding policies has some disadvantages as compared to the Standard funding policy.

- Under the Alternative funding policy, contributions are a function of the 1990 contribution (or five-year average since 1984 if greater) increased by 7% each year since 1990. This method of funding does not directly reflect any emerging experience gains or losses. For example, many Funds experienced investment losses in plan years ending June 30, 2008, June 30, 2009, and June 30, 2015 and investment gains in the plan years ended June 30, 2011, and June 30, 2014. The Alternative funding policy does not recognize any of these losses or gains.

- The sponsor's initial Alternative contribution effective for plan year 1991 is the greater of 107% of the amount contributed for the plan year ending June 30, 1990, or the five-year average of contributions made since 1984. In many cases, this starting point contribution was so low that the current year's contributions, even with many years of 7.0% increases, is still significantly less than the normal cost. This means that switching to the Optional funding policy will likely require a large increase in annual contributions.

- One key funding objective for public pension plans is to ensure the funding policy produces inter-generational equity among taxpayers. The Alternative funding policy generally defers the funding of plan costs into the future, creating a financial burden for future taxpayers.

- The Alternative funding policy assumes employer contributions will increase at a rate of 7%. In order to produce a level contribution rate, this funding method would require a 7% increase in payroll. In general, based on historical experience, we would expect annual payroll increases in the 3% to 6% range. Consequently, the Alternative funding policy can eventually produce contribution rates that exceed 100% of payroll.

- Many of the Funds using the Alternative funding policy are very poorly funded and will require a significantly higher level of contributions in the near future in order to bring the funded ratio to a more secure level. We recommend that these Funds consider immediately increasing their level of annual contributions. However, we recognize that affordability is a key concern for these Funds.

- Certain underfunded Funds using the Alternative funding policy may satisfy the minimum statutory standard for solvency; i.e. assets are no less than one dollar over the next 15-year projection period, and therefore do not need additional contributions to provide supplemental COLA benefits. However, for these plans, assets are projected to go to zero or close to zero after the 15-year solvency period, and we strongly recommend that the plan sponsor make additional contributions in excess of the statutory minimum in order to improve the security of future benefits. These Funds include the following:

  - Martinsburg Firemen's Pension and Relief Fund
  - Nitro Firemen's Pension and Relief Fund
  - Princeton Firemen's Pension and Relief Fund
  - South Charleston Firemen's Pension and Relief Fund
  - South Charleston Policemen's Pension and Relief Fund

- Certain underfunded Funds using the Alternative funding policy may not satisfy the minimum statutory standard for solvency; i.e. assets are less than one dollar over the next 15-year projection period, and therefore would need additional contributions to provide supplemental COLA benefits. We strongly recommend that the plan sponsor also make additional contributions in excess of the statutory minimum in order to improve the security of future benefits. These Funds include the following:

  - St. Albans Firemen's Pension and Relief Fund
  - Wierton Policemen's Pension and Relief Fund

- Certain underfunded Funds have not received the minimum statutory contribution and have forfeited the premium tax allocation provided by the State. In our projections, we assume that such plans will eventually receive the statutory minimum contribution. Given the lack of funding for these Funds, we will no longer be able to support the assumption the sponsor will make the statutory minimum contribution in our solvency projections, unless the sponsor adopts a formal policy to correct the statutory funding deficiency. These Funds include the following:

  - Logan Firemen's Pension and Relief Fund
  - Logan Policemen's Pension and Relief Fund
  - Point Pleasant Policemen's Pension and Relief Fund

- Under the Optional funding policy, contributions to the closed local plan are projected to decrease in future years as new hires enter the Municipal Police Officers and Firefighters Retirement System. At the same time, all Funds under the Optional funding policy by definition are projected to be 100% funded by the end of the amortization period in 40 years. However, the funded ratio for those Funds that are currently very poorly funded will increase at a very slow rate for many years and leave the Fund vulnerable if there is another significant market downturn.

- The Conservation funding policy is basically a "pay-as-you-go" funding method. In other words, employer contributions are based on actual retirements and disabilities. This method does not directly reflect any emerging experience gains or losses. For example, many Funds experienced investment losses in plan years ending June 30, 2008, June 30, 2009 and June 30, 2015 and investment gains in the plan years ended June 30, 2011, June 30, 2013, and June 30, 2014. The Conservation funding policy does not recognize any of these losses or gains.

- Employer contributions under the Conservation funding policy are based on actual retirements and disabilities which could vary significantly from year to year based on actual plan experience. There is no mechanism under the Conservation funding policy to smooth out annual fluctuations in contribution requirements.

- Our actuarial valuations assume the sponsor is required to contribute at least the normal cost in order to receive the State premium tax allocation. Two plans with funded ratios in excess of 100% as of July 1, 2015 are projected to experience an increasing funded ratio. At some point, the sponsor may no longer need additional contributions. For example, a plan that is at least 125% funded on a present value of future benefit basis, may have a sufficient cushion for future adverse experience. These Funds include the following:

    - Oak Hill Policemen's Pension and Relief Fund
    - Welch Policemen's Pension and Relief Fund

- Because the discount rate depends on the equity allocation, we recommend that the sponsor provide a copy of the fund's investment policy. If the investment policy is not currently available, we recommend that the sponsor provide documentation on the fund's asset allocation.

- GASB No. 67 replaced GASB No. 25 for pension plan financial reporting requirements (effective in fiscal year ending June 30, 2014) and GASB No. 68 replaced GASB No. 27 for employer financial reporting (effective in fiscal year ending June 30, 2015). For plans that are projected to have zero assets in the future, on a closed group basis, the discount rate used for GASB Nos. 67 and 68 financial reporting purposes will be based on a blended rate of the long-term investment return rate and a 20-year tax-exempt municipal bond index rate. Under the new accounting standards, the unfunded actuarial liability will need to be recognized on the plan sponsor's balance sheet. The new accounting standards will not impact the current statutory contribution policies. GRS provides separate GASB No. 67 reports to each plan sponsor.

- The change in assumptions increased the actuarial liability as of June 30, 2015, by approximately $179 million.

SECTION VI

ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions and Methods

Discount Rate

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

Funded Ratio as of Valuation Date [1]	Liquidity Ratio [2]	Equity Exposure [3]	Projected Funded Ratio after 15 Years [1]	Discount Rate	Number of Plans Satisfying Conditions
60% or more	10	50% or more	70% or more	6.5%	8 [a]
40% or more	8	40% or more	60% or more	6.0%	8
30% or more	6	30% or more	50% or more	5.5%	9
15% or more	4	n/a	40% or more	5.0%	6
Less than 15%	n/a	n/a	15% or more	4.5%	16
Less than 15%	n/a	n/a	Less than 15%	4.0%	6

[1] Funded ratios based on a 6.0% investment return assumption for plans using an actuarially sound policy (Standard or Optional) and a 5.5% investment return assumption for other plans (Alternative or Conservation).

[2] Liquidity ratio equals assets as of the valuation date divided by expected benefits for the year.

[3] Based on investment policy.

Discount Rate	4.0% – 7.0% [a]

[a] *One plan, Town of Belle Policemen's Pension and Relief Fund, with a broad investment exposure of the assets invested in the West Virginia Investment Board resulted in a 7.00% discount rate assumption, as approved by the MPOB.*

Actuarial Assumptions and Methods (CONT'D)

The premium tax allocation is projected using the following methodology:

(1) The Base Allocation for all Pension and Relief Funds 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").

(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 both the Base Allocation and the Excess Allocation assigned to the individual plan, until they are 100% funded, even if the premium tax allocation exceeds the amortization of the unfunded liability. Consequently, the projections do not include any reallocation of Expired Premium Tax Allocation for plan years beginning on and after July 1, 2017.

(4) The total available premium tax allocation, net of expenses, as of September 1, 2016, includes a Base Allocation of $8,709,689, an Excess Allocation of $8,696,736, and an Expired Premium Tax Allocation of $336,643.

(5) Based on the average number of plan participants for the 12 month period ending June 30, 2016, all Pension and Relief Funds reported a total of 1,689 eligible active members, and 2,162 eligible retired members.

(6) The total premium tax allocation was assumed to increase by 2.75% in calendar years ending on and after 2017.

Actuarial Assumptions and Methods (CONT'D)

General Inflation	2.75%
Expected Salary Increase	General Inflation: 2.75% *plus* Wage Inflation increment: 1.00% *plus*
Service-based Increase:	Years of Service — Increase 1 — 20.00% 2 — 6.50% 3 — 3.50% 4 — 2.75% 5-9 — 2.50% 10-29 — 2.00% 30-34 — 1.25% after 34 years of service — 0.00%
Post-retirement COLA	2.75% on first $15,000 of Annual Benefit and on the accumulated supplemental pension amounts for prior years.
Increase in State Insurance Premium Tax Allocation	2.75% on and after year 1
Cost Method	Entry–Age–Normal Level–Percentage–of–Pay

Actuarial Assumptions and Methods (CONT'D)

Amortization Policies:	
Alternative Plans and former Alternative Plans that selected the Conservation Policy	For GASB 25/27 Accounting: 30–Year Closed Level-Percentage-of-Pay Amortization (from July 1, 2010 – 25 years remaining as of July 1, 2015).
Standard Plans and former Standard Plans that selected the Optional Policy	For funding and GASB 67/68 Accounting: 40-Year Closed Level-Dollar Amortization (from July 1, 1991 – 16 years remaining as of July 1, 2015).
Former Alternative Plans that selected the Optional Policy	For funding: 40-Year Closed Level-Dollar Amortization (from January 1, 2010 – 34.5 years remaining as of July 1, 2015). For GASB 67/68 Accounting: 30-Year Closed Level-Percentage-of-Pay Amortization (from July 1, 2010 – 25 years remaining as of July 1, 2015).
Asset Method	Market Value
Turnover	Sample Rates – Age / Rates 25 / 9% 35 / 4% 45 / 2% 50 / 0%
Retirement	Age / Rates 50 / 45% 51-55 / 30% 56-59 / 35% 60 / 100%

Actuarial Assumptions and Methods (CONT'D)

Mortality	Active: RP-2014 Blue Collar Healthy Employee Post-Retirement: RP-2014 Blue Collar Healthy Annuitant Disabled: RP-2014 Blue Collar Healthy Annuitant set forward four years Tables above incorporate generational mortality improvement using MP-2014 2-dimensional mortality improvement scales.
Disability	Sample Rates – Age / Rates[a] 30 / 0.22% 40 / 0.50% 50 / 0.79% [a] Assumes 60% duty related and 40% non-duty related.
Percent Married	90%
Spouse Age	Females 3 years younger than males

SECTION VII

SUMMARY OF PRINCIPAL FUNDING POLICIES AND PLAN PROVISIONS

Summary of Funding Policies

According to the West Virginia Code §8-22-20, Funds may satisfy the minimum standard for actuarial soundness by using one of the following policies:

Standard Funding Policy

Contributions under the Standard Funding Policy include:

- The employer contribution equals the normal cost, net of employee contributions, plus a 40-year amortization of the unfunded actuarial liability less the allocable portion of the State premium tax fund for municipal pension and relief funds. The amortization is based on a 40-year closed period commencing on July 1, 1991. As of June 30, 2015, there are 16 years left in the amortization period. The employer contribution cannot be less than the normal cost.

- The employee contributions equal 7.0% of pay for members hired before January 1, 2010, and 9.5% of pay if hired after January 1, 2010. However, if elected by the Board of trustees of the Plan, member contributions may be increased up to 9.5% of pay.

- The State provides a premium tax allocation to the Fund based on the number of plan members and a demonstration that the actuarially determined contributions have been made on a timely basis.

Alternative Funding Policy

Contributions under the Alternative Funding Policy are determined as follows:

- The sponsor's initial Alternative contribution effective for plan year 1991 is the greater of 107% of the amount contributed for the plan year ending June 30, 1990, or the five-year average of contributions made since 1984.

- Sponsor contributions made in subsequent years cannot be less than 107% of the contribution made in the prior fiscal year.

- The actuary must certify in writing that the Fund is projected to be solvent under the Alternative funding policy for the next consecutive 15-year period. A plan is deemed to be solvent if projected assets are greater than zero over the 15-year projection period.

- Beginning September 1, 2003, any municipality which elected the Alternative funding method has the option of reverting to the Standard funding policy if the plan has an unfunded actuarial liability of no more than twenty-five percent of fund assets. In this case, the standard minimum contribution equals the normal cost plus the amortization of the unfunded liability over a period of not more than 40 years commencing from July 1, 1991, less the allocable portion of the state premium tax fund for municipal pension and relief funds.

- Plan members hired before January 1, 2010, contribute 7.0% of pay; however, if elected by the Board of trustees of the Plan, member contributions may be increased up to 9.5% of pay. Employees hired after January 1, 2010, contribute 9.5% of pay.

- The State provides a premium tax allocation to the Fund based on the number of plan members and a demonstration that the employer's statutory contributions have been made on a timely basis.

Optional Funding Policy

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 Optional funding policy is available to plan sponsors using either the Standard funding policy or Alternative funding policy. The key features of the Optional funding policy are summarized below:

The existing local Plan is closed, and new employees are covered in the Municipal Police Officers and Firefighters Retirement System. Contributions to the Municipal Police Officers and Firefighters Retirement System include:

- Employer contributions from 8.5% to 10.5% of pay. Currently, Employers contribute 8.5% of pay.

- Employee contributions of 8.5% of pay.

Contributions to the closed local Plan include:

- Employer contributions equal to the normal cost, net of employee contributions, plus a closed period amortization, on a level dollar basis, of the unfunded actuarial liability net of premium tax allocation applicable to the plan year. The closed amortization period, from July 1, 2015, equals 16 years for Standard Plans and 34.5 years for the Alternative Plans.

- Employee contributions of 7.0% of pay if hired before January 1, 2010, which may be increased by up to 2.5% of pay if elected by the Board of trustees of the Plan. Employees hired after January 1, 2010, contribute 9.5% of pay.

- The premium tax allocation assigned to the Fund for the plan year.

Conservation Funding Policy

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. The Conservation funding policy is available to plan sponsors using the Alternative funding policy. The key features of the Conservation funding policy are summarized on the following page:

The existing local Plan is closed, and new employees are covered in the multiple employer statewide plan - Municipal Police Officers and Firefighters Retirement System. Contributions to the Municipal Police Officers and Firefighters Retirement System include:

- Employer contributions from 8.5% to 10.5% of pay. Currently, Employers contribute 8.5% of pay.
- Employee contributions of 8.5% of pay.

Contributions to the closed local Plan are made to two asset accounts as follows:

- The first asset account (Benefit Payment Account) is used to finance benefits and expenses for the fiscal year on a pay-as-you-go basis. Sources to pay current year benefits and expenses include minimum employee contributions of 6.5% of pay, a portion of the premium tax allocation not assigned to the accumulation account as defined below, and employer contributions (typically made from the City's general assets).
- The second account (Accumulation Account) cannot be used to pay benefits and expenses until assets exceed actuarial liabilities (i.e., the funded ratio exceeds 100%). Contributions to the accumulation account include employee contributions of 1.5% of pay and a percentage of premium tax allocation. The percentage of premium tax allocation is based on the amounts needed to produce 100% funding of liabilities in 35 years, from adoption, considering assets from both the benefit payment account and the accumulation account. This account also includes the Fund's assets prior to the adoption of Conservation funding policy.

Summary of Principal Plan Provisions

Employee Eligibility — All compensated employees of the Police and Fire Departments hired before July 1, 2015, provided their respective plan is not closed, are eligible to participate in the Policemen's or Firemen's Pension and Relief Funds respectively.

Average Annual Compensation — The average of any three twelve-consecutive-month periods of employment which produces the highest average annual compensation.

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

The *Average Adjusted Salary* is base salary (exclusive of all overtime and other pay) of the year used in determining benefits multiplied by the ratio of total salary (includes all overtime and other pay) to base salary from the respective preceding twelve-consecutive-month period.

Determining Years of Service Credit (Credited Service**)** — The number of years that the member has contributed to the employees retirement and benefit fund.

Prior Military Service — A city may provide that members who have been honorably discharged from the military shall receive up to two years prior service credit for military service prior to their employment with the city.

Current 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.

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 one additional percent for each year so served in active military duty, up to a maximum of four additional percent.

Absence from the service because of sickness or injury for a period of two years or less shall not be construed as time out of service.

Contributions — Participating employees contribute from 7.0% to 9.5% of compensation. Participating employees hired on or after January 1, 2010 contribute 9.5% of pay.

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

Benefit Commencement — Annual retirement pension benefits commence upon retirement or upon the member attaining age fifty, whichever is later, payable in twelve monthly installments.

Accrued Benefit — The annual retirement benefit equals 60% of average annual compensation, not less than $6,000, plus an additional percentage of average annual compensation for service over 20 years equal to 2% for each year of service between 20 and 25 and 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. Benefits continue for life.

Disability Retirement — Members are eligible after earning five years of service. No service requirement if disability is service related.

The monthly disability benefit equals the greater of 60% of monthly salary at disability or $500. 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. Benefits continue for life or until recovery.

Death Benefits — Members are eligible after earning five years of service. No service requirement if death is service related. Retirees and terminated vested participants are also eligible.

The benefit is equal to 60% of the participant's benefit, but not less than $300 per month, payable to the spouse until death or remarriage. Other dependents (children, parents, brothers, and sisters) are also eligible for death benefits. To each dependent child, twenty percent of the participant's benefit until the child attains eighteen or marries; to each dependent orphaned child, twenty-five percent of the participant's benefit until the child attains eighteen or marries; to each dependent parent, ten percent of the participant's benefit for life, and to each dependent brother or sister, the sum of fifty dollars per month (but a total not to exceed $100 per month) until such individual attains the age of eighteen years or marries.

In no case shall the payments to the surviving spouse and children be reduced below sixty-five percent of the total amount paid to all dependents.

Supplemental Pension Benefits — All retirees, surviving beneficiaries and disability pensioners are eligible for 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.

Termination Benefits — Any member who terminates employment prior to retirement will be entitled to a refund of contributions without interest.

Refunds — Any member who terminates from their department without receiving a retirement pension shall be refunded all deductions made from his salary, without interest. Any member who receives such a refund and subsequently wishes to reenter the department must repay to the pension fund all sums refunded with interest at the rate of eight percent annual.

SECTION VIII

APPENDIX I – SUMMARY OF HISTORICAL VALUATION RESULTS

Summary of Key Valuation Results as of July 1, 2013

	Standard Policy	Alternative Policy	Optional Policy From Standard	Optional Policy From Alternative	Conservation Policy	All Plans [a]
Participating Plans	8	31	7	5	2	53
Plan Membership						
(a) Actives	57	1,059	42	206	300	1,664
(b) Annuitants	41	1,240	31	347	451	2,110
(c) Inactives	0	18	2	6	2	28
(d) Total	98	2,317	75	559	753	3,802
Payroll	$2,366,284	$48,160,983	$1,656,835	$10,293,663	$16,130,158	$78,607,923
Expected Benefit Payments	$992,913	$32,755,672	$675,134	$10,064,167	$13,389,613	$57,877,499
Actuarial Accrued Liabilities						
(a) Actives	$10,140,817	$246,239,521	$6,536,368	$62,961,733	$95,208,771	$421,087,210
(b) Annuitants	$11,590,197	$461,136,585	$9,912,901	$135,637,037	$205,951,922	$824,228,642
(c) Inactives	$0	$8,471,096	$577,942	$3,363,678	$1,146,560	$13,559,276
(d) Total Liabilities	$21,731,014	$715,847,202	$17,027,211	$201,962,448	$302,307,253	$1,258,875,128
Market Value of Assets	$12,026,120	$177,689,488	$11,909,170	$45,980,538	$24,711,384	$272,316,700
Unfunded Liability	$9,704,894	$538,157,714	$5,118,041	$155,981,910	$277,595,869	$986,558,428
Funded Ratio	55%	25%	70%	23%	8%	22%
Net Employer Normal Cost	$518,843	$13,693,709	$400,773	$2,982,759	$5,224,684	$22,820,768
(% of Payroll)	22%	28%	24%	29%	32%	29%
FYE 2014 Contributions						
Employer Contributions [b]	$1,104,761	$17,193,356	$733,460	$10,421,437	$10,111,068	$39,564,082
(% of Payroll)	47%	36%	44%	101%	53%	50%
State Premium Tax Allocation	$467,888	$9,762,331	$289,615	$2,315,398	$3,073,334	$15,908,566
(% of Payroll)	20%	20%	17%	22%	16%	20%
Employee Contributions	$173,655	$3,704,059	$124,801	$723,643	$1,290,413	$6,016,571
(% of Payroll)	7.3%	7.7%	7.5%	7.0%	8.0%	7.7%
FYE 2015 Contributions						
Employer Contributions [b]	$915,791	$17,891,406	$666,145	$9,959,644	$10,533,831	$39,966,817
(% of Payroll)	38%	36%	41%	98%	66%	50%
State Premium Tax Allocation	$497,271	$10,074,744	$264,403	$2,456,478	$3,166,977	$16,459,873
(% of Payroll)	21%	20%	16%	24%	20%	21%
Employee Contributions	$180,470	$3,845,662	$121,703	$717,075	$1,277,993	$6,142,903
(% of Payroll)	7.5%	7.8%	7.6%	7.0%	8.0%	7.7%
Additional 2015 Solvency Cont.						
- To Receive State Allocation	NA	$8,000	NA	NA	NA	$8,000
- And to provide COLA Benefits	NA	$294,300	NA	NA	NA	$294,300

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2012

	Standard Policy	Alternative Policy	Optional Policy From Standard	Optional Policy From Alternative	Conservation Policy	All Plans [a]
Participating Plans	8	31	7	5	2	53
Plan Membership						
(a) Actives	54	1,047	47	214	328	1,690
(b) Annuitants	41	1,235	30	349	435	2,090
(c) Inactives	2	14	2	5	2	25
(d) Total	97	2,296	79	568	765	3,805
Payroll	$2,257,353	$47,188,291	$1,822,891	$10,829,347	$18,016,906	$80,114,788
Expected Benefit Payments	$962,258	$31,799,022	$652,237	$9,841,302	$12,811,676	$56,066,495
Actuarial Accrued Liabilities						
(a) Actives	$9,425,810	$244,054,976	$6,354,597	$62,959,294	$102,052,640	$424,847,317
(b) Annuitants	$11,910,495	$459,265,394	$9,554,856	$134,315,553	$192,252,521	$807,298,819
(c) Inactives	$754,460	$6,855,334	$542,148	$2,488,472	$1,099,482	$11,739,896
(d) Total Liabilities	$22,090,765	$710,175,704	$16,451,601	$199,763,319	$295,404,643	$1,243,886,032
Market Value of Assets	$10,286,118	$164,540,590	$10,407,930	$39,234,716	$21,095,390	$245,564,744
Unfunded Liability	$11,804,647	$545,635,114	$6,043,671	$160,528,603	$274,309,253	$998,321,288
Funded Ratio	47%	23%	63%	20%	7%	20%
Net Employer Normal Cost	$543,077	$14,189,885	$439,871	$3,111,036	$5,795,971	$24,079,840
(% of Payroll)	24%	30%	24%	29%	32%	30%
FYE 2013 Contributions						
Employer Contributions [b]	$948,695	$15,748,962	$649,913	$10,268,139	$9,006,949	$36,622,658
(% of Payroll)	42%	33%	36%	95%	50%	46%
State Premium Tax Allocation	$500,600	$10,364,023	$318,378	$2,476,210	$3,387,287	$17,046,498
(% of Payroll)	22%	22%	17%	23%	19%	21%
Employee Contributions	$162,967	$3,561,950	$137,055	$760,692	$1,441,353	$6,064,017
(% of Payroll)	7.2%	7.5%	7.5%	7.0%	8.0%	7.6%
FYE 2014 Contributions						
Employer Contributions [b]	$1,104,761	$17,193,356	$733,460	$10,421,437	$10,111,068	$39,564,082
(% of Payroll)	47%	36%	44%	101%	53%	50%
State Premium Tax Allocation	$467,888	$9,762,331	$289,615	$2,315,398	$3,073,334	$15,908,566
(% of Payroll)	20%	20%	17%	22%	16%	20%
Employee Contributions	$173,655	$3,704,059	$124,801	$723,643	$1,290,413	$6,016,571
(% of Payroll)	7.3%	7.7%	7.5%	7.0%	8.0%	7.7%
Additional 2014 Solvency Cont.						
- To Receive State Allocation	NA	$26,100	NA	NA	NA	$26,100
- And to provide COLA Benefits	NA	$342,400	NA	NA	NA	$342,400

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2011

	Standard Policy	Alternative Policy	Optional Policy From Standard	Optional Policy From Alternative	Conservation Policy	All Plans [a]
Participating Plans	9	31	6	5	2	53
Plan Membership						
(a) Actives	60	1,043	41	228	342	1,714
(b) Annuitants	45	1,222	26	345	436	2,074
(c) Inactives	2	17	2	2	2	25
(d) Total	107	2,282	69	575	780	3,813
Payroll	$2,372,552	$45,188,591	$1,454,996	$11,013,903	$18,088,004	$78,118,046
Expected Benefit Payments	$1,008,409	$30,440,731	$535,144	$9,510,954	$12,360,288	$53,855,526
Actuarial Accrued Liabilities						
(a) Actives	$9,454,191	$232,770,392	$5,017,183	$60,477,604	$95,875,431	$403,594,801
(b) Annuitants	$13,051,284	$437,117,870	$8,016,378	$131,061,049	$185,353,388	$774,599,969
(c) Inactives	$680,468	$7,550,252	$487,265	$840,177	$1,046,188	$10,604,350
(d) Total Liabilities	$23,185,943	$677,438,514	$13,520,826	$192,378,830	$282,275,007	$1,188,799,120
Market Value of Assets	$11,572,237	$161,461,617	$8,437,958	$34,697,287	$19,913,060	$236,082,159
Unfunded Liability	$11,613,706	$515,976,897	$5,082,868	$157,681,543	$262,361,947	$952,716,961
Funded Ratio	50%	24%	62%	18%	7%	20%
Net Employer Normal Cost	$582,261	$13,940,854	$348,714	$3,351,670	$5,931,071	$24,154,570
(% of Payroll)	25%	31%	24%	30%	33%	31%
Employer Contributions [b]	$1,210,963	$14,653,455	$688,184	$10,697,857	$8,826,759	$36,077,218
(% of Payroll)	51%	32%	47%	97%	49%	46%
Additional Solvency Cont.						
- To Receive State Allocation	NA	$49,700	NA	NA	NA	$49,700
- To Provide COLA Benefits	NA	$412,800	NA	NA	NA	$412,800
Employee Contributions	$168,613	$3,340,093	$105,842	$771,798	$1,447,041	$5,833,387
(% of Payroll)	7%	7%	7%	7%	8%	7%
State Premium Tax Allocation	$465,857	$9,589,663	$302,959	$2,485,488	$3,325,087	$16,169,054
(% of Payroll)	20%	21%	21%	23%	18%	21%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2010

	Standard Policy	Alternative Policy	Optional Policy From Standard	Optional Policy From Alternative	Conservation Policy	All Plans [a]
Participating Plans	14	32	1	4	2	53
Plan Membership						
(a) Actives	102	1,060	3	221	373	1,759
(b) Annuitants	67	1,213	5	336	430	2,051
(c) Inactives	3	17	0	2	3	25
(d) Total	172	2,290	8	559	806	3,835
Payroll	$3,795,035	$45,071,900	$92,237	$9,461,141	$18,682,917	$77,103,230
Expected Benefit Payments	$1,406,298	$29,407,920	$144,227	$9,054,976	$11,825,294	$51,838,715
Actuarial Accrued Liabilities						
(a) Actives	$15,361,788	$239,608,193	$108,201	$59,901,808	$99,195,128	$414,175,118
(b) Annuitants	$20,567,424	$428,940,757	$2,147,331	$128,583,898	$175,826,505	$756,065,915
(c) Inactives	$1,006,182	$8,196,343	$0	$470,098	$1,744,672	$11,417,295
(d) Total	$36,935,394	$676,745,293	$2,255,532	$188,955,804	$276,766,305	$1,181,658,328
Market Value of Assets	$16,397,598	$147,483,305	$1,295,724	$22,135,392	$18,158,879	$205,470,898
Unfunded Liability	$20,537,796	$529,261,988	$959,808	$166,820,412	$258,607,426	$976,187,430
Funded Ratio	44%	22%	57%	12%	7%	17%
Net Employer Normal Cost	$1,059,028	$14,032,690	$28,397	$3,351,223	$5,976,689	$24,448,027
(% of Payroll)	28%	31%	31%	35%	32%	32%
Employer Contributions [b]	$1,247,458	$13,702,790	$41,485	$9,779,829	$5,819,568	$30,591,130
(% of Payroll)	33%	30%	45%	103%	31%	40%
Additional Solvency Cont.	$0	$103,700	$0	$0	$0	$103,700
(% of Payroll)	0%	0%	0%	0%	0%	0%
Employee Contributions	$267,404	$3,276,495	$6,957	$743,384	$1,494,634	$5,788,874
(% of Payroll)	7%	7%	8%	8%	8%	8%
State Premium Allocation	$770,495	$10,085,334	$34,660	$2,490,451	$3,559,970	$16,940,910
(% of Payroll)	20%	22%	38%	26%	19%	22%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2009

	Standard Policy	Alternative Policy	All Plans [a]
Participating Plans	14	37	51
Plan Membership			
(a) Actives	101	1,641	1,742
(b) Annuitants	67	1,978	2,045
(c) Inactives	3	15	18
(d) Total	171	3,634	3,805
Payroll	$3,573,526	$71,580,258	$75,153,784
Expected Benefit Payments	$1,390,383	$48,832,891	$50,223,275
Actuarial Accrued Liabilities			
(a) Actives	$11,789,127	$301,411,654	$313,200,781
(b) Annuitants	$17,477,678	$604,165,298	$621,642,976
(c) Inactives	$788,784	$6,014,992	$6,803,776
(d) Total	$30,055,589	$911,591,944	$941,647,533
Market Value of Assets	$15,693,437	$171,175,902	$186,869,340
Unfunded Liability	$14,362,152	$740,416,042	$754,778,193
Funded Ratio	52%	19%	20%
Net Employer Normal Cost	$762,890	$16,133,448	$16,896,338
(% of Payroll)	21%	23%	22%
Employer Contributions [b]	$1,224,637	$27,967,262	$29,191,899
(% of Payroll)	34%	39%	39%
Additional Solvency Contributions	$0	$474,000	$474,000
(% of Payroll)	0%	1%	1%
Employee Contributions	$250,146	$5,263,059	$5,513,205
(% of Payroll)	7%	7%	7%
STO Contributions	$792,755	$16,126,389	$16,919,144
(% of Payroll)	22%	23%	23%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2007

	Standard Policy	Alternative Policy	All Plans [a]
Participating Plans	13	34	47
Plan Membership			
(a) Actives	98	1,520	1,618
(b) Annuitants	61	1,793	1,854
(c) Inactives	2	12	14
(d) Total	161	3,325	3,486
Payroll	$3,251,345	$63,275,523	$66,526,868
Expected Benefit Payments	$1,202,195	$42,095,395	$43,297,589
Actuarial Accrued Liabilities			
(a) Actives	$10,063,087	$267,421,335	$277,484,422
(b) Annuitants	$14,875,664	$530,001,592	$544,877,256
(c) Inactives	$810,110	$4,661,022	$5,471,132
(d) Total	$25,748,861	$802,083,949	$827,832,810
Market Value of Assets	$15,313,492	$176,162,897	$191,476,389
Unfunded Liability	$10,435,369	$625,921,052	$636,356,421
Funded Ratio	59%	22%	23%
Net Employer Normal Cost	$702,981	$14,351,782	$15,054,763
(% of Payroll)	22%	23%	23%
Employer Contributions [b]	$963,272	$23,142,236	$24,105,508
(% of Payroll)	30%	37%	36%
Additional Solvency Contributions	$0	$122,200	$122,200
(% of Payroll)	0%	0%	0%
Employee Contributions	$227,596	$4,658,652	$4,886,248
(% of Payroll)	7%	7%	7%
STO Contributions	$723,782	$15,609,895	$16,333,677
(% of Payroll)	22%	25%	25%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2006

	Standard Policy	Alternative Policy	All Plans [a]
Participating Plans	13	36	49
Plan Membership			
(a) Actives	98	1,576	1,674
(b) Annuitants	59	1,870	1,929
(c) Inactives	3	16	19
(d) Total	160	3,462	3,622
Payroll	$3,172,617	$64,238,581	$67,411,198
Expected Benefit Payments	$1,130,221	$42,330,567	$43,460,788
Actuarial Accrued Liabilities			
(a) Actives	$9,855,624	$273,763,730	$283,619,354
(b) Annuitants	$14,153,641	$537,519,952	$551,673,593
(c) Inactives	$1,140,177	$6,521,924	$7,662,101
(d) Total	$25,149,442	$817,805,606	$842,955,048
Market Value of Assets	$13,949,937	$169,437,715	$183,387,652
Unfunded Liability	$11,199,505	$648,367,891	$659,567,396
Funded Ratio	55%	21%	22%
Net Employer Normal Cost	$687,676	$14,784,563	$15,472,239
(% of Payroll)	22%	23%	23%
Employer Contributions [b]	$959,122	$22,286,154	$23,245,276
(% of Payroll)	30%	35%	34%
Additional Solvency Contributions	$0	$318,400	$318,400
(% of Payroll)	0%	0%	0%
Employee Contributions	$222,084	$4,518,957	$4,741,041
(% of Payroll)	7%	7%	7%
STO Contributions	$719,852	$15,722,898	$16,442,750
(% of Payroll)	23%	24%	24%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2005

	Standard Policy	Alternative Policy	All Plans [a]
Participating Plans	13	36	49
Plan Membership			
(a) Actives	98	1,538	1,636
(b) Annuitants	56	1,843	1,899
(c) Inactives	3	16	19
(d) Total	157	3,397	3,554
Payroll	$3,090,873	$60,575,277	$63,666,150
Expected Benefit Payments	$1,000,615	$38,986,489	$39,987,104
Actuarial Accrued Liabilities			
(a) Actives	$9,572,481	$259,044,462	$268,616,943
(b) Annuitants	$13,194,282	$495,728,632	$508,922,914
(c) Inactives	$1,152,250	$6,702,706	$7,854,956
(d) Total	$23,919,013	$761,475,800	$785,394,813
Market Value of Assets	$13,274,806	$160,330,681	$173,605,487
Unfunded Liability	$10,644,207	$601,145,119	$611,789,326
Funded Ratio	55%	21%	22%
Net Employer Normal Cost	$734,723	$15,521,855	$16,256,578
(% of Payroll)	24%	26%	26%
Employer Contributions [b]	$966,163	$21,855,312	$22,821,475
(% of Payroll)	31%	36%	36%
Additional Solvency Contributions	$0	$148,100	$148,100
(% of Payroll)	0%	0%	0%
Employee Contributions	$216,362	$4,240,270	$4,456,632
(% of Payroll)	7%	7%	7%
STO Contributions	$684,373	$14,788,263	$15,472,636
(% of Payroll)	22%	24%	24%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2004

	Standard Policy	Alternative Policy	All Plans [a]
Participating Plans	11	38	49
Plan Membership			
(a) Actives	82	1,556	1,638
(b) Annuitants	44	1,838	1,882
(c) Inactives	4	19	23
(d) Total	130	3,413	3,543
Payroll	$2,645,345	$58,164,328	$60,809,673
Expected Benefit Payments	$817,375	$37,232,629	$38,050,004
Actuarial Accrued Liabilities			
(a) Actives	$8,715,444	$247,124,232	$255,839,676
(b) Annuitants	$9,906,433	$479,290,042	$489,196,475
(c) Inactives	$1,735,383	$8,214,836	$9,950,219
(d) Total	$20,357,260	$734,629,110	$754,986,370
Market Value of Assets	$11,337,047	$153,631,629	$164,968,676
Unfunded Liability	$9,020,213	$580,997,481	$590,017,694
Funded Ratio	56%	21%	22%
Net Employer Normal Cost	$634,768	$14,888,690	$15,523,458
(% of Payroll)	24%	26%	26%
Employer Contributions [b]	$863,889	$21,083,233	$21,947,122
(% of Payroll)	33%	36%	36%
Additional Solvency Contributions	$0	$297,800	$297,800
(% of Payroll)	0%	1%	0%
Employee Contributions	$185,175	$4,071,500	$4,256,675
(% of Payroll)	7%	7%	7%
STO Contributions	$554,688	$12,630,939	$13,185,627
(% of Payroll)	21%	22%	22%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2003

	Standard Policy	Alternative Policy	All Plans [a]
Participating Plans	13	38	51
Plan Membership			
(a) Actives	90	1,574	1,664
(b) Annuitants	54	1,803	1,857
(c) Inactives	4	20	24
(d) Total	148	3,397	3,545
Payroll	$2,622,810	$57,048,004	$59,670,814
Expected Benefit Payments	$930,283	$34,850,467	$35,780,750
Actuarial Accrued Liabilities			
(a) Actives	$8,240,132	$238,615,771	$246,855,903
(b) Annuitants	$11,489,270	$432,861,565	$444,350,835
(c) Inactives	$1,234,644	$7,621,597	$8,856,241
(d) Total	$20,964,046	$679,098,933	$700,062,979
Market Value of Assets	$11,821,357	$141,967,245	$153,788,602
Unfunded Liability	$9,142,689	$537,131,688	$546,274,377
Funded Ratio	56%	21%	22%
Net Employer Normal Cost	$609,926	$14,087,362	$14,697,288
(% of Payroll)	23%	25%	25%
Employer Contributions [b]	$869,831	$19,551,652	$20,421,483
(% of Payroll)	33%	34%	34%
Additional Solvency Contributions	$0	$523,600	$523,600
(% of Payroll)	0%	1%	1%
Employee Contributions	$183,597	$3,993,360	$4,176,957
(% of Payroll)	7%	7%	7%
STO Contributions	$549,204	$10,028,187	$10,577,391
(% of Payroll)	21%	18%	18%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

Summary of Key Valuation Results as of July 1, 2002

	Standard Policy	Alternative Policy	All Plans [a]
Participating Plans	11	38	49
Plan Membership			
(a) Actives	81	1,608	1,689
(b) Annuitants	47	1,768	1,815
(c) Inactives	3	11	14
(d) Total	131	3,387	3,518
Payroll	$2,298,860	$55,330,792	$57,629,652
Expected Benefit Payments	$762,622	$32,488,541	$33,251,164
Actuarial Accrued Liabilities			
(a) Actives	$7,695,680	$229,543,573	$237,239,253
(b) Annuitants	$9,205,427	$408,061,797	$417,267,224
(c) Inactives	$589,689	$4,514,105	$5,103,794
(d) Total	$17,490,796	$642,119,475	$659,610,271
Market Value of Assets	$10,560,331	$137,697,562	$148,257,893
Unfunded Liability	$6,930,465	$504,421,913	$511,352,378
Funded Ratio	60%	21%	22%
Net Employer Normal Cost	$519,401	$13,793,772	$14,313,173
(% of Payroll)			
Employer Contributions [b]	$656,205	$17,520,877	$18,177,082
(% of Payroll)	29%	32%	32%
Additional Solvency Contributions	$0	$476,400	$476,400
(% of Payroll)	0%	1%	1%
Employee Contributions	$160,922	$3,873,158	$4,034,080
(% of Payroll)	7%	7%	7%
STO Contributions	$490,542	$9,443,944	$9,934,487
(% of Payroll)	21%	17%	17%

[a] All Funds participating in the Study.
[b] Includes additional contributions required to satisfy the 15-year solvency test.

SECTION IX

APPENDICES II THROUGH VII – PROJECTION DATA

Policemen's and Firemen's Pension and Relief Funds of West Virginia Municipalities Actuarial Valuation As of July 01, 2015

Summary of Valuation Results

Municipality	Charleston		Huntington		Morgantown		Parkersburg		Wheeling	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Plan Membership										
-Actives	121	134	74	83	63	49	65	56	64	84
-Annuitants	226	230	133	177	64	54	74	100	110	120
-Inactives	4	2	2	1	1	0	1	0	0	4
Total	351	366	209	261	128	103	140	156	174	208
Payroll	$7,194,432	$7,273,171	$4,573,783	$4,135,510	$3,527,889	$2,534,252	$3,054,357	$2,774,192	$2,888,706	$3,789,366
Expected Benefit Payments	$7,069,149	$7,069,237	$4,373,734	$5,489,044	$2,133,218	$1,586,652	$2,239,656	$2,720,660	$2,802,275	$3,013,190
Actuarial Accrued Liabilities										
-Actives	$50,749,187	$58,159,750	$32,018,219	$33,301,224	$21,370,890	$17,229,539	$18,370,079	$19,134,262	$15,863,486	$25,838,240
-Annuitants	$118,051,944	$117,422,444	$61,109,018	$82,621,845	$34,984,368	$25,568,181	$37,345,471	$40,643,413	$38,600,834	$40,078,513
-Inactives	$2,633,261	$985,191	$1,230,715	$838,188	$725,258	$0	$536,798	$0	$0	$1,845,966
Total	$171,434,392	$176,567,385	$94,357,952	$116,761,257	$57,080,516	$42,797,720	$56,252,348	$59,777,675	$54,464,320	$67,762,719
Market Value of Assets	$16,082,384	$13,888,494	$28,541,102	$18,612,247	$14,434,407	$11,510,264	$10,313,547	$12,190,212	$19,910,004	$19,513,272
Unfunded Actuarial Accrued Liability	$155,352,008	$162,678,891	$65,816,850	$98,149,010	$42,646,109	$31,287,456	$45,938,801	$47,587,463	$34,554,316	$48,249,447
Funded Ratio	9%	8%	30%	16%	25%	27%	18%	20%	37%	29%
Net Employer Normal Cost	$3,232,509	$3,288,750	$1,471,985	$1,836,595	$1,428,636	$1,151,610	$1,332,901	$1,101,137	$872,242	$1,212,603
Contributions FYE 2016										
Employer Contribution [a]	$5,226,466	$5,300,144	$3,666,598	$5,121,271	$771,231	$626,099	$1,088,668	$2,400,687	$1,910,299	$3,116,323
(% of Payroll)	73%	73%	80%	124%	22%	25%	36%	87%	66%	82%
State Premium Tax Allocation	$1,604,867	$1,577,553	$1,047,042	$1,122,171	$597,542	$460,023	$634,723	$624,982	$818,745	$924,399
Employee Contribution	$575,555	$581,854	$320,165	$289,486	$335,150	$194,110	$235,226	$204,042	$218,847	$274,736
Contributions FYE 2017										
Employer Contribution [a]	$5,992,978	$6,013,941	$4,561,500	$6,233,758	$825,217	$669,926	$1,164,875	$2,568,735	$2,301,806	$3,315,639
(% of Payroll)	82%	84%	101%	157%	22%	25%	37%	89%	85%	96%
State Premium Tax Allocation	$1,698,684	$1,710,329	$1,094,555	$1,135,084	$629,967	$485,359	$683,470	$654,545	$767,103	$964,251
Employee Contribution	$581,849	$573,087	$315,523	$277,647	$351,046	$204,774	$247,070	$214,132	$205,574	$250,795
Additional 2017 Solvency Contribution [b]										
- To Receive State Tax Premium Allocation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
- And to provide Supplemental COLA Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Interest Rate	4.5%	4.5%	5.5%	4.5%	4.5%	4.5%	4.5%	5.0%	5.5%	5.5%
Funding Policy	Conservation	Conservation	Optional from Alternative	Optional from Alternative	Alternative	Alternative	Alternative	Alternative	Optional from Alternative	Optional from Alternative

[a] *Includes additional solvency contributions.*

[b] *Additional contributions needed in 2017 to satisfy the 15-year solvency test.*

**Policemen's and Firemen's
Pension and Relief Funds
of West Virginia Municipalities
Actuarial Valuation
As of July 01, 2015**

Summary of Valuation Results

Municipality	Beckley		Bluefield		Clarksburg		Fairmont		Martinsburg	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Plan Membership										
-Actives	47	40	22	15	42	42	33	40	47	35
-Annuitants	52	55	23	38	47	57	46	59	40	35
-Inactives	1	0	1	2	3	0	0	0	0	0
Total	100	95	46	55	92	99	79	99	87	70
Payroll	$2,100,749	$2,028,434	$841,730	$597,873	$1,989,442	$1,868,455	$1,598,060	$1,925,962	$2,592,596	$1,825,463
Expected Benefit Payments	$1,576,828	$1,861,234	$526,213	$779,041	$1,208,590	$1,327,341	$1,167,296	$1,613,634	$1,289,885	$1,275,536
Actuarial Accrued Liabilities										
-Actives	$9,777,763	$15,632,031	$4,698,376	$2,969,624	$9,068,619	$13,662,453	$9,823,300	$15,717,684	$12,938,995	$12,262,344
-Annuitants	$24,276,934	$27,781,331	$7,778,894	$14,053,599	$17,601,177	$20,390,895	$19,178,388	$26,247,501	$22,410,979	$21,916,087
-Inactives	$432,901	$0	$446,468	$1,066,503	$1,586,582	$0	$0	$0	$0	$0
Total	$34,487,598	$43,413,362	$12,923,738	$18,089,726	$28,256,378	$34,053,348	$29,001,688	$41,965,185	$35,349,974	$34,178,431
Market Value of Assets	$19,595,635	$16,814,980	$4,875,150	$4,080,587	$5,238,465	$5,072,427	$4,851,501	$1,683,829	$7,791,543	$2,693,373
Unfunded Actuarial Accrued Liability	$14,891,963	$26,598,382	$8,048,588	$14,009,139	$23,017,913	$28,980,921	$24,150,187	$40,281,356	$27,558,431	$31,485,058
Funded Ratio	57%	39%	38%	23%	19%	15%	17%	4%	22%	8%
Net Employer Normal Cost	$701,994	$935,008	$265,930	$255,197	$743,329	$862,034	$656,791	$1,019,442	$1,130,580	$888,610
Contributions FYE 2016										
Employer Contribution [a]	$448,977	$588,282	$294,832	$363,426	$878,776	$887,151	$667,775	$922,550	$511,589	$620,534
(% of Payroll)	21%	29%	35%	61%	44%	47%	42%	48%	20%	34%
State Premium Tax Allocation	$445,002	$410,943	$216,200	$201,352	$404,273	$424,421	$336,647	$418,443	$434,432	$331,954
Employee Contribution	$162,450	$149,837	$65,409	$48,280	$156,978	$138,504	$126,847	$165,554	$218,014	$149,843
Contributions FYE 2017										
Employer Contribution [a]	$480,405	$629,462	$315,470	$388,866	$940,290	$949,252	$714,519	$987,129	$547,400	$663,971
(% of Payroll)	22%	31%	36%	62%	45%	50%	43%	50%	20%	36%
State Premium Tax Allocation	$487,562	$428,814	$243,862	$203,346	$421,449	$445,631	$367,668	$434,016	$436,496	$350,495
Employee Contribution	$172,759	$154,421	$69,553	$51,034	$166,252	$143,746	$133,009	$170,094	$228,930	$154,213
Additional 2017 Solvency Contribution [b]										
- To Receive State Tax Premium Allocation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
- And to provide Supplemental COLA Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Interest Rate	5.5%	4.5%	5.5%	4.5%	5.0%	4.5%	4.5%	4.0%	4.5%	4.0%
Funding Policy	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative

[a] Includes additional solvency contributions.
[b] Additional contributions needed in 2017 to satisfy the 15-year solvency test.

Policemen's and Firemen's
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Summary of Valuation Results

Municipality	Moundsville		South Charleston		St. Albans		Vienna	Weirton		Belle	Charles Town
	Police	Fire	Police	Fire	Police	Fire	Police	Police	Fire	Police	Police
Plan Membership											
-Actives	9	4	39	41	25	19	18	32	23	1	0
-Annuitants	12	15	33	40	15	25	13	51	20	5	6
-Inactives	3	0	0	0	0	0	0	0	0	0	0
Total	24	19	72	81	40	44	31	83	43	6	6
Payroll	$407,851	$159,715	$1,676,156	$1,824,710	$1,154,810	$818,360	$868,395	$1,658,979	$1,115,043	$51,838	$0
Expected Benefit Payments	$264,666	$328,699	$893,397	$1,179,075	$528,987	$715,840	$401,520	$1,531,705	$671,758	$140,234	$108,581
Actuarial Accrued Liabilities											
-Actives	$2,232,372	$995,780	$10,164,178	$12,653,700	$5,749,825	$5,575,723	$4,234,548	$10,689,149	$5,635,485	$174,358	$0
-Annuitants	$3,311,287	$4,419,482	$16,293,723	$21,264,003	$7,891,780	$13,121,178	$5,215,726	$26,529,258	$8,706,401	$1,674,002	$1,539,348
-Inactives	$1,371,890	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	$6,915,549	$5,415,262	$26,457,901	$33,917,703	$13,641,605	$18,696,901	$9,450,274	$37,218,407	$14,341,886	$1,848,360	$1,539,348
Market Value of Assets	$4,844,225	$1,274,365	$2,730,353	$1,902,157	$6,397,155	$2,615,950	$6,594,688	$4,464,863	$9,183,163	$1,436,263	$462,469
Unfunded Actuarial Accrued Liability	$2,071,324	$4,140,897	$23,727,548	$32,015,546	$7,244,450	$16,080,951	$2,855,586	$32,753,544	$5,158,723	$412,097	$1,076,879
Funded Ratio	70%	24%	10%	6%	47%	14%	70%	12%	64%	78%	30%
Net Employer Normal Cost	$116,418	$86,304	$883,243	$993,138	$354,544	$414,179	$210,586	$880,105	$349,297	$14,967	$1,079
Contributions FYE 2016											
Employer Contribution [a]	$99,582	$239,261	$358,545	$644,508	$264,823	$224,816	$179,764	$528,381	$247,273	$21,133	$72,272
(% of Payroll)	24%	150%	21%	35%	23%	27%	21%	32%	22%	41%	67%
State Premium Tax Allocation	$120,275	$60,938	$364,876	$380,422	$209,287	$209,613	$155,732	$345,588	$207,993	$31,806	$12,785
Employee Contribution	$28,550	$11,180	$128,539	$138,221	$109,707	$77,744	$65,174	$151,038	$86,026	$3,629	$0
Contributions FYE 2017											
Employer Contribution [a]	$119,182	$246,979	$383,643	$689,624	$283,361	$241,363	$317,089	$669,207	$264,582	$30,395	$83,964
(% of Payroll)	28%	150%	22%	36%	24%	28%	35%	38%	23%	57%	70%
State Premium Tax Allocation	$144,465	$72,730	$385,377	$390,915	$226,843	$207,958	$176,783	$380,767	$213,909	$26,745	$14,084
Employee Contribution	$29,376	$11,533	$135,034	$145,367	$114,295	$80,798	$69,104	$159,061	$89,122	$3,731	$0
Additional 2017 Solvency Contribution [b]											
- To Receive State Tax Premium Allocation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
- And to provide Supplemental COLA Benefits	$0	$0	$0	$0	$0	$810	$0	$103,839	$0	$0	$0
Interest Rate	6.5%	4.5%	4.0%	4.0%	5.5%	4.0%	6.5%	4.0%	6.0%	7.0%	5.0%
Funding Policy	Optional from Alternative	Optional from Alternative	Alternative	Alternative	Alternative	Alternative	Standard	Alternative	Alternative	Optional from Standard	Standard

[a] *Includes additional solvency contributions.*

[b] *Additional contributions needed in 2017 to satisfy the 15-year solvency test.*

Policemen's and Firemen's
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Summary of Valuation Results

Municipality	Chester	Dunbar		Elkins		Grafton		Logan		Nitro	
	Police	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Plan Membership											
-Actives	4	11	13	7	3	5	2	6	9	15	14
-Annuitants	5	12	21	10	4	5	6	1	2	12	11
-Inactives	0	0	0	0	0	0	0	0	0	0	0
Total	9	23	34	17	7	10	8	7	11	27	25
Payroll	$131,253	$543,069	$623,201	$336,918	$163,506	$217,646	$75,231	$229,274	$313,040	$878,065	$670,368
Expected Benefit Payments	$145,711	$350,054	$549,330	$309,077	$71,269	$58,170	$142,701	$20,137	$29,226	$269,249	$293,323
Actuarial Accrued Liabilities											
-Actives	$35,746	$2,365,556	$3,244,532	$848,504	$942,893	$1,218,874	$365,158	$1,360,063	$1,083,576	$5,160,974	$3,461,509
-Annuitants	$2,199,440	$5,344,116	$9,358,543	$4,292,198	$670,439	$836,862	$2,437,435	$220,366	$334,449	$5,707,467	$5,129,418
-Inactives	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	$2,235,186	$7,709,672	$12,603,075	$5,140,702	$1,613,332	$2,055,736	$2,802,593	$1,580,429	$1,418,025	$10,868,441	$8,590,927
Market Value of Assets	$1,811,121	$5,461,403	$629,458	$2,794,044	$1,244,804	$1,262,614	$1,590,053	$634,949	$596,085	$2,988,258	$777,651
Unfunded Actuarial Accrued Liability	$424,065	$2,248,269	$11,973,617	$2,346,658	$368,528	$793,122	$1,212,540	$945,480	$821,940	$7,880,183	$7,813,276
Funded Ratio	81%	71%	5%	54%	77%	61%	57%	40%	42%	27%	9%
Net Employer Normal Cost	$20,908	$159,712	$277,113	$96,913	$54,441	$84,221	$22,079	$70,782	$96,791	$394,077	$276,350
Contributions FYE 2016											
Employer Contribution [a]	$26,087	$116,413	$387,957	$255,303	$36,803	$70,187	$60,589	$80,317	$73,338	$155,321	$144,718
(% of Payroll)	20%	21%	62%	76%	23%	32%	81%	35%	23%	18%	22%
State Premium Tax Allocation	$39,932	$138,432	$141,369	$88,599	$30,255	$54,118	$29,467	$52,237	$60,243	$132,099	$125,558
Employee Contribution	$12,469	$41,486	$51,901	$28,125	$11,445	$16,162	$5,266	$16,786	$23,706	$72,532	$53,091
Contributions FYE 2017											
Employer Contribution [a]	$25,577	$167,122	$415,114	$236,847	$57,960	$100,080	$102,021	$107,493	$110,101	$166,193	$154,848
(% of Payroll)	18%	32%	63%	70%	34%	45%	132%	46%	33%	18%	22%
State Premium Tax Allocation	$37,400	$143,878	$148,389	$85,605	$31,901	$57,947	$36,596	$54,160	$65,687	$149,635	$127,325
Employee Contribution	$13,852	$39,623	$55,132	$28,344	$11,797	$16,650	$5,414	$17,391	$25,448	$76,342	$55,760
Additional 2017 Solvency Contribution [b]											
- To Receive State Tax Premium Allocation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
- And to provide Supplemental COLA Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Interest Rate	6.5%	6.0%	4.5%	6.0%	6.0%	5.5%	6.0%	6.0%	6.0%	4.5%	4.5%
Funding Policy	Standard	Optional from Alternative	Alternative	Optional from Standard	Optional from Standard	Optional from Standard	Optional from Standard	Standard	Standard	Alternative	Alternative

[a] *Includes additional solvency contributions.*
[b] *Additional contributions needed in 2017 to satisfy the 15-year solvency test.*

Policemen's and Firemen's Pension and Relief Funds of West Virginia Municipalities Actuarial Valuation As of July 01, 2015

Summary of Valuation Results

Municipality	Oak Hill	Point Pleasant	Princeton		Star City	Welch	Weston		Westover	Williamson	
	Police	Police	Police	Fire	Police	Police	Police	Fire	Police	Police	Fire
Plan Membership											
-Actives	7	7	21	13	5	5	6	6	3	5	4
-Annuitants	5	6	20	15	5	3	3	3	4	8	12
-Inactives	0	0	0	1	0	0	0	0	0	0	0
Total	12	13	41	29	10	8	9	9	7	13	16
Payroll	$310,146	$272,899	$927,966	$573,191	$211,785	$246,669	$220,066	$185,386	$143,113	$156,151	$122,488
Expected Benefit Payments	$130,066	$124,912	$496,913	$360,128	$80,094	$80,755	$41,902	$62,703	$110,637	$123,829	$239,648
Actuarial Accrued Liabilities											
-Actives	$1,546,592	$2,256,434	$3,292,350	$3,824,207	$577,711	$1,060,026	$885,705	$440,527	$812,738	$836,834	$400,504
-Annuitants	$1,863,409	$2,208,300	$8,303,085	$6,048,220	$1,248,886	$1,108,821	$545,385	$1,107,768	$1,688,238	$2,060,404	$3,815,715
-Inactives	$0	$0	$0	$508,072	$0	$0	$0	$0	$0	$0	$0
Total	$3,410,001	$4,464,734	$11,595,435	$10,380,499	$1,826,597	$2,168,847	$1,431,090	$1,548,295	$2,500,976	$2,897,238	$4,216,219
Market Value of Assets	$4,032,762	$734,012	$3,991,089	$2,812,016	$1,380,845	$2,322,822	$813,822	$829,961	$2,130,210	$1,140,291	$1,653,426
Unfunded Actuarial Accrued Liability	($622,761)	$3,730,722	$7,604,346	$7,568,483	$445,752	($153,975)	$617,268	$718,334	$370,766	$1,756,947	$2,562,793
Funded Ratio	118%	16%	34%	27%	76%	107%	57%	54%	85%	39%	39%
Net Employer Normal Cost	$71,630	$120,588	$325,939	$256,564	$48,402	$57,342	$82,209	$60,858	$45,579	$62,633	$43,289
Contributions FYE 2016											
Employer Contribution [a]	$68,308	$283,267	$185,675	$94,058	$48,497	$51,953	$91,034	$32,186	$61,234	$112,962	$140,358
(% of Payroll)	22%	104%	20%	16%	23%	21%	41%	17%	43%	72%	115%
State Premium Tax Allocation	$0	$81,656	$183,874	$124,903	$51,076	$0	$49,857	$42,613	$70,434	$55,657	$65,561
Employee Contribution	$23,658	$19,103	$76,781	$43,121	$17,476	$17,984	$18,750	$15,806	$10,018	$12,554	$9,280
Contributions FYE 2017											
Employer Contribution [a]	$71,630	$372,850	$198,672	$100,642	$51,892	$57,342	$82,558	$72,137	$45,579	$104,997	$132,430
(% of Payroll)	23%	138%	20%	17%	23%	28%	39%	37%	31%	66%	106%
State Premium Tax Allocation	$0	$83,675	$182,018	$130,285	$49,256	$0	$57,093	$37,058	$81,952	$62,926	$73,779
Employee Contribution	$24,029	$18,877	$81,253	$45,579	$18,906	$14,979	$18,224	$16,869	$10,364	$12,758	$9,488
Additional 2017 Solvency Contribution [b]											
- To Receive State Tax Premium Allocation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
- And to provide Supplemental COLA Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Interest Rate	6.5%	5.0%	5.0%	4.5%	6.5%	6.5%	5.5%	6.0%	6.5%	5.0%	5.5%
Funding Policy	Optional from Standard	Optional from Standard	Alternative	Alternative	Alternative	Optional from Standard	Optional from Standard	Optional from Alternative	Optional from Standard	Optional	Optional

[a] *Includes additional solvency contributions.*

[b] *Additional contributions needed in 2017 to satisfy the 15-year solvency test.*

Policemen's and Firemen's
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Alternative Plans

Optional Funding - Year of Crossover [a]

Plan Name	Year of Crossover FYE	Funded Ratio	Current Funds, Open: Projected Employer Contribution Amount	Current Funds, Open: Projected Employer Contribution % of Pay	Current Funds, Closed: Projected Employer Contribution Amount	Current Funds, Closed: Projected Employer Contribution % of Pay	New Cost Sharing Fund: Projected Employer Contribution Amount	New Cost Sharing Fund: Projected Employer Contribution % of Pay	Total to Current closed Fund and New Cost Sharing Fund: Projected Employer Contribution Amount	Total to Current closed Fund and New Cost Sharing Fund: Projected Employer Contribution % of Pay	Decrease Amount	Decrease % of Pay
Bluefield Police	2029	58%	$ 710,501	50%	$ 688,780	51%	$ 5,517	10.5%	$ 694,297	49%	$ 16,204	1.1%
Bluefield Fire	2040	61%	1,843,429	118%	1,695,409	114%	8,336	10.5%	1,703,745	109%	139,684	8.9%
Clarksburg Police	2035	61%	3,178,118	71%	3,079,165	72%	20,624	10.5%	3,099,789	69%	78,329	1.7%
Clarksburg Fire	2039	61%	4,205,562	99%	4,130,472	102%	18,769	10.5%	4,149,241	98%	56,321	1.3%
Dunbar Fire	2035	48%	1,403,056	106%	1,357,468	108%	6,806	10.5%	1,364,274	103%	38,782	2.9%
Fairmont Police	2045	80%	4,750,714	97%	4,626,114	100%	27,086	10.5%	4,653,200	95%	97,514	2.0%
Parkersburg Fire	2022	34%	3,602,783	104%	3,571,671	109%	22,343	10.5%	3,594,014	103%	8,769	0.3%
St. Albans Police	2044	86%	1,760,767	51%	1,696,372	52%	16,905	10.5%	1,713,277	50%	47,490	1.4%
Star City Police	2017	80%	51,892	22%	48,402	21%	989	10.5%	49,391	20%	2,501	1.0%
Weirton Fire	2036	80%	956,866	40%	911,774	40%	11,189	10.5%	922,963	39%	33,903	1.4%

Plans that are projected to remain alternative [b]

Plan Name	Year of Crossover FYE	Funded Ratio	Current Funds, Open: Projected Employer Contribution Amount	Current Funds, Open: Projected Employer Contribution % of Pay
Beckley Police	2051	92%	$ 4,793,528	58%
Beckley Fire	2051	63%	6,280,844	89%
Fairmont Fire	2051	92%	9,849,678	146%
Martinsburg Police	2051	29%	5,462,011	54%
Martinsburg Fire	2051	55%	6,625,178	98%
Morgantown Police	2051	36%	8,234,099	62%
Morgantown Fire	2051	44%	6,684,594	72%
Nitro Police	2051	36%	1,658,301	50%
Nitro Fire	2051	37%	1,545,092	59%
Parkersburg Police	2051	80%	11,623,256	101%
Princeton Police	2051	59%	1,982,376	51%
Princeton Fire	2051	11%	1,004,225	47%
South Charleston Police	2051	27%	3,828,037	60%
South Charleston Fire	2051	58%	6,881,149	102%
St. Albans Fire	2051	23%	2,400,261	79%
Weirton Police	2051	31%	5,641,315	91%

[a] *Year of crossover means year sponsor contributions are lower if the sponsor decide to cover new entrants under the statewidecost sharing plan (West Virginia Municipal Police Officers and Firefighters Retirement System).*
[b] *Alternative contributions are lower during the entire 40-year projection period from 7/1/2015.*

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Alternative Plans

			Conservation Funding - Year of Crossover [a]									
			Current Funds, Open		Current Funds, Closed		New Cost Sharing Fund		Total to Current closed Fund and New Cost Sharing Fund			
Plan Name	Year of Crossover FYE	Funded Ratio	Projected Employer Contribution Amount	Projected Employer Contribution % of Pay	Projected Employer Contribution Amount	Projected Employer Contribution % of Pay	Projected Employer Contribution Amount	Projected Employer Contribution % of Pay	Projected Employer Contribution Amount	Projected Employer Contribution % of Pay	Decrease Amount	Decrease % of Pay
Beckley Police	2042	69%	$ 2,607,363	44%	$ 2,512,626	44%	$ 26,369	10.5%	$ 2,538,995	43%	$ 68,368	1.2%
Beckley Fire	2036	28%	2,276,467	55%	2,222,153	56%	16,433	10.5%	2,238,586	55%	37,881	0.9%
Bluefield Police	2017	39%	315,470	35%	257,209	30%	6,323	10.5%	263,531	29%	51,939	5.7%
Bluefield Fire	2026	23%	714,914	75%	683,171	73%	2,919	10.5%	686,090	71%	28,824	3.0%
Clarksburg Police	2017	20%	940,290	43%	757,875	36%	9,432	10.5%	767,307	35%	172,983	7.9%
Clarksburg Fire	2017	16%	949,252	48%	888,427	48%	10,084	10.5%	898,511	46%	50,741	2.6%
Dunbar Fire	2018	7%	444,172	62%	438,341	64%	3,350	10.5%	441,691	62%	2,481	0.3%
Fairmont Police	2024	20%	1,147,360	52%	1,133,781	54%	10,612	10.5%	1,144,393	52%	2,967	0.1%
Fairmont Fire	2030	8%	2,378,827	79%	2,315,104	81%	15,101	10.5%	2,330,205	78%	48,622	1.6%
Martinsburg Police	2043	20%	3,178,939	43%	3,038,776	43%	31,320	10.5%	3,070,097	42%	108,842	1.5%
Martinsburg Fire	2033	11%	1,960,152	57%	1,929,916	58%	15,563	10.5%	1,945,478	56%	14,674	0.4%
Morgantown Police	2039	20%	3,656,039	43%	3,581,500	44%	43,463	10.5%	3,624,963	43%	31,076	0.4%
Morgantown Fire	2037	21%	2,592,400	47%	2,473,361	46%	23,461	10.5%	2,496,822	45%	95,578	1.7%
Nitro Police	2017	27%	166,193	17%	65,838	7%	2,361	10.5%	68,199	7%	97,994	10.1%
Nitro Fire	2026	13%	284,682	27%	276,309	28%	6,552	10.5%	282,861	27%	1,821	0.2%
Parkersburg Police	2028	19%	2,451,889	49%	2,401,861	51%	23,046	10.5%	2,424,907	49%	26,982	0.5%
Parkersburg Fire	2017	22%	2,568,735	86%	1,980,850	69%	12,718	10.5%	1,993,569	67%	575,166	19.3%
Princeton Police	2027	34%	390,819	24%	372,301	23%	5,101	10.5%	377,401	23%	13,418	0.8%
Princeton Fire	2050	10%	938,528	46%	926,040	47%	9,748	10.5%	935,788	46%	2,740	0.1%
South Charleston Police	2039	13%	1,699,693	41%	1,666,274	43%	20,625	10.5%	1,686,899	41%	12,794	0.3%
South Charleston Fire	2032	10%	1,902,695	57%	1,828,922	57%	13,909	10.5%	1,842,831	55%	59,864	1.8%
St. Albans Police	2017	48%	283,361	23%	247,248	21%	6,583	10.5%	253,831	20%	29,530	2.4%
St. Albans Fire	2042	6%	1,305,583	60%	1,254,104	60%	9,989	10.5%	1,264,093	58%	41,490	1.9%
Star City Police	2017	79%	51,892	22%	17,950	8%	989	10.5%	18,939	8%	32,953	13.7%
Weirton Police	2039	4%	2,504,811	62%	2,403,977	62%	16,469	10.5%	2,420,446	60%	84,365	2.1%
Weirton Fire	2037	82%	1,023,847	41%	993,685	42%	10,716	10.5%	1,004,400	41%	19,447	0.8%

[a] *Year of crossover means year sponsor contributions are lower if the sponsor decides to cover new entrants under the statewidecost sharing plan (West Virginia Municipal Police Officers and Firefighters Retirement System).*

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Standard Plans

Plan Name	Year of Crossover FYE	Funded Ratio	Optional Funding - Year of Crossover [a]: Current Funds, Open: Projected Employer Contribution Amount	Current Funds, Open: Projected Employer Contribution % of Pay	Current Funds, Closed: Projected Employer Contribution Amount	Current Funds, Closed: Projected Employer Contribution % of Pay	New Cost Sharing Fund: Projected Employer Contribution Amount	New Cost Sharing Fund: Projected Employer Contribution % of Pay	Total to Current closed Fund and New Cost Sharing Fund: Projected Employer Contribution Amount	Total to Current closed Fund and New Cost Sharing Fund: Projected Employer Contribution % of Pay	Decrease Amount	Decrease % of Pay
Charles Town Police [1]	2017	31%	$ 85,225	NA	$ 85,225	NA	NA	NA	$ 85,225	NA	NA	NA
Chester Police	2017	82%	$ 24,585	16%	22,082	15%	$ 1,307	10.5%	23,389	15%	$ 1,196	0.8%
Logan Police	2017	46%	111,210	45%	108,258	46%	1,371	10.5%	109,629	44%	1,581	0.6%
Logan Fire	2017	48%	124,595	36%	122,456	37%	996	10.5%	123,452	36%	1,143	0.3%
Vienna Police	2017	71%	337,078	36%	328,704	36%	2,375	10.5%	331,079	35%	5,999	0.6%

[a] *Year of crossover means year sponsor contributions are lower if the sponsor decides to cover new entrants under the statewide cost sharing plan (West Virginia Municipal Police Officers and Firefighters Retirement System).*

[1] *One plan, Charles Town Police is closed to new entrants.*

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Comparison of Projected Employer Contribution Rates

Municipality	Charleston		Huntington		Morgantown		Parkersburg		Wheeling	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Funding Policy	Conservation	Conservation	Optional from Alternative	Optional from Alternative	Alternative	Alternative	Alternative	Alternative	Optional from Alternative	Optional from Alternative
Current Funding Policy										
2015	73%	73%	80%	124%	22%	25%	36%	87%	66%	82%
2025	92%	102%	67%	103%	29%	34%	49%	127%	52%	56%
2035	95%	94%	40%	60%	40%	47%	64%	36%	30%	31%
2045	61%	58%	25%	37%	55%	64%	89%	33%	17%	19%
2055	11%	11%	11%	11%	75%	88%	39%	33%	11%	11%
Optional Funding Policy										
2015	NA	NA	80%	124%	22%	25%	36%	87%	66%	82%
2025	NA	NA	67%	103%	29%	34%	49%	89%	52%	56%
2035	NA	NA	40%	60%	40%	47%	64%	48%	30%	31%
2045	NA	NA	25%	37%	55%	64%	89%	20%	17%	19%
2055	NA	NA	11%	11%	75%	88%	36%	0%	11%	11%
Conservation Funding Policy										
2015	73%	73%	NA	NA	22%	25%	36%	87%	NA	NA
2025	92%	102%	NA	NA	29%	34%	49%	86%	NA	NA
2035	95%	94%	NA	NA	40%	47%	48%	75%	NA	NA
2045	61%	58%	NA	NA	46%	48%	54%	11%	NA	NA
2055	11%	11%	NA	NA	51%	53%	48%	11%	NA	NA

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Comparison of Projected Employer Contribution Rates

Municipality	Beckley		Bluefield		Clarksburg		Fairmont		Martinsburg	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Funding Policy	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative
Current Funding Policy										
2015	21%	29%	35%	61%	44%	47%	42%	48%	20%	34%
2025	28%	44%	49%	78%	57%	68%	57%	70%	26%	46%
2035	38%	58%	63%	103%	76%	93%	72%	96%	36%	64%
2045	52%	79%	26%	148%	32%	128%	104%	128%	49%	88%
2055	27%	108%	26%	38%	32%	40%	36%	46%	66%	119%
Optional Funding Policy										
2015	21%	29%	35%	61%	44%	47%	42%	48%	20%	34%
2025	28%	44%	49%	78%	57%	68%	57%	70%	26%	46%
2035	38%	58%	36%	103%	69%	93%	72%	96%	36%	64%
2045	52%	79%	14%	83%	37%	70%	96%	128%	49%	88%
2055	26%	108%	0%	12%	3%	9%	17%	46%	66%	119%
Conservation Funding Policy										
2015	21%	29%	35%	61%	44%	47%	42%	48%	20%	34%
2025	28%	44%	53%	75%	42%	60%	52%	70%	26%	46%
2035	38%	56%	43%	62%	46%	62%	42%	72%	36%	58%
2045	44%	52%	11%	65%	47%	46%	52%	60%	43%	57%
2055	15%	53%	11%	48%	11%	11%	46%	59%	48%	57%

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Comparison of Projected Employer Contribution Rates

Municipality	Moundsville		South Charleston		St. Albans		Vienna	Weirton		Belle	Charles Town
	Police	Fire	Police	Fire	Police	Fire	Police	Police	Fire	Police	Police [1]
Funding Policy	Optional from Alternative	Optional from Alternative	Alternative	Alternative	Alternative	Alternative	Standard	Alternative	Alternative	Optional from Standard	Standard
Current Funding Policy											
2015	24%	150%	21%	35%	23%	27%	21%	32%	22%	41%	67%
2025	18%	100%	29%	49%	30%	36%	28%	44%	31%	39%	82%
2035	12%	52%	38%	66%	40%	53%	21%	59%	42%	11%	1%
2045	11%	35%	53%	90%	57%	70%	18%	81%	26%	11%	1%
2055	11%	11%	72%	124%	27%	96%	18%	110%	26%	11%	1%
Optional Funding Policy											
2015	24%	150%	21%	35%	23%	27%	21%	32%	22%	41%	NA
2025	18%	100%	29%	49%	30%	36%	22%	44%	31%	39%	NA
2035	12%	52%	38%	66%	40%	53%	12%	59%	40%	11%	NA
2045	11%	35%	53%	90%	47%	70%	10%	81%	16%	11%	NA
2055	11%	11%	72%	124%	12%	96%	10%	110%	1%	11%	NA
Conservation Funding Policy											
2015	NA	NA	21%	35%	23%	27%	NA	32%	22%	NA	NA
2025	NA	NA	29%	49%	36%	36%	NA	44%	31%	NA	NA
2035	NA	NA	38%	56%	39%	53%	NA	59%	42%	NA	NA
2045	NA	NA	50%	58%	11%	58%	NA	61%	18%	NA	NA
2055	NA	NA	54%	61%	11%	59%	NA	62%	10%	NA	NA

[1] *Contributions as a percentage of expected benefit payments.*

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Comparison of Projected Employer Contribution Rates

Municipality	Chester	Dunbar		Elkins		Grafton		Logan		Nitro	
	Police	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Funding Policy	Standard	Optional from Alternative	Alternative	Optional from Standard	Optional from Standard	Optional from Standard	Optional from Standard	Standard	Standard	Alternative	Alternative
Current Funding Policy											
2015	20%	21%	62%	76%	23%	32%	81%	35%	23%	18%	22%
2025	16%	23%	80%	42%	21%	24%	87%	37%	31%	24%	27%
2035	17%	13%	114%	14%	12%	11%	12%	28%	28%	33%	37%
2045	14%	11%	39%	11%	11%	11%	11%	26%	27%	44%	53%
2055	15%	11%	38%	11%	11%	11%	11%	26%	24%	62%	71%
Optional Funding Policy											
2015	20%	21%	62%	76%	23%	32%	81%	35%	23%	18%	22%
2025	13%	23%	80%	42%	21%	24%	87%	28%	28%	24%	27%
2035	12%	13%	104%	14%	12%	11%	12%	12%	12%	33%	37%
2045	10%	11%	61%	11%	11%	11%	11%	10%	10%	44%	53%
2055	10%	11%	5%	11%	11%	11%	11%	10%	10%	62%	71%
Conservation Funding Policy											
2015	NA	NA	62%	NA	NA	NA	NA	NA	NA	18%	22%
2025	NA	NA	61%	NA	NA	NA	NA	NA	NA	33%	27%
2035	NA	NA	73%	NA	NA	NA	NA	NA	NA	53%	41%
2045	NA	NA	62%	NA	NA	NA	NA	NA	NA	44%	55%
2055	NA	NA	11%	NA	NA	NA	NA	NA	NA	11%	49%

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Comparison of Projected Employer Contribution Rates

Municipality	Oak Hill	Point Pleasant	Princeton		Star City	Welch	Weston		Westover	Williamson	
	Police	Police	Police	Fire	Police	Police	Police	Fire	Police	Police	Fire
Funding Policy	Optional from Standard	Optional from Standard	Alternative	Alternative	Alternative	Optional from Standard	Optional from Standard	Optional from Alternative	Optional from Standard	Optional	Optional
Current Funding Policy											
2015	22%	104%	20%	16%	23%	21%	41%	17%	43%	72%	115%
2025	17%	93%	25%	22%	22%	22%	18%	22%	18%	39%	68%
2035	8%	11%	32%	30%	22%	10%	13%	17%	11%	18%	34%
2045	11%	11%	46%	42%	20%	11%	11%	11%	11%	11%	14%
2055	11%	11%	62%	58%	19%	11%	11%	11%	11%	11%	11%
Optional Funding Policy											
2015	22%	104%	20%	16%	23%	21%	41%	17%	43%	72%	115%
2025	17%	93%	25%	22%	15%	22%	18%	22%	18%	39%	68%
2035	8%	11%	32%	30%	4%	10%	13%	17%	11%	18%	34%
2045	11%	11%	46%	42%	0%	11%	11%	11%	11%	11%	14%
2055	11%	11%	62%	58%	0%	11%	11%	11%	11%	11%	11%
Conservation Funding Policy											
2015	NA	NA	20%	16%	23%	NA	NA	NA	NA	NA	NA
2025	NA	NA	25%	22%	19%	NA	NA	NA	NA	NA	NA
2035	NA	NA	32%	30%	12%	NA	NA	NA	NA	NA	NA
2045	NA	NA	49%	42%	11%	NA	NA	NA	NA	NA	NA
2055	NA	NA	44%	52%	11%	NA	NA	NA	NA	NA	NA

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Comparison of Projected Funded Ratios

Municipality	Charleston		Huntington		Morgantown		Parkersburg		Wheeling	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Funding Policy	Conservation	Conservation	Optional from Alternative	Optional from Alternative	Alternative	Alternative	Alternative	Alternative	Optional from Alternative	Optional from Alternative
Current Funding Policy										
2015	9%	8%	30%	16%	25%	27%	18%	20%	37%	29%
2025	18%	16%	49%	36%	20%	22%	18%	44%	53%	49%
2035	37%	36%	60%	51%	19%	20%	28%	100%	69%	63%
2045	91%	91%	80%	75%	25%	31%	54%	100%	86%	81%
2055	100%	100%	100%	100%	45%	56%	100%	100%	100%	100%
Optional Funding Policy										
2015	NA	NA	30%	16%	25%	27%	18%	20%	37%	29%
2025	NA	NA	49%	36%	20%	22%	18%	42%	53%	49%
2035	NA	NA	60%	51%	19%	20%	28%	60%	69%	63%
2045	NA	NA	80%	75%	25%	31%	54%	84%	86%	81%
2055	NA	NA	100%	100%	45%	56%	100%	100%	100%	100%
Conservation Funding Policy										
2015	9%	8%	NA	NA	25%	27%	18%	20%	NA	NA
2025	18%	16%	NA	NA	20%	22%	18%	29%	NA	NA
2035	37%	36%	NA	NA	19%	20%	23%	50%	NA	NA
2045	91%	91%	NA	NA	23%	25%	33%	100%	NA	NA
2055	100%	100%	NA	NA	33%	35%	60%	100%	NA	NA

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Comparison of Projected Funded Ratios

Municipality	Beckley		Bluefield		Clarksburg		Fairmont		Martinsburg	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Funding Policy	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative	Alternative
Current Funding Policy										
2015	57%	39%	38%	23%	19%	15%	17%	4%	22%	8%
2025	56%	29%	50%	22%	33%	23%	21%	5%	20%	6%
2035	60%	27%	77%	42%	61%	45%	41%	16%	19%	13%
2045	75%	43%	100%	91%	100%	93%	80%	55%	22%	33%
2055	100%	81%	100%	100%	100%	100%	100%	100%	37%	74%
Optional Funding Policy										
2015	57%	39%	38%	23%	19%	15%	17%	4%	22%	8%
2025	56%	29%	50%	22%	33%	23%	21%	5%	20%	6%
2035	60%	27%	72%	42%	61%	45%	41%	16%	19%	13%
2045	75%	43%	92%	82%	90%	85%	80%	55%	22%	33%
2055	100%	81%	100%	100%	100%	100%	100%	100%	37%	74%
Conservation Funding Policy										
2015	57%	39%	38%	23%	19%	15%	17%	4%	22%	8%
2025	56%	29%	51%	22%	25%	20%	21%	5%	20%	6%
2035	60%	27%	80%	29%	36%	32%	29%	12%	19%	12%
2045	74%	35%	100%	45%	64%	62%	42%	24%	21%	22%
2055	100%	52%	100%	84%	100%	100%	80%	47%	27%	40%

**Policemen's and Firemen's
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Municipality	Moundsville		South Charleston		St. Albans		Vienna	Weirton		Belle	Charles Town
	Police	Fire	Police	Fire	Police	Fire	Police	Police	Fire	Police	Police
Funding Policy	Optional from Alternative	Optional from Alternative	Alternative	Alternative	Alternative	Alternative	Standard	Alternative	Alternative	Optional from Standard	Standard
Current Funding Policy											
2015	70%	24%	10%	6%	47%	14%	70%	12%	64%	78%	30%
2025	81%	33%	8%	7%	53%	7%	90%	3%	67%	89%	54%
2035	96%	40%	11%	14%	66%	3%	100%	1%	78%	100%	100%
2045	100%	67%	18%	36%	90%	10%	100%	14%	100%	100%	100%
2055	100%	100%	35%	77%	100%	36%	100%	47%	100%	100%	100%
Optional Funding Policy											
2015	70%	24%	10%	6%	47%	14%	70%	12%	64%	78%	NA
2025	81%	33%	8%	7%	53%	7%	90%	3%	67%	89%	NA
2035	96%	40%	11%	14%	66%	3%	100%	1%	78%	100%	NA
2045	100%	67%	18%	36%	89%	10%	100%	14%	95%	100%	NA
2055	100%	100%	35%	77%	100%	36%	100%	47%	100%	100%	NA
Conservation Funding Policy											
2015	NA	NA	10%	6%	47%	14%	NA	12%	64%	NA	NA
2025	NA	NA	8%	7%	57%	7%	NA	3%	67%	NA	NA
2035	NA	NA	11%	12%	79%	3%	NA	1%	78%	NA	NA
2045	NA	NA	17%	21%	100%	9%	NA	9%	100%	NA	NA
2055	NA	NA	28%	41%	100%	19%	NA	22%	100%	NA	NA

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Comparison of Projected Funded Ratios

Municipality	Chester	Dunbar		Elkins		Grafton		Logan		Nitro	
	Police	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
Funding Policy	Standard	Optional from Alternative	Alternative	Optional from Standard	Optional from Standard	Optional from Standard	Optional from Standard	Standard	Standard	Alternative	Alternative
Current Funding Policy											
2015	81%	71%	5%	54%	77%	61%	57%	40%	42%	27%	9%
2025	92%	82%	16%	82%	93%	90%	81%	85%	89%	31%	12%
2035	100%	96%	48%	100%	100%	100%	100%	100%	100%	27%	17%
2045	100%	100%	100%	100%	100%	100%	100%	100%	100%	30%	27%
2055	100%	100%	100%	100%	100%	100%	100%	100%	100%	41%	47%
Optional Funding Policy											
2015	81%	71%	5%	54%	77%	61%	57%	40%	42%	27%	9%
2025	93%	82%	16%	82%	93%	90%	81%	85%	89%	31%	12%
2035	100%	96%	48%	100%	100%	100%	100%	100%	100%	27%	17%
2045	100%	100%	84%	100%	100%	100%	100%	100%	100%	30%	27%
2055	100%	100%	100%	100%	100%	100%	100%	100%	100%	41%	47%
Conservation Funding Policy											
2015	NA	NA	5%	NA	NA	NA	NA	NA	NA	27%	9%
2025	NA	NA	12%	NA	NA	NA	NA	NA	NA	26%	12%
2035	NA	NA	23%	NA	NA	NA	NA	NA	NA	37%	19%
2045	NA	NA	53%	NA	NA	NA	NA	NA	NA	65%	32%
2055	NA	NA	100%	NA	NA	NA	NA	NA	NA	100%	66%

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Comparison of Projected Funded Ratios

Municipality	Oak Hill	Point Pleasant	Princeton		Star City	Welch	Weston		Westover	Williamson	
	Police	Police	Police	Fire	Police	Police	Police	Fire	Police	Police	Fire
Funding Policy	Optional from Standard	Optional from Standard	Alternative	Alternative	Alternative	Optional from Standard	Optional from Standard	Optional from Alternative	Optional from Standard	Optional	Optional
Current Funding Policy											
2015	118%	16%	34%	27%	76%	107%	57%	54%	85%	39%	39%
2025	124%	73%	33%	20%	96%	100%	93%	74%	100%	61%	53%
2035	136%	100%	39%	11%	100%	100%	100%	89%	100%	75%	68%
2045	175%	100%	49%	8%	100%	100%	100%	100%	100%	95%	84%
2055	293%	100%	68%	16%	100%	100%	100%	100%	100%	100%	100%
Optional Funding Policy											
2015	118%	16%	34%	27%	76%	107%	57%	54%	85%	39%	39%
2025	124%	73%	33%	20%	97%	100%	93%	74%	100%	61%	53%
2035	136%	100%	39%	11%	100%	100%	100%	89%	100%	75%	68%
2045	175%	100%	49%	8%	100%	100%	100%	100%	100%	95%	84%
2055	293%	100%	68%	16%	100%	100%	100%	100%	100%	100%	100%
Conservation Funding Policy											
2015	NA	NA	34%	27%	76%	NA	NA	NA	NA	NA	NA
2025	NA	NA	33%	20%	86%	NA	NA	NA	NA	NA	NA
2035	NA	NA	36%	11%	100%	NA	NA	NA	NA	NA	NA
2045	NA	NA	48%	8%	100%	NA	NA	NA	NA	NA	NA
2055	NA	NA	87%	14%	100%	NA	NA	NA	NA	NA	NA

Policemen's and Firemen's Pension and Relief Funds of West Virginia Municipalities Actuarial Valuation as of July 01, 2015

Reconciliation of Assets 6/30/2015

Municipality	Charleston Police	Charleston Fire	Huntington Police	Huntington Fire	Morgantown Police	Morgantown Fire	Parkersburg Police	Parkersburg Fire	Wheeling Police	Wheeling Fire
A. Market Value of Assets as of July 1, 2014	$15,242,762	$12,976,853	$26,517,192	$16,662,493	$14,472,339	$11,482,554	$10,250,026	$11,659,889	$19,107,518	$17,501,778
Adjustment to Market Value of Assets at Beginning of Year	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Market Value of Assets Beginning of Year	$15,242,762	$12,976,853	$26,517,192	$16,662,493	$14,472,339	$11,482,554	$10,250,026	$11,659,889	$19,107,518	$17,501,778
1. Revenue During Fiscal Year										
(a) Employee Contribution	$592,173	$592,996	$365,787	$306,473	$343,444	$191,330	$259,502	$204,619	$263,653	$288,037
(b) Governmental Contribution										
(i) From Local Government	$4,977,472	$5,004,065	$4,237,318	$5,326,897	$720,778	$618,813	$1,119,192	$2,243,633	$2,130,655	$3,201,899
(ii) From State Government	$1,552,544	$1,557,784	$1,034,332	$1,101,445	$578,714	$451,492	$597,021	$610,944	$728,313	$895,690
(iii) Reallocation from State Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(iv) Total	$6,530,016	$6,561,849	$5,271,650	$6,428,342	$1,299,492	$1,070,305	$1,716,213	$2,854,577	$2,858,968	$4,097,589
(c) Earnings on Investments										
(i) Net Appreciation (Depreciation)	$643,434	$461,352	($343,142)	$154,335	($594,099)	($481,733)	($513,715)	$7,705	($122,759)	($112,268)
(ii) Bond Interest	$58,527	$81,457	$320,383	$106,743	$143,770	$114,150	$107,053	$113,348	$190,171	$181,690
(iii) Dividends	$157,235	$143,326	$676,482	$277,185	$143,020	$114,912	$97,360	$85,359	$181,239	$167,024
(iv) Net Realized Gain (Loss) on Sale or Exchange	$0	$0	$0	$0	$748,159	$608,450	$594,027	$0	$485,613	$433,574
(v) Other	$77	$0	$1,011	$14	$208	$166	$0	$0	$14,983	$4,110
(vi) Investment Expense	($92,717)	($63,691)	$0	$0	($112,675)	($92,194)	($78,183)	($75,314)	($69,379)	($64,313)
(vii) Total	$766,556	$622,444	$654,734	$538,277	$328,383	$263,751	$206,542	$131,098	$679,868	$609,817
(d) Other Revenue	$0	$0	$0	$0	$0	$0	$64	$0	$0	$0
(e) Receivable Contributions [a]	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) Total Revenue (sum of (a) through (e))	$7,888,745	$7,777,289	$6,292,171	$7,273,092	$1,971,319	$1,525,386	$2,182,321	$3,190,294	$3,802,489	$4,995,443
2. Expenditures During Fiscal Year										
(a) Benefits Paid	$6,816,212	$6,842,553	$4,077,860	$5,265,052	$1,974,707	$1,496,332	$2,118,684	$2,645,924	$2,875,111	$2,982,343
(b) Withdrawals	$219,249	$17,231	$0	$0	$33,200	$0	$0	$14,047	$123,482	$0
(c) Administrative Expenses	$13,662	$5,864	$190,401	$58,286	$1,344	$1,344	$116	$0	$1,410	$1,606
(d) Total Expenditures (sum of (a) through (c))	$7,049,123	$6,865,648	$4,268,261	$5,323,338	$2,009,251	$1,497,676	$2,118,800	$2,659,971	$3,000,003	$2,983,949
3. Accruals										
(a) Receivable (other than State and Local Contributions)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) Less Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
B. Market Value of Assets as of June 30, 2015 [A + 1(f) - 2(d) + 3(c)]	$16,082,384	$13,888,494	$28,541,102	$18,612,247	$14,434,407	$11,510,264	$10,313,547	$12,190,212	$19,910,004	$19,513,272
C. Return on Assets	4.9%	4.7%	1.8%	3.1%	2.3%	2.3%	2.0%	1.1%	3.5%	3.3%

[a] ***Receivable contributions for plan year ending June 30, 2015.***

Policemen's and Firemen's
Pension and Relief Funds
of West Virginia Municipalities
Actuarial Valuation as of July 01, 2015

Reconciliation of Assets 6/30/2015

Municipality	Beckley		Bluefield		Clarksburg		Fairmont		Martinsburg	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
A. Market Value of Assets as of July 1, 2014	$19,553,486	$16,958,929	$4,515,734	$3,939,603	$4,907,162	$4,715,014	$4,814,170	$1,739,613	$7,605,975	$2,643,494
Adjustment to Market Value of Assets at Beginning of Year	$0	$0	$0	$5,064	$0	$0	$0	$0	$0	$0
Market Value of Assets Beginning of Year	$19,553,486	$16,958,929	$4,515,734	$3,944,667	$4,907,162	$4,715,014	$4,814,170	$1,739,613	$7,605,975	$2,643,494
1. Revenue During Fiscal Year										
(a) Employee Contribution	$163,569	$152,499	$71,722	$55,668	$154,449	$140,550	$130,842	$164,249	$229,111	$156,408
(b) Governmental Contribution										
(i) From Local Government	$419,606	$549,799	$297,006	$366,102	$860,386	$867,454	$627,188	$862,197	$621,160	$654,938
(ii) From State Government	$450,841	$394,051	$362,537	$364,866	$400,623	$421,288	$326,196	$416,791	$420,921	$328,336
(iii) Reallocation from State Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(iv) Total	$870,447	$943,850	$659,543	$730,968	$1,261,009	$1,288,742	$953,384	$1,278,988	$1,042,081	$983,274
(c) Earnings on Investments										
(i) Net Appreciation (Depreciation)	($24,501)	$19,251	$94,572	($75,504)	($17,975)	$105,750	($75,853)	($58,638)	($140,103)	($74,298)
(ii) Bond Interest	$178,935	$143,171	$50,615	$69,153	$0	$36,136	$1,155	$11,618	$14,322	$4,948
(iii) Dividends	$414,373	$419,528	$48,512	$13,515	$42,622	$46,963	$189,872	$56,080	$207,464	$152,224
(iv) Net Realized Gain (Loss) on Sale or Exchange	$81,595	$8,628	($7,433)	$74,508	$194,277	$12,873	$0	$50,782	$0	$0
(v) Other	$0	$0	($23)	$0	$241	$0	$0	$41	$0	$0
(vi) Investment Expense	$0	$0	($5,073)	$0	($85,794)	($16,876)	($28,000)	($8,561)	($37,534)	($17,640)
(vii) Total	$650,402	$590,578	$181,170	$81,672	$133,371	$184,846	$87,174	$51,322	$44,149	$65,234
(d) Other Revenue	$0	$0	$0	$0	$123	$214	$42,184	$42,183	$0	$0
(e) Receivable Contributions [a]	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) Total Revenue (sum of (a) through (e))	$1,684,418	$1,686,927	$912,435	$868,308	$1,548,952	$1,614,352	$1,213,584	$1,536,742	$1,315,341	$1,204,916
2. Expenditures During Fiscal Year										
(a) Benefits Paid	$1,548,023	$1,771,874	$515,210	$711,815	$1,126,094	$1,247,386	$1,092,158	$1,534,428	$1,109,684	$1,154,037
(b) Withdrawals	$25,921	$0	$37,509	$19,901	$84,055	$3,553	$84,168	$60,759	$17,566	$0
(c) Administrative Expenses	$68,325	$59,002	$300	$672	$7,500	$6,000	$1,198	$1,189	$2,523	$1,000
(d) Total Expenditures (sum of (a) through (c))	$1,642,269	$1,830,876	$553,019	$732,388	$1,217,649	$1,256,939	$1,177,524	$1,596,376	$1,129,773	$1,155,037
3. Accruals										
(a) Receivable (other than State and Local Contributions)	$0	$0	$0	$0	$0	$0	$1,271	$3,850	$0	$0
(b) Less Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Total	$0	$0	$0	$0	$0	$0	$1,271	$3,850	$0	$0
B. Market Value of Assets as of June 30, 2015 [A + 1(f) - 2(d) + 3(c)]	$19,595,635	$16,814,980	$4,875,150	$4,080,587	$5,238,465	$5,072,427	$4,851,501	$1,683,829	$7,791,543	$2,693,373
C. Return on Assets	3.0%	3.2%	3.9%	2.0%	2.5%	3.7%	1.8%	3.0%	0.5%	2.4%

[a] ***Receivable contributions for plan year ending June 30, 2015.***

Policemen's and Firemen's
Pension and Relief Funds
of West Virginia Municipalities
Actuarial Valuation as of July 01, 2015

Reconciliation of Assets 6/30/2015

Municipality	Moundsville		South Charleston		St. Albans		Vienna	Weirton		Belle	Charles Town
	Police	Fire	Police	Fire	Police	Fire	Police	Police	Fire	Police	Police
A. Market Value of Assets as of July 1, 2014	$4,723,850	$1,259,314	$2,401,885	$1,723,803	$6,165,378	$2,626,148	$6,397,386	$4,521,738	$8,673,134	$1,424,240	$476,812
Adjustment to Market Value of Assets at Beginning of Year	$0	$0	$0	$0	$0	$0	($13,198)	$33,221	$0	$0	$0
Market Value of Assets Beginning of Year	$4,723,850	$1,259,314	$2,401,885	$1,723,803	$6,165,378	$2,626,148	$6,384,188	$4,554,959	$8,673,134	$1,424,240	$476,812
1. Revenue During Fiscal Year											
(a) Employee Contribution	$32,561	$10,969	$131,662	$140,128	$113,195	$90,837	$64,481	$166,071	$84,967	$7,405	$0
(b) Governmental Contribution											
(i) From Local Government	$136,456	$239,932	$416,670	$621,062	$247,498	$217,308	$254,407	$501,814	$231,096	$59,844	$74,384
(ii) From State Government	$145,165	$66,778	$614,355	$462,315	$195,694	$206,423	$152,150	$306,111	$200,118	$31,825	$12,362
(iii) Reallocation from State Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(iv) Total	$281,621	$306,710	$1,031,025	$1,083,377	$443,192	$423,731	$406,557	$807,925	$431,214	$91,669	$86,746
(c) Earnings on Investments											
(i) Net Appreciation (Depreciation)	($107,826)	$59,676	$0	$46,347	($225,642)	($96,628)	$0	($68,412)	($79,904)	$21,154	$0
(ii) Bond Interest	$0	$0	$0	$10,288	$62,078	$25,146	$263,417	$49,804	$81,006	$0	$3,297
(iii) Dividends	$116,269	$13,617	$60,482	$15,208	$55,371	$23,433	$0	$56,579	$124,932	$6,333	$3,403
(iv) Net Realized Gain (Loss) on Sale or Exchange	$81,399	($41,136)	$62,098	$4,050	$280,870	$123,945	($61,106)	$172,113	$249,156	$0	($988)
(v) Other	$0	$6	$0	$0	$0	$0	$0	$0	$0	$25,890	$469
(vi) Investment Expense	$0	($10,167)	($39,297)	($7,190)	($48,069)	($20,113)	$0	($19,002)	($29,927)	$0	($116)
(vii) Total	$89,842	$21,996	$83,283	$68,703	$124,608	$55,783	$202,311	$191,082	$345,263	$53,377	$6,065
(d) Other Revenue	$0	$0	$35	$49	$0	$0	$0	$204,305	$264,112	$1,488	$4,820
(e) Receivable Contributions [a]	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) Total Revenue (sum of (a) through (e))	$404,024	$339,675	$1,246,005	$1,292,257	$680,995	$570,351	$673,349	$1,369,383	$1,125,556	$153,939	$97,631
2. Expenditures During Fiscal Year											
(a) Benefits Paid	$254,490	$324,578	$885,239	$1,112,153	$448,618	$578,970	$426,190	$1,453,587	$612,845	$138,850	$107,918
(b) Withdrawals	$28,739	$0	$29,582	$0	$0	$0	$0	$0	$0	$0	$0
(c) Administrative Expenses	$420	$46	$2,716	$1,750	$600	$1,579	$36,659	$5,892	$2,682	$3,066	$4,056
(d) Total Expenditures (sum of (a) through (c))	$283,649	$324,624	$917,537	$1,113,903	$449,218	$580,549	$462,849	$1,459,479	$615,527	$141,916	$111,974
3. Accruals											
(a) Receivable (other than State and Local Contributions)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) Less Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
B. Market Value of Assets as of June 30, 2015 [A + 1(f) - 2(d) + 3(c)]	$4,844,225	$1,274,365	$2,730,353	$1,902,157	$6,397,155	$2,615,950	$6,594,688	$4,464,863	$9,183,163	$1,436,263	$462,469
C. Return on Assets	1.9%	1.7%	3.2%	3.8%	2.0%	2.1%	2.6%	4.2%	3.9%	3.6%	0.4%

[a] *Receivable contributions for plan year ending June 30, 2015.*

Policemen's and Firemen's Pension and Relief Funds of West Virginia Municipalities Actuarial Valuation as of July 01, 2015

Reconciliation of Assets 6/30/2015

Municipality	Chester	Dunbar		Elkins		Grafton		Logan		Nitro	
	Police	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
A. Market Value of Assets as of July 1, 2014	$1,670,544	$5,370,275	$510,192	$2,383,232	$1,163,258	$1,150,245	$1,550,973	$631,024	$594,859	$2,875,470	$756,668
Adjustment to Market Value of Assets at Beginning of Year	$17,422	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Market Value of Assets Beginning of Year	$1,687,966	$5,370,275	$510,192	$2,383,232	$1,163,258	$1,150,245	$1,550,973	$631,024	$594,859	$2,875,470	$756,668
1. Revenue During Fiscal Year											
(a) Employee Contribution	$15,767	$41,487	$52,217	$40,855	$12,407	$17,640	$5,266	$16,784	$18,747	$75,139	$53,084
(b) Governmental Contribution											
(i) From Local Government	$31,417	$124,274	$362,577	$503,484	$67,062	$73,704	$70,309	$10,000	$10,000	$138,861	$127,574
(ii) From State Government	$43,531	$212,408	$267,126	$65,550	$30,087	$52,129	$31,909	$4,655	$7,425	$109,716	$103,451
(iii) Reallocation from State Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(iv) Total	$74,948	$336,682	$629,703	$569,034	$97,149	$125,833	$102,218	$14,655	$17,425	$248,577	$231,025
(c) Earnings on Investments											
(i) Net Appreciation (Depreciation)	($7,684)	($2,484)	($8,537)	$43,098	$23,236	$24,500	$46,756	($53,132)	($32,090)	$72,310	$19,913
(ii) Bond Interest	$2,455	$68,659	$7	$29,757	$11,395	$0	$0	$25,319	$15,562	$16,295	$6,903
(iii) Dividends	$41,376	$118,829	$14,439	$17,843	$10,843	$0	$0	$11,178	$5,966	$32,208	$7,161
(iv) Net Realized Gain (Loss) on Sale or Exchange	$0	($110,395)	($3,444)	$0	$0	$0	$0	$0	$0	$0	$0
(v) Other	$7,519	$168	$0	$0	$0	$2,591	$0	$0	$0	$0	$0
(vi) Investment Expense	$0	$0	$0	$0	$0	$0	$0	$0	$0	($10,366)	($2,712)
(vii) Total	$43,666	$74,777	$2,465	$90,698	$45,474	$27,091	$46,756	($16,635)	($10,562)	$110,447	$31,265
(d) Other Revenue	$0	$0	$0	$0	$0	$0	$0	$2,302	$0	$0	$0
(e) Receivable Contributions [a]	$83,780	$0	$2,045	$0	$0	$0	$0	$0	$0	$0	$0
(f) Total Revenue (sum of (a) through (e))	$218,161	$452,946	$686,430	$700,587	$155,030	$170,564	$154,240	$17,106	$25,610	$434,163	$315,374
2. Expenditures During Fiscal Year											
(a) Benefits Paid	$92,362	$328,020	$541,391	$278,704	$69,411	$55,795	$113,887	$13,181	$24,384	$289,816	$294,327
(b) Withdrawals	$2,257	$0	$21,235	$4,625	$0	$0	$0	$0	$0	$29,159	$0
(c) Administrative Expenses	$387	$33,798	$4,538	$6,446	$4,073	$2,400	$1,273	$0	$0	$2,400	$64
(d) Total Expenditures (sum of (a) through (c))	$95,006	$361,818	$567,164	$289,775	$73,484	$58,195	$115,160	$13,181	$24,384	$321,375	$294,391
3. Accruals											
(a) Receivable (other than State and Local Contributions)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) Less Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
B. Market Value of Assets as of June 30, 2015 [A + 1(f) - 2(d) + 3(c)]	$1,811,121	$5,461,403	$629,458	$2,794,044	$1,244,804	$1,262,614	$1,590,053	$634,949	$596,085	$2,988,258	$777,651
C. Return on Assets	2.6%	0.8%	(0.4)%	3.3%	3.5%	2.1%	3.0%	(2.6)%	(1.8)%	3.8%	4.2%

[a] ***Receivable contributions for plan year ending June 30, 2015.***

Policemen's and Firemen's
Pension and Relief Funds
of West Virginia Municipalities
Actuarial Valuation as of July 01, 2015

Reconciliation of Assets 6/30/2015

Municipality	Oak Hill	Point Pleasant	Princeton		Star City	Welch	Weston		Westover	Williamson	
	Police	Police	Police	Fire	Police	Police	Police	Fire	Police	Police	Fire
A. Market Value of Assets as of July 1, 2014	$4,023,268	$766,615	$3,953,464	$2,874,971	$1,373,768	$2,231,793	$742,083	$777,125	$2,135,781	$1,083,969	$1,674,091
Adjustment to Market Value of Assets at Beginning of Year	$0	$0	$0	$0	($49,222)	$0	$0	$0	($55,317)	$0	$0
Market Value of Assets Beginning of Year	$4,023,268	$766,615	$3,953,464	$2,874,971	$1,324,546	$2,231,793	$742,083	$777,125	$2,080,464	$1,083,969	$1,674,091
1. Revenue During Fiscal Year											
(a) Employee Contribution	$27,440	$19,103	$71,592	$39,287	$17,553	$20,028	$22,772	$14,642	$17,656	$14,090	$13,047
(b) Governmental Contribution											
(i) From Local Government	$67,926	$27,655	$173,527	$87,905	$61,780	$58,535	$38,000	$57,009	$102,000	$118,895	$118,505
(ii) From State Government	$0	$6,212	$180,537	$121,807	$46,175	$0	$41,470	$32,881	$55,317	$40,913	$66,955
(iii) Reallocation from State Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(iv) Total	$67,926	$33,867	$354,064	$209,712	$107,955	$58,535	$79,470	$89,890	$157,317	$159,808	$185,460
(c) Earnings on Investments											
(i) Net Appreciation (Depreciation)	($57,987)	$4,632	($164,277)	($64,871)	($47,576)	($28,859)	($9,183)	($7,687)	($70,724)	$0	($66,016)
(ii) Bond Interest	$49,245	$420	$40,682	$31,656	$8,469	$35,550	$6,687	$4,896	$21,221	$0	$16,693
(iii) Dividends	$125,949	$27,469	$39,422	$18,706	$44,910	$65,419	$23,706	$25,868	$17,412	$0	$16,156
(iv) Net Realized Gain (Loss) on Sale or Exchange	($22,111)	$8,474	$206,091	$77,074	$13,084	($2,084)	($9,223)	($6,852)	$80,323	$0	$83,600
(v) Other	($986)	$0	$0	$0	$0	$0	($436)	$1,270	$0	$3,603	$0
(vi) Investment Expense	($23,858)	($10,266)	($29,847)	($17,520)	($6,611)	($5,064)	$0	$0	($16,178)	$0	($15,319)
(vii) Total	$70,252	$30,729	$92,071	$45,045	$12,276	$64,962	$11,551	$17,495	$32,054	$3,603	$35,114
(d) Other Revenue	$5,259	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(e) Receivable Contributions [a]	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) Total Revenue (sum of (a) through (e))	$170,877	$83,699	$517,727	$294,044	$137,784	$143,525	$113,793	$122,027	$207,027	$177,501	$233,621
2. Expenditures During Fiscal Year											
(a) Benefits Paid	$122,959	$116,302	$462,871	$342,708	$81,485	$36,527	$34,223	$61,082	$95,914	$121,121	$233,844
(b) Withdrawals	$38,424	$0	$16,923	$14,037	$0	$15,969	$0	$0	$59,867	$0	$20,422
(c) Administrative Expenses	$0	$0	$308	$254	$0	$0	$7,831	$8,109	$1,500	$58	$20
(d) Total Expenditures (sum of (a) through (c))	$161,383	$116,302	$480,102	$356,999	$81,485	$52,496	$42,054	$69,191	$157,281	$121,179	$254,286
3. Accruals											
(a) Receivable (other than State and Local Contributions)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) Less Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
B. Market Value of Assets as of June 30, 2015 [A + 1(f) - 2(d) + 3(c)]	$4,032,762	$734,012	$3,991,089	$2,812,016	$1,380,845	$2,322,822	$813,822	$829,961	$2,130,210	$1,140,291	$1,653,426
C. Return on Assets	1.8%	4.2%	2.4%	1.6%	0.9%	2.9%	0.5%	1.2%	1.5%	0.3%	2.1%

[a] *Receivable contributions for plan year ending June 30, 2015.*

Policemen's and Firemen's
Pension and Relief Funds
of West Virginia Municipalities
Actuarial Valuation as of July 01, 2015

Assets Held by Category as of 6/30/2015

Municipality	Charleston		Huntington		Morgantown		Parkersburg		Wheeling	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
1. Cash and Short-term Investments	$4,530,253	$2,578,392	$3,567,528	$483,348	$1,748,385	$1,344,398	$1,786,195	$808,090	$2,539,505	$2,642,027
2. Government Securities										
(a) US Treasury Bills, Notes and Bonds	$2,121,124	$2,314,699	$3,645,868	$250,798	$1,795,064	$1,942,374	$1,270,280	$2,091,424	$817,419	$751,766
(b) US State and Local Governmental Debt Securities	$0	$0	$2,345,560	$124,557	$0	$0	$0	$0	$0	$0
(c) Foreign Governmental Debt Securities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other	$0	$0	$0	$0	$0	$0	$0	$0	$1,771,488	$1,490,166
(e) Total Government Securities (sum of (a) through (d))	$2,121,124	$2,314,699	$5,991,428	$375,355	$1,795,064	$1,942,374	$1,270,280	$2,091,424	$2,588,907	$2,241,932
3. Corporate Fixed Income										
(a) US Bonds	$892,499	$1,483,138	$3,535,495	$1,029,166	$2,472,899	$1,440,533	$1,730,422	$3,115,663	$3,220,891	$2,995,485
(b) US Mortgage or other Asset Backed Securities	$0	$0	$0	$6,639,891	$0	$0	$0	$328,246	$7,342	$9,294
(c) US Mutual Fund Shares (Bonds)	$0	$0	$988,564	$1,036,463	$0	$0	$0	$0	$0	$0
(d) US Exchange Traded Funds (Bonds)	$0	$0	$0	$525,960	$0	$0	$0	$0	$0	$0
(e) International Bonds	$390,014	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) International Mutual Fund Shares (Bonds)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(g) International Exchange Traded Funds (Bonds)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(h) Total Corporate Fixed Income (sum of (a) through (g))	$1,282,513	$1,483,138	$4,524,059	$9,231,480	$2,472,899	$1,440,533	$1,730,422	$3,443,909	$3,228,233	$3,004,779
4. Corporate Equity										
(a) US Equity	$2,925,974	$2,908,417	$2,466,109	$3,505,757	$2,325,721	$1,932,040	$5,526,650	$3,334,310	$11,570,163	$10,780,102
(b) US Mutual Fund Shares (Equity)	$0	$0	$9,776,996	$1,769,968	$0	$0	$0	$308,152	$0	$0
(c) US Exchange Traded Funds (Equity)	$5,209,562	$4,595,606	$0	$0	$3,384,236	$2,698,074	$0	$1,612,558	$0	$0
(d) International Equity	$0	$0	$0	$197,335	$2,659,605	$2,114,922	$0	$0	$0	$0
(e) International Mutual Fund Shares (Equity)	$0	$0	$0	$364,493	$0	$0	$0	$290,701	$0	$0
(f) International Exchange Traded Funds (Equity)	$0	$0	$0	$0	$48,497	$38,522	$0	$0	$0	$0
(g) Total Corporate Equity (sum of (a) through (f))	$8,135,536	$7,504,023	$12,243,105	$5,837,553	$8,418,059	$6,783,558	$5,526,650	$5,545,721	$11,570,163	$10,780,102
5. Alternative Investments										
(a) Real Estate Investment Trust	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) Private Equity Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Hedge Funds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other Alternative Investments	$0	$0	$0	$0	$0	$0	$0	$301,068	$0	$0
(e) Total Alternative Investments (sum of (a) through (d))	$0	$0	$0	$0	$0	$0	$0	$301,068	$0	$0
6. Other	$0	$0	$9,719	$1,057	$0	$0	$0	$0	$0	$0
7. Receivable Contributions [a]										
(a) From Local Government	$0	$0	$1,772,498	$2,223,711	$0	$0	$0	$0	$0	$0
(b) From State Government	$104,128	$103,135	$432,765	$459,743	$0	$0	$0	$0	$0	$0
8. Accruals										
(a) Receivable (other than State and Local Contributions)	$14,270	$8,242	$0	$0	$0	$0	$0	$0	$80,859	$944,256
(b) Less Payable	-$105,440	-$103,135	$0	$0	$0	-$599	$0	$0	-$97,663	-$99,824
(c) Total	-$91,170	-$94,893	$0	$0	$0	-$599	$0	$0	-$16,804	$844,432
Market Value of Assets as of June 30, 2015 **[sum of (1) through (8)]**	$16,082,384	$13,888,494	$28,541,102	$18,612,247	$14,434,407	$11,510,264	$10,313,547	$12,190,212	$19,910,004	$19,513,272

[a] *Receivable contributions for plan year ending June 30, 2015.*

Policemen's and Firemen's
Pension and Relief Funds
of West Virginia Municipalities
Actuarial Valuation as of July 01, 2015

Assets Held by Category as of 6/30/2015

Municipality	Beckley		Bluefield		Clarksburg		Fairmont		Martinsburg	
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
1. Cash and Short-term Investments	$381,307	$85,547	$72,045	$714,845	$356,533	$989,169	$536,042	$335,254	$1,598,854	$462,825
2. Government Securities										
(a) US Treasury Bills, Notes and Bonds	$2,321,114	$1,860,636	$686,105	$0	$0	$501,075	$0	$0	$0	$0
(b) US State and Local Governmental Debt Securities	$218,451	$72,463	$0	$0	$0	$0	$0	$0	$0	$0
(c) Foreign Governmental Debt Securities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(e) Total Government Securities (sum of (a) through (d))	$2,539,565	$1,933,099	$686,105	$0	$0	$501,075	$0	$0	$0	$0
3. Corporate Fixed Income										
(a) US Bonds	$5,168,363	$4,268,663	$1,534,242	$1,533,056	$0	$897,491	$0	$70,535	$0	$0
(b) US Mortgage or other Asset Backed Securities	$0	$0	$0	$0	$0	$382,640	$0	$957	$0	$0
(c) US Mutual Fund Shares (Bonds)	$1,195,394	$763,419	$0	$20,150	$1,477,670	$0	$1,328,457	$271,989	$765,895	$832,484
(d) US Exchange Traded Funds (Bonds)	$0	$0	$0	$0	$0	$0	$0	$0	$2,949,031	$0
(e) International Bonds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) International Mutual Fund Shares (Bonds)	$0	$0	$0	$0	$0	$0	$147,883	$33,112	$0	$0
(g) International Exchange Traded Funds (Bonds)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(h) Total Corporate Fixed Income (sum of (a) through (g))	$6,363,757	$5,032,082	$1,534,242	$1,553,206	$1,477,670	$1,280,131	$1,476,340	$376,593	$3,714,926	$832,484
4. Corporate Equity										
(a) US Equity	$6,046,243	$5,232,845	$2,231,645	$45,059	$0	$1,028,277	$0	$0	$699,217	$478,275
(b) US Mutual Fund Shares (Equity)	$3,209,220	$3,515,921	$0	$1,355,638	$3,404,262	$0	$1,975,882	$586,552	$573,898	$919,789
(c) US Exchange Traded Funds (Equity)	$0	$0	$351,113	$0	$0	$1,273,775	$0	$0	$0	$0
(d) International Equity	$125,947	$96,792	$0	$0	$0	$0	$0	$0	$809,198	$0
(e) International Mutual Fund Shares (Equity)	$284,760	$286,912	$0	$411,839	$0	$0	$858,868	$381,580	$395,450	$0
(f) International Exchange Traded Funds (Equity)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(g) Total Corporate Equity (sum of (a) through (f))	$9,666,170	$9,132,470	$2,582,758	$1,812,536	$3,404,262	$2,302,052	$2,834,750	$968,132	$2,477,763	$1,398,064
5. Alternative Investments										
(a) Real Estate Investment Trust	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) Private Equity Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Hedge Funds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other Alternative Investments	$555,543	$555,543	$0	$0	$0	$0	$0	$0	$0	$0
(e) Total Alternative Investments (sum of (a) through (d))	$555,543	$555,543	$0	$0	$0	$0	$0	$0	$0	$0
6. Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7. Receivable Contributions [a]										
(a) From Local Government	$0	$0	$0	$0	$0	$0	$3,098	$3,098	$0	$0
(b) From State Government	$37,600	$32,864	$0	$0	$0	$0	$0	$0	$0	$0
8. Accruals										
(a) Receivable (other than State and Local Contributions)	$51,693	$43,375	$0	$0	$0	$0	$1,271	$752	$0	$0
(b) Less Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Total	$51,693	$43,375	$0	$0	$0	$0	$1,271	$752	$0	$0
Market Value of Assets as of June 30, 2015 **[sum of (1) through (8)]**	$19,595,635	$16,814,980	$4,875,150	$4,080,587	$5,238,465	$5,072,427	$4,851,501	$1,683,829	$7,791,543	$2,693,373

[a] ***Receivable contributions for plan year ending June 30, 2015.***

Policemen's and Firemen's
Pension and Relief Funds
of West Virginia Municipalities
Actuarial Valuation as of July 01, 2015

Assets Held by Category as of 6/30/2015

Municipality	Moundsville		South Charleston		St. Albans		Vienna	Weirton		Belle	Charles Town
	Police	Fire	Police	Fire	Police	Fire	Police	Police	Fire	Police	Police
1. Cash and Short-term Investments	$19,525	$351,615	$2,727,085	$589,339	$1,306,714	$554,390	$150,003	$72,732	$184,094	$36,687	$112,272
2. Government Securities											
(a) US Treasury Bills, Notes and Bonds	$0	$0	$0	$95,705	$791,490	$292,056	$404,761	$125,064	$199,612	$0	$91,403
(b) US State and Local Governmental Debt Securities	$0	$173,346	$0	$0	$0	$0	$0	$102,950	$102,950	$0	$0
(c) Foreign Governmental Debt Securities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(e) Total Government Securities (sum of (a) through (d))	$0	$173,346	$0	$95,705	$791,490	$292,056	$404,761	$228,014	$302,562	$0	$91,403
3. Corporate Fixed Income											
(a) US Bonds	$0	$0	$0	$354,441	$1,004,293	$379,239	$573,291	$0	$0	$0	$126,227
(b) US Mortgage or other Asset Backed Securities	$0	$0	$0	$0	$0	$0	$199,843	$1,065,175	$1,482,504	$0	$0
(c) US Mutual Fund Shares (Bonds)	$1,589,145	$0	$0	$0	$0	$0	$865,651	$142,737	$952,304	$196,818	$0
(d) US Exchange Traded Funds (Bonds)	$0	$0	$0	$0	$0	$0	$148,655	$0	$0	$0	$0
(e) International Bonds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) International Mutual Fund Shares (Bonds)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(g) International Exchange Traded Funds (Bonds)	$0	$0	$0	$0	$0	$0	$0	$323,023	$792,932	$0	$0
(h) Total Corporate Fixed Income (sum of (a) through (g))	$1,589,145	$0	$0	$354,441	$1,004,293	$379,239	$1,787,440	$1,530,935	$3,227,740	$196,818	$126,227
4. Corporate Equity											
(a) US Equity	$0	$0	$0	$257,234	$3,294,658	$1,390,265	$663,283	$1,904,539	$3,855,565	$0	$0
(b) US Mutual Fund Shares (Equity)	$3,235,555	$630,681	$0	$0	$0	$0	$3,589,201	$0	$0	$389,937	$0
(c) US Exchange Traded Funds (Equity)	$0	$0	$3,268	$605,438	$0	$0	$0	$451,358	$922,518	$0	$97,758
(d) International Equity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(e) International Mutual Fund Shares (Equity)	$0	$118,723	$0	$0	$0	$0	$0	$0	$0	$375,916	$34,809
(f) International Exchange Traded Funds (Equity)	$0	$0	$0	$0	$0	$0	$0	$277,285	$690,684	$0	$0
(g) Total Corporate Equity (sum of (a) through (f))	$3,235,555	$749,404	$3,268	$862,672	$3,294,658	$1,390,265	$4,252,484	$2,633,182	$5,468,767	$765,853	$132,567
5. Alternative Investments											
(a) Real Estate Investment Trust	$0	$0	$0	$0	$0	$0	$0	$0	$0	$146,278	$0
(b) Private Equity Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$149,097	$0
(c) Hedge Funds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$141,530	$0
(d) Other Alternative Investments	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(e) Total Alternative Investments (sum of (a) through (d))	$0	$0	$0	$0	$0	$0	$0	$0	$0	$436,905	$0
6. Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7. Receivable Contributions [a]											
(a) From Local Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) From State Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8. Accruals											
(a) Receivable (other than State and Local Contributions)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) Less Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Market Value of Assets as of June 30, 2015 **[sum of (1) through (8)]**	$4,844,225	$1,274,365	$2,730,353	$1,902,157	$6,397,155	$2,615,950	$6,594,688	$4,464,863	$9,183,163	$1,436,263	$462,469

[a] ***Receivable contributions for plan year ending June 30, 2015.***

Policemen's and Firemen's
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of West Virginia Municipalities
Actuarial Valuation as of July 01, 2015

Assets Held by Category as of 6/30/2015

Municipality	Chester	Dunbar		Elkins		Grafton		Logan		Nitro	
	Police	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Police	Fire
1. Cash and Short-term Investments	$398,741	$173,664	$131,021	$1,427,303	$644,463	$108,880	$24,545	$72,815	$62,194	$589,058	$81,273
2. Government Securities											
(a) US Treasury Bills, Notes and Bonds	$0	$2,465,980	$0	$218,030	$0	$3,064	$0	$0	$0	$0	$0
(b) US State and Local Governmental Debt Securities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$51,316	$0
(c) Foreign Governmental Debt Securities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other	$0	$0	$0	$0	$0	$0	$809,485	$0	$0	$0	$0
(e) Total Government Securities (sum of (a) through (d))	$0	$2,465,980	$0	$218,030	$0	$3,064	$809,485	$0	$0	$51,316	$0
3. Corporate Fixed Income											
(a) US Bonds	$28,378	$458,061	$0	$0	$0	$210,487	$0	$390,014	$369,985	$893,109	$298,876
(b) US Mortgage or other Asset Backed Securities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) US Mutual Fund Shares (Bonds)	$433,749	$0	$105,666	$0	$0	$0	$621,441	$0	$0	$0	$0
(d) US Exchange Traded Funds (Bonds)	$0	$526,082	$0	$0	$0	$0	$0	$0	$0	$0	$0
(e) International Bonds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) International Mutual Fund Shares (Bonds)	$23,852	$876,769	$197,986	$0	$0	$440,375	$102,673	$0	$0	$0	$0
(g) International Exchange Traded Funds (Bonds)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(h) Total Corporate Fixed Income (sum of (a) through (g))	$485,979	$1,860,912	$303,652	$0	$0	$650,862	$724,114	$390,014	$369,985	$893,109	$298,876
4. Corporate Equity											
(a) US Equity	$259,673	$435,266	$0	$0	$0	$437,279	$0	$167,602	$163,906	$1,454,791	$397,502
(b) US Mutual Fund Shares (Equity)	$582,948	$446,884	$102,699	$0	$0	$6,208	$0	$0	$0	$0	$0
(c) US Exchange Traded Funds (Equity)	$0	$0	$35,762	$1,148,711	$600,341	$0	$0	$0	$0	$0	$0
(d) International Equity	$0	$78,697	$0	$0	$0	$0	$0	$0	$0	$0	$0
(e) International Mutual Fund Shares (Equity)	$0	$0	$56,324	$0	$0	$0	$0	$0	$0	$0	$0
(f) International Exchange Traded Funds (Equity)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(g) Total Corporate Equity (sum of (a) through (f))	$842,621	$960,847	$194,785	$1,148,711	$600,341	$443,487	$0	$167,602	$163,906	$1,454,791	$397,502
5. Alternative Investments											
(a) Real Estate Investment Trust	$0	$0	$0	$0	$0	$0	$0	$4,518	$0	$0	$0
(b) Private Equity Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Hedge Funds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other Alternative Investments	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(e) Total Alternative Investments (sum of (a) through (d))	$0	$0	$0	$0	$0	$0	$0	$4,518	$0	$0	$0
6. Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7. Receivable Contributions [a]											
(a) From Local Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) From State Government	$83,780	$0	$0	$0	$0	$52,129	$31,909	$0	$0	$0	$0
8. Accruals											
(a) Receivable (other than State and Local Contributions)	$0	$0	$0	$0	$0	$4,192	$0	$0	$0	$0	$0
(b) Less Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	-$16	$0
(c) Total	$0	$0	$0	$0	$0	$4,192	$0	$0	$0	-$16	$0
Market Value of Assets as of June 30, 2015 **[sum of (1) through (8)]**	$1,811,121	$5,461,403	$629,458	$2,794,044	$1,244,804	$1,262,614	$1,590,053	$634,949	$596,085	$2,988,258	$777,651

[a] *Receivable contributions for plan year ending June 30, 2015.*

Policemen's and Firemen's
Pension and Relief Funds
of West Virginia Municipalities
Actuarial Valuation as of July 01, 2015

Assets Held by Category as of 6/30/2015

Municipality	Oak Hill	Point Pleasant	Princeton		Star City	Welch	Weston		Westover	Williamson	
	Police	Police	Police	Fire	Police	Police	Police	Fire	Police	Police	Fire
1. Cash and Short-term Investments	$80,818	$31,027	$345,518	$420,606	$89,574	$265,894	$101,780	$14,553	$482,122	$694,740	$216,833
2. Government Securities											
(a) US Treasury Bills, Notes and Bonds	$578,977	$0	$501,233	$455,566	$0	$0	$101,908	$101,908	$263,954	$0	$199,971
(b) US State and Local Governmental Debt Securities	$292,393	$0	$0	$0	$0	$249,802	$26,647	$0	$0	$0	$0
(c) Foreign Governmental Debt Securities	$56,983	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other	$0	$0	$0	$0	$0	$0	$0	$50,415	$0	$0	$0
(e) Total Government Securities (sum of (a) through (d))	$928,353	$0	$501,233	$455,566	$0	$249,802	$128,555	$152,323	$263,954	$0	$199,971
3. Corporate Fixed Income											
(a) US Bonds	$574,701	$0	$641,912	$591,633	$572,559	$0	$0	$0	$351,861	$0	$283,794
(b) US Mortgage or other Asset Backed Securities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$445,551	$0
(c) US Mutual Fund Shares (Bonds)	$331,539	$0	$0	$0	$0	$328,359	$355,363	$182,472	$0	$0	$0
(d) US Exchange Traded Funds (Bonds)	$0	$298,711	$0	$0	$0	$257,345	$0	$0	$0	$0	$0
(e) International Bonds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(f) International Mutual Fund Shares (Bonds)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(g) International Exchange Traded Funds (Bonds)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(h) Total Corporate Fixed Income (sum of (a) through (g))	$906,240	$298,711	$641,912	$591,633	$572,559	$585,704	$355,363	$182,472	$351,861	$445,551	$283,794
4. Corporate Equity											
(a) US Equity	$448,215	$385,095	$0	$0	$0	$1,008,246	$0	$0	$1,032,273	$0	$599,382
(b) US Mutual Fund Shares (Equity)	$662,727	$71,186	$2,321,889	$1,222,404	$718,712	$23,025	$228,124	$358,876	$0	$0	$353,446
(c) US Exchange Traded Funds (Equity)	$329,208	$0	$0	$0	$0	$92,138	$0	$0	$0	$0	$0
(d) International Equity	$76,945	$0	$0	$0	$0	$61,953	$0	$0	$0	$0	$0
(e) International Mutual Fund Shares (Equity)	$420,248	$0	$0	$0	$0	$0	$0	$121,737	$0	$0	$0
(f) International Exchange Traded Funds (Equity)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(g) Total Corporate Equity (sum of (a) through (f))	$1,937,343	$456,281	$2,321,889	$1,222,404	$718,712	$1,185,362	$228,124	$480,613	$1,032,273	$0	$952,828
5. Alternative Investments											
(a) Real Estate Investment Trust	$180,008	$0	$0	$0	$0	$35,345	$0	$0	$0	$0	$0
(b) Private Equity Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Hedge Funds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(d) Other Alternative Investments	$0	$0	$0	$0	$0	$715	$0	$0	$0	$0	$0
(e) Total Alternative Investments (sum of (a) through (d))	$180,008	$0	$0	$0	$0	$36,060	$0	$0	$0	$0	$0
6. Other	$0	$21,390	$0	$0	$0	$0	$0	$0	$0	$0	$0
7. Receivable Contributions [a]											
(a) From Local Government	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) From State Government	$0	$0	$180,537	$121,807	$0	$0	$0	$0	$0	$0	$0
8. Accruals											
(a) Receivable (other than State and Local Contributions)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(b) Less Payable	$0	-$73,397	$0	$0	$0	$0	$0	$0	$0	$0	$0
(c) Total	$0	-$73,397	$0	$0	$0	$0	$0	$0	$0	$0	$0
Market Value of Assets as of June 30, 2015 [sum of (1) through (8)]	$4,032,762	$734,012	$3,991,089	$2,812,016	$1,380,845	$2,322,822	$813,822	$829,961	$2,130,210	$1,140,291	$1,653,426

[a] ***Receivable contributions for plan year ending June 30, 2015.***