



**TEACHERS' PENSION AND ANNUITY FUND
OF NEW JERSEY**

GASB 67 DISCLOSURE

Fiscal Year: July 1, 2014 to June 30, 2015

Milliman, Inc.
1550 Liberty Ridge Drive, Suite 200
Wayne, PA 19087
Tel +1 610 687 5644
Fax +1 610 687 4236
milliman.com

Table of Contents

| | |
|--|-----------|
| Certification | 1 |
| Executive Summary | 3 |
| Overview of GASB 67 and GASB 68 | 4 |
| Statement of Fiduciary Net Position | 5 |
| Statement of Changes in Fiduciary Net Position | 6 |
| Money-Weighted Rate of Return | 7 |
| Net Pension Liability | 8 |
| Changes in Net Pension Liability | 9 |
| Long-Term Expected Rate of Return | 10 |
| Schedule of Changes in Net Pension Liability and Related Ratios | 11 |
| Schedule of Employer Contributions | 12 |
| Depletion Date Projection | 13 |
| Actuarial Methods and Assumptions Used for Funding Policy | 14 |
| Projection of Contributions | 15 |
| Projection of Fiduciary Net Position | 16 |
| Actuarial Present Value of Projected Benefit Payments | 17 |
| Glossary | 18 |

Certification

Actuarial computations presented in this report under Statement No. 67 of the Governmental Accounting Standards Board are for purposes of assisting the State of NJ in fulfilling its financial accounting requirements. No attempt is being made to offer any accounting opinion or advice. This report is for fiscal year July 1, 2014 to June 30, 2015. The reporting date for determining plan assets and obligations is June 30, 2015. The calculations enclosed in this report have been made on a basis consistent with our understanding of the plan provisions. Determinations for purposes other than meeting financial reporting requirements may be significantly different than the results contained in this report. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security or meeting employer funding requirements.

In preparing this report, we relied, without audit, on information as of July 1, 2014 as well as asset information as of June 30, 2015 furnished by the State of NJ. This information includes, but is not limited to, statutory provisions, member census data, and financial information. The breakdown as of July 1, 2014 includes 139,350 active participants, 13,738 terminated vested and other inactive participants (13,462 non-contributory members are treated as inactive for this purpose), and 94,822 retirees and beneficiaries. Please see Milliman's funding valuation report dated April 1, 2015 for more information on the plan's participants as of July 1, 2014 as well as a summary of the plan provisions and actuarial methods and assumptions.

We performed a limited review of the census and financial information used directly in our analysis and have found them to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

We hereby certify that, to the best of our knowledge, this report, including all costs and liabilities based on actuarial assumptions and methods adopted by the Board or mandated by statute, is complete and accurate and determined in conformance with generally recognized and accepted actuarial principles and practices, which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions and supporting Recommendations of the American Academy of Actuaries.

This valuation report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, 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. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurements.

Certification

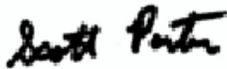
Milliman's work is prepared solely for the use and benefit of the State of New Jersey Division of Pensions and Benefits. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to the Plan Sponsor's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Fund; and (b) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and has been prepared in accordance with generally recognized accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.



Scott F. Porter, FSA
Consulting Actuary



Richard L. Gordon, FSA
Consulting Actuary

Executive Summary

This report presents the results of the actuarial valuation in accordance with GASB 67 as of June 30, 2015 for the Teachers' Pension and Annuity Fund. There are several differences in actuarial assumptions and methods specified by GASB 67 versus those used to determine the statutory contribution in accordance with New Jersey statute. These differences include treatment of receivable contributions, amortization methods, actuarial cost methods, inclusion of insurance benefits and potentially the discount rate.

The discount rate is based on the single equivalent rate that results in the same actuarial present value as the long-term expected rate of return applied to benefit payments, to the extent that the plan's fiduciary net position is projected to be sufficient to make projected benefit payments, and the municipal bond rate applied to benefit payments, to the extent that the plan's fiduciary net position is not projected to be sufficient. As of June 30, 2015, the plan's fiduciary net position is not projected to be sufficient in year 12 of the projection or by June 30, 2027. There is no change in the depletion date from the prior year GASB 67 valuation.

The primary assumption in determining the sufficiency of a plan's fiduciary net position relates to expected State contributions. As of June 30, 2015, 16.58% of the projected statutory pension contributions was assumed to be made by the State each year. This assumption represents a 5-year average of actual State contributions made in accordance with GASB guidance. To the extent actual contributions are higher (lower) than shown, any date of depletion would be later (sooner) than shown in this report.

Since a date of depletion is determined, the discount rate is much lower than current the 7.9% investment return assumption. After assets are expected to be depleted, projected benefit payments are discounted using the municipal bond index. The State of New Jersey chose the Bond Buyer Go 20-Bond Municipal Bond Index. The bond index decreased from 4.29% as of June 30, 2014 to 3.80% as of June 30, 2015 resulting in a decrease in the single equivalent rate from 4.68% as of July 1, 2014 to 4.13% as of June 30, 2015. The decrease in the discount rate increased the unfunded liability by approximately \$5.9 billion. The unfunded liability, referred to as the Net Pension Liability, is \$63.6 billion for a funded ratio of 28.7% as of June 30, 2015.

The benefits covered under this valuation include pension benefits and noncontributory group insurance benefits (NCGI). The depletion date has been determined based on the funding of pension benefits only whereas the weighted average discount rate reflects pension and NCGI benefits.

Overview of GASB 67 and GASB 68

The Governmental Accounting Standards Board (GASB) released new accounting standards for public pension plans and participating employers in 2012. These standards, GASB Statements No. 67 and 68, have substantially revised the accounting requirements previously mandated under GASB Statements No. 25 and 27. The most notable change is the distinct separation of funding from financial reporting. The Annual Required Contribution (ARC) has been eliminated under GASB 67 and 68 and is no longer relevant for financial reporting purposes. As a result, plan sponsors have been encouraged to establish a formal funding policy that is separate from financial reporting calculations.

GASB 67 applies to financial reporting for public pension plans and is required to be implemented for plan fiscal years beginning after June 15, 2013. Note that a plan's fiscal year might not be the same as the employer's fiscal year. Even if the plan does not issue standalone financial statements, but rather is considered a pension trust fund of a government, it is subject to GASB 67. Under GASB 67, enhancements to the financial statement disclosures are required, along with certain required supplementary information.

GASB 68 governs the specifics of accounting for public pension plan obligations for participating employers and is required to be implemented for employer fiscal years beginning after June 15, 2014. GASB 68 requires a liability for pension obligations, known as the Net Pension Liability, to be recognized on the balance sheets of participating employers. Changes in the Net Pension Liability will be immediately recognized as Pension Expense on the income statement or reported as deferred inflows/outflows of resources depending on the nature of the change.

Statement of Fiduciary Net Position

| | June 30, 2014 | June 30, 2015 |
|--|-------------------------|-------------------------|
| Assets | | |
| Cash and cash equivalents | \$1,680,369 | \$3,194,842 |
| Receivables and prepaid expenses: | | |
| Receivable contributions | 345,280,963 | 362,012,703 |
| Receivable investment income | 2,786 | 3,012 |
| Receivables from brokers for unsettled trades | 0 | 0 |
| Prepaid expenses | 1,682,095 | 4,931,424 |
| Total receivables | 346,965,844 | 366,947,139 |
| Investments: | | |
| Pension Fund A | 0 | 0 |
| Pension Fund B | 0 | 0 |
| Pension Fund D | 18,093,956,520 | 16,583,641,041 |
| Pension Fund E | 8,480,525,681 | 8,682,210,214 |
| Short-term investments | 747,830,215 | 384,497,340 |
| Total investments | 27,322,312,416 | 25,650,348,595 |
| Invested securities lending cash collateral | 0 | 0 |
| Capital assets net of accumulated depreciation | 0 | 0 |
| Total assets | 27,670,958,629 | 26,020,490,576 |
| Liabilities | | |
| Accrued expenses and benefits payable | 388,790,552 | 415,238,657 |
| Securities lending cash collateral | (433,478) | (437,814) |
| CGIPF Payable | 349,094 | 892,173 |
| Total liabilities | 388,706,168 | 415,693,016 |
| Net position restricted for pensions ¹ | \$27,282,252,461 | \$25,604,797,560 |

¹ Excludes any statutory pension and ERI contribution receivables not reflected in TPAF's financial statements.

Statement of Changes in Fiduciary Net Position

June 30, 2015

Additions

| | |
|---|---------------|
| Member contributions | \$740,296,265 |
| Employer contributions (State, Local, and NCGI) | 540,603,535 |
| Transfers from other systems | 4,117,141 |
| Other | 358,899 |
| Total contributions | 1,285,375,840 |
| Investment income (loss): | |
| Interest | 532,253,539 |
| Dividends | 0 |
| Portion Attributable to CGIPF | 0 |
| Net increase in fair value of investments | 512,147,544 |
| Securities lending income | 0 |
| Less investment expenses: | |
| Direct investment expense | 4,753,479 |
| Securities lending management fees | 0 |
| Securities lending borrower rebates | 0 |
| Net investment income | 1,039,647,604 |
| Other income | 26,415,322 |
| Total additions | 2,351,438,766 |

Deductions

| | |
|---|-----------------|
| Pension benefits | 3,920,924,262 |
| Refunds of member contributions | 57,795,789 |
| Noncontributory Group Insurance Premium Payment | 36,283,535 |
| Administrative expenses | 13,890,081 |
| Total deductions | 4,028,893,667 |
| Net increase (decrease) | (1,677,454,901) |

Net position restricted for pensions

| | |
|--------------------------------|------------------|
| Beginning of year (06/30/2014) | 27,282,252,461 |
| End of year (06/30/2015) | \$25,604,797,560 |

Schedule of Investment Returns

| Fiscal Year Ending June 30 | Net Money-Weighted Rate of Return |
|---|--|
| 2006 | N/A |
| 2007 | N/A |
| 2008 | N/A |
| 2009 | N/A |
| 2010 | N/A |
| 2011 | N/A |
| 2012 | N/A |
| 2013 | N/A |
| 2014 | 16.636% |
| 2015 | 4.050% |

Calculation of Money-Weighted Rate of Return

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. External cash flows are determined on a monthly basis and are assumed to occur at the end of each month. External cash inflows are netted with external cash outflows, resulting in a net external cash flow in each month. The money-weighted rate of return is calculated net of investment expenses and has been determined by the New Jersey Division of Investments.

Net Pension Liability

| Net Pension Liability | June 30, 2014 | June 30, 2015 |
|--|-----------------------|-----------------------|
| Total pension liability | \$81,095,320,000 | \$89,182,662,000 |
| Fiduciary net position | <u>27,282,252,461</u> | <u>25,604,797,560</u> |
| Net pension liability | 53,813,067,539 | 63,577,864,440 |
| Fiduciary net position as a % of total pension liability | 33.64% | 28.71% |
| Covered payroll | 10,038,792,896 | 10,162,263,470 |
| Net pension liability as a % of covered payroll | 536.05% | 625.63% |

The total pension liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rate and actuarial assumptions below, and was then projected forward to the measurement date. There have been no significant changes between the valuation date and the fiscal year end. Any significant changes during this period must be reflected as prescribed by GASB 67 and 68. Covered Payroll is as of June 30, 2013 and June 30, 2014, respectively.

Discount Rate

The plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the discount rate for calculating the total pension liability is equal to the single equivalent rate that results in the same actuarial present value as the long-term expected rate of return applied to benefit payments, to the extent that the plan's fiduciary net position is projected to be sufficient to make projected benefit payments, and the municipal bond rate applied to benefit payments, to the extent that the plan's fiduciary net position is not projected to be sufficient.

| | |
|---|-------|
| Discount rate | 4.13% |
| Long-term expected rate of return net of investment expense | 7.90% |
| Municipal bond rate ¹ | 3.80% |

Other Key Actuarial Assumptions

The actuarial assumptions that determined the total pension liability as of June 30, 2015 were based on the results of an actuarial experience study for the period July 1, 2009 - July 1, 2012. Please refer to that report for more information.

| | |
|-----------------------|-------------------------------|
| Valuation date | July 1, 2014 |
| Measurement date | June 30, 2015 |
| Actuarial cost method | Entry Age Normal ² |

All other assumptions used are consistent with the assumptions used in the June 30, 2014 Actuarial Valuation Report prepared as of July 1, 2014 dated April 1, 2015.

¹ Bond Buyer 20-Bond General Obligation Bond Index as of June 25, 2015; 4.29% as of June 26, 2014

² Total projected compensation is used to allocate costs under Entry Age Normal even if pensionable compensation is limited to the Social Security Taxable Wage Base.

Changes in Net Pension Liability

| Changes in Net Pension Liability | Increase (Decrease) | | |
|--|--|---------------------------------------|---------------------------------------|
| | Total Pension Liability (a) ¹ | Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
| Balances as of June 30, 2014 | \$81,095,320,000 | \$27,282,252,461 | \$53,813,067,539 |
| Changes for the year: | | | |
| Service cost | 2,022,411,197 | | 2,022,411,197 |
| Interest on total pension liability | 3,797,032,970 | | 3,797,032,970 |
| Effect of plan changes | 0 | | 0 |
| Effect of economic/demographic (gains) or losses | 365,228,278 | | 365,228,278 |
| Effect of assumptions changes or inputs | 5,913,556,000 | | 5,913,556,000 |
| Benefit payments | (4,015,003,586) | (4,015,003,586) | 0 |
| Transfers from other Systems | 4,117,141 | 4,117,141 | 0 |
| Administrative expenses | | (13,890,081) | 13,890,081 |
| Member contributions | | 740,296,265 | (740,296,265) |
| Net investment income | | 1,066,062,926 | (1,066,062,926) |
| Employer contributions | | 540,603,535 | (540,603,535) |
| Other | | 358,899 | (358,899) |
| Balances as of June 30, 2015 | 89,182,662,000 | 25,604,797,560 | 63,577,864,440 |

¹ Total Pension Liability as of June 30, 2014 is based on a single equivalent discount rate of 4.68%

Sensitivity Analysis

The following presents the net pension liability of the Teachers' Pension and Annuity Fund of New Jersey, calculated using the discount rate of 4.13%, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (3.13%) or 1 percentage point higher (5.13%) than the current rate.

| | 1% Decrease 3.13% | Current Discount Rate 4.13% | 1% Increase 5.13% |
|-------------------------|-------------------------|-----------------------------------|-------------------------|
| Total pension liability | \$101,164,713,000 | \$89,182,662,000 | \$78,859,408,000 |
| Fiduciary net position | 25,604,797,560 | 25,604,797,560 | 25,604,797,560 |
| Net Pension liability | 75,559,915,440 | 63,577,864,440 | 53,254,610,440 |

Long-Term Expected Rate of Return

The best-estimate range for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions are per Milliman's investment consulting practice as of December 31, 2014.

| Asset Class | Index | Target Allocation* | Long-Term Expected Real Rate of Return |
|--|--------------------------|--------------------|--|
| US Cash | BAML 3-Mon Tbill | 5.00% | 0.53% |
| US Gvt Bonds | Barclays Gvt | 1.75% | 1.39% |
| US Credit Bonds | Barclays Credit | 13.50% | 2.72% |
| US Mortgages | Barclays MBS | 2.10% | 2.54% |
| US Inflation-Indexed Bonds | Barclays US TIPs | 1.50% | 1.47% |
| US High Yield Bonds | BAML High Yield | 2.00% | 4.57% |
| US Equity Market | Russell 3000 | 27.25% | 5.63% |
| Foreign Developed Equity | MSCI EAFE NR | 12.00% | 6.22% |
| Emerging Markets Equity | MSCI EM NR | 6.40% | 8.46% |
| Private Real Estate Property | NCREIF Property | 4.25% | 3.97% |
| Timber | NCREIF Timber | 1.00% | 4.09% |
| Farmland | NCREIF Farmland | 1.00% | 4.61% |
| Private Equity | Cambridge Private Equity | 9.25% | 9.15% |
| Commodities | Dow Jones UBS | 1.00% | 3.58% |
| Hedge Funds - MultiStrategy | HFRI MultiStrategy | 4.00% | 4.59% |
| Hedge Funds - Equity Hedge | HFRI Equity Hedge | 4.00% | 5.68% |
| Hedge Funds - Distressed | HFRI Distressed | 4.00% | 4.30% |
| Assumed Inflation - Mean | | | 2.50% |
| Assumed Inflation - Standard Deviation | | | 1.85% |
| Portfolio Arithmetic Mean Return | | | 7.64% |
| Portfolio Standard Deviation | | | 11.94% |
| Long-Term Expected Rate of Return selected by State Treasurer | | | 7.90% |

* Based on target asset allocation for 2015 fiscal year

Schedule of Changes in Net Pension Liability and Related Ratios (\$ in Millions)

| | Fiscal Year Ending June 30 | | | | | | | | | |
|--|----------------------------|----------|---------|---------|----------|---------|---------|---------|---------|---------|
| | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
| Total Pension Liability | | | | | | | | | | |
| Service cost | \$2,022 | \$1,871 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Interest on total pension liability | 3,797 | 3,794 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effect of plan changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effect of assumption changes or inputs | 5,914 | 2,614 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effect of economic/demographic (gains) or losses | 365 | (25) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Benefit payments | (4,015) | (3,838) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Transfers from other Systems | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Net change in total pension liability | 8,087 | 4,417 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total pension liability, beginning | 81,095 | 76,679 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total pension liability, ending (a) | 89,183 | 81,095 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fiduciary Net Position | | | | | | | | | | |
| Employer contributions | \$541 | \$428 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Member contributions | 740 | 716 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Investment income net of investment expenses | 1,066 | 4,078 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Benefit payments | (4,015) | (3,838) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Administrative expenses | (14) | (12) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Transfers from other Systems + misc items | 4 | 0 | | | | | | | | |
| Net change in plan fiduciary net position | (1,677) | 1,372 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fiduciary net position, beginning | 27,282 | 25,888 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fiduciary net position, ending (b) | 25,605 | 27,282 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Net pension liability, ending = (a) - (b) | \$63,578 | \$53,813 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Fiduciary net position as a % of total pension liability | 28.71% | 33.64% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Covered payroll | \$10,162 | \$10,039 | \$9,779 | \$9,682 | \$10,025 | \$9,747 | \$9,419 | \$9,078 | \$8,749 | \$8,454 |
| Net pension liability as a % of covered payroll | 625.63% | 536.05% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |

This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not reported in accordance with the current GASB standards, they should not be reported.

Schedule of Employer Pension Contributions ¹

| Fiscal Year Ending June 30 | Actuarially Determined Contribution | Actual Employer Contribution | Contribution Deficiency (Excess) | Covered Payroll | Contribution as a % of Covered Payroll |
|----------------------------------|---|------------------------------------|--|--------------------|--|
| 2006 | 915,892,281 | 67,275,588 | \$848,616,693 | 8,454,072,109 | 0.80% |
| 2007 | 1,156,140,571 | 663,415,668 | 492,724,903 | 8,748,623,186 | 7.58% |
| 2008 | 1,286,147,106 | 663,791,615 | 622,355,491 | 9,077,628,813 | 7.31% |
| 2009 | 1,348,105,853 | 64,376,207 | 1,283,729,646 | 9,419,083,203 | 0.68% |
| 2010 | 1,526,168,830 | 0 | 1,526,168,830 | 9,747,020,060 | 0.00% |
| 2011 | 1,826,722,370 | 0 | 1,826,722,370 | 10,025,401,658 | 0.00% |
| 2012 | 2,009,810,329 | 287,115,915 | 1,722,694,414 | 9,682,318,739 | 2.97% |
| 2013 | 2,148,185,001 | 613,766,799 | 1,534,418,202 | 9,779,212,916 | 6.28% |
| 2014 | 2,158,287,358 | 392,035,985 | 1,766,251,373 | 10,038,792,896 | 3.91% |
| 2015 | 2,306,611,715 | 504,320,000 | 1,802,291,715 | 10,162,263,470 | 4.96% |

¹ Only reflects State contributions towards the Actuarially Determined Contribution. Excludes other employer contributions such as NCGI premium reimbursement, delayed enrollments, delayed appropriations and other miscellaneous items.

Depletion Date Projection

In order to determine if the plan's fiduciary net position is projected to be sufficient to make projected benefit payments, we have prepared a depletion date projection using the following techniques and assumptions:

- Current active members (non-contributory members are not considered active) contribute the required employee contribution amounts.
- Employer contributions are assumed to equal 16.58% of the State's statutory contribution (see following page for details).
- Benefit payments are projected based on the actuarial assumptions and the current plan provisions.
- Members are assumed to receive pay increases, terminate, retire, become disabled, die, and so forth according to the actuarial assumptions used for the 07/01/2014 valuation.
- Terminating and retiring members will not be replaced with new employees.
- Current administrative expenses are assumed to be equal to 0.330% of the expected benefit payments for the fiscal year.
- All cash flows are assumed to occur on average halfway through the year.
- The long-term expected rate of return on pension plan investments is 7.90%.
- The actuarial assumptions do not change.
- The plan provisions do not change.
- Excludes any liabilities associated with the contributory group life insurance benefits, but includes pay-as-you-go payments for the non-contributory insurance benefits.

Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

Actuarial Methods and Assumptions Used for Funding Policy

The following actuarial methods and assumptions were used in the July 1, 2014 funding valuation. Please see the valuation report dated April 1, 2015 for further details.

| | |
|-----------------------------------|--|
| Valuation Timing | Actuarially determined contributions are calculated as of June 30, two years prior to the end of the fiscal year in which the contributions are reported (i.e. June 30, 2013 valuation determines June 30, 2015 fiscal year end contributions). |
| Actuarial Cost Method | Projected Unit Credit, per NJ Statute for pension benefits; Actual claims for noncontributory group insurance benefits are reimbursed monthly |
| Amortization Method | Level Dollar Amortization: Per NJ Statute, the amortization period is 30 years until the June 30, 2019 valuation at which time the period declines by 1 each year until 20 years. The amortization amount in any future year cannot be lower than the amount from the prior year until the plan is fully funded on an actuarial value of assets basis. |
| Asset Valuation Method | Per NJ Statute, 20% of the difference between the expected Actuarial Value and market value is recognized each year in determining the Actuarial Value of Assets |
| Inflation; SSTWB Inflation | 2.75%; 3.75% |
| Salary Increases | Varies by years of employment and valuation year. |
| Investment Rate of Return | 7.90% |
| Cost of Living Adjustments | None |
| Mortality | Based on experience of TPAF members reflecting mortality improvement for 7 years for post-retirement and 15 years for pre-retirement from each projected valuation date. |
| Other Assumptions | See June 30, 2014 Actuarial Valuation |

**Projection of Contributions
(\$ in Millions)**

| Year | Projected Payroll Current Employees | Projected Payroll Future Employees | Total Employee Payroll | Contributions from Current Employees | Employer Contributions for Current Employees | Contributions from Future Employees* | Total Contributions |
|------|--|---|------------------------------|---|---|---|------------------------|
| 1 | \$9,885 | \$0 | \$9,885 | \$695 | \$465 | \$0 | \$1,159 |
| 2 | 9,636 | 0 | 9,636 | 694 | 491 | 0 | 1,185 |
| 3 | 9,464 | 0 | 9,464 | 695 | 530 | 0 | 1,225 |
| 4 | 9,307 | 0 | 9,307 | 699 | 570 | 0 | 1,269 |
| 5 | 9,162 | 0 | 9,162 | 688 | 613 | 0 | 1,300 |
| 6 | 9,021 | 0 | 9,021 | 677 | 664 | 0 | 1,341 |
| 7 | 8,883 | 0 | 8,883 | 669 | 720 | 0 | 1,390 |
| 8 | 8,798 | 0 | 8,798 | 662 | 780 | 0 | 1,442 |
| 9 | 8,698 | 0 | 8,698 | 654 | 845 | 0 | 1,498 |
| 10 | 8,576 | 0 | 8,576 | 643 | 914 | 0 | 1,558 |
| 11 | 8,426 | 0 | 8,426 | 630 | 990 | 0 | 1,620 |
| 12 | 8,238 | 0 | 8,238 | 615 | 1,073 | 0 | 1,687 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

* Contributions from future employees that are above service cost and, therefore, can be allocated to payment of benefits of current employees under GASB rules.

**Projection of Fiduciary Net Position
(\$ in Millions)**

| Year | Projected Beginning Fiduciary Net Position | Projected Total Contributions | Projected Benefit Payments | Projected Administrative Expenses | Projected Investment Earnings | Projected Ending Fiduciary Net Position |
|------|---|-------------------------------------|----------------------------------|---|-------------------------------------|--|
| 1 | \$25,605 | \$1,159 | \$4,109 | \$14 | \$1,892 | \$24,533 |
| 2 | 24,533 | 1,185 | 4,253 | 14 | 1,801 | 23,253 |
| 3 | 23,253 | 1,225 | 4,382 | 14 | 1,695 | 21,776 |
| 4 | 21,776 | 1,269 | 4,501 | 15 | 1,574 | 20,102 |
| 5 | 20,102 | 1,300 | 4,611 | 15 | 1,437 | 18,214 |
| 6 | 18,214 | 1,341 | 4,714 | 16 | 1,284 | 16,109 |
| 7 | 16,109 | 1,390 | 4,809 | 16 | 1,113 | 13,787 |
| 8 | 13,787 | 1,442 | 4,900 | 16 | 926 | 11,239 |
| 9 | 11,239 | 1,498 | 4,992 | 16 | 721 | 8,450 |
| 10 | 8,450 | 1,558 | 5,092 | 17 | 497 | 5,395 |
| 11 | 5,395 | 1,620 | 5,200 | 17 | 251 | 2,049 |
| 12 | 2,049 | 1,687 | 5,316 | 18 | 0 | 0 |
| 13 | 0 | 0 | 5,435 | 0 | 0 | 0 |
| 14 | 0 | 0 | 5,556 | 0 | 0 | 0 |
| 15 | 0 | 0 | 5,682 | 0 | 0 | 0 |
| 16 | 0 | 0 | 5,814 | 0 | 0 | 0 |
| 17 | 0 | 0 | 5,947 | 0 | 0 | 0 |
| 18 | 0 | 0 | 6,080 | 0 | 0 | 0 |
| 19 | 0 | 0 | 6,211 | 0 | 0 | 0 |
| 20 | 0 | 0 | 6,338 | 0 | 0 | 0 |
| 21 | 0 | 0 | 6,458 | 0 | 0 | 0 |
| 22 | 0 | 0 | 6,565 | 0 | 0 | 0 |
| 23 | 0 | 0 | 6,656 | 0 | 0 | 0 |
| 24 | 0 | 0 | 6,732 | 0 | 0 | 0 |
| 25 | 0 | 0 | 6,790 | 0 | 0 | 0 |
| 26 | 0 | 0 | 6,832 | 0 | 0 | 0 |
| 27 | 0 | 0 | 6,861 | 0 | 0 | 0 |
| 28 | 0 | 0 | 6,885 | 0 | 0 | 0 |
| 29 | 0 | 0 | 6,907 | 0 | 0 | 0 |
| 30 | 0 | 0 | 6,920 | 0 | 0 | 0 |
| 31 | 0 | 0 | 6,913 | 0 | 0 | 0 |
| 32 | 0 | 0 | 6,895 | 0 | 0 | 0 |
| 33 | 0 | 0 | 6,858 | 0 | 0 | 0 |

This work product was prepared solely for the State of NJ for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

Actuarial Present Value of Projected Benefit Payments (\$ in Millions)

| Year | Projected Beginning Fiduciary Net Position | Projected Benefit Payments | "Funded" Portion of Benefit Payments | "Unfunded" Portion of Benefit Payments | Present Value of "Funded" Benefit Payments* | Present Value of "Unfunded" Benefit Payments** | Present Value of Total Benefit Payments*** |
|-------|--|----------------------------|--------------------------------------|--|---|--|--|
| Total | | | | | 33,054 | + 87,001 | = 120,054 |
| 1 | 25,605 | 4,109 | 4,109 | 0 | 3,808 | 0 | 3,946 |
| 2 | 24,533 | 4,253 | 4,253 | 0 | 3,653 | 0 | 3,922 |
| 3 | 23,253 | 4,382 | 4,382 | 0 | 3,489 | 0 | 3,881 |
| 4 | 21,776 | 4,501 | 4,501 | 0 | 3,321 | 0 | 3,829 |
| 5 | 20,102 | 4,611 | 4,611 | 0 | 3,153 | 0 | 3,766 |
| 6 | 18,214 | 4,714 | 4,714 | 0 | 2,987 | 0 | 3,697 |
| 7 | 16,109 | 4,809 | 4,809 | 0 | 2,824 | 0 | 3,623 |
| 8 | 13,787 | 4,900 | 4,900 | 0 | 2,667 | 0 | 3,545 |
| 9 | 11,239 | 4,992 | 4,992 | 0 | 2,518 | 0 | 3,468 |
| 10 | 8,450 | 5,092 | 5,092 | 0 | 2,381 | 0 | 3,397 |
| 11 | 5,395 | 5,200 | 5,200 | 0 | 2,253 | 0 | 3,332 |
| 12 | 2,049 | 5,316 | 0 | 5,316 | 0 | 3,398 | 3,271 |
| 13 | 0 | 5,435 | 0 | 5,435 | 0 | 3,347 | 3,211 |
| 14 | 0 | 5,556 | 0 | 5,556 | 0 | 3,296 | 3,153 |
| 15 | 0 | 5,682 | 0 | 5,682 | 0 | 3,248 | 3,096 |
| 16 | 0 | 5,814 | 0 | 5,814 | 0 | 3,201 | 3,042 |
| 17 | 0 | 5,947 | 0 | 5,947 | 0 | 3,155 | 2,989 |
| 18 | 0 | 6,080 | 0 | 6,080 | 0 | 3,107 | 2,934 |
| 19 | 0 | 6,211 | 0 | 6,211 | 0 | 3,058 | 2,878 |
| 20 | 0 | 6,338 | 0 | 6,338 | 0 | 3,006 | 2,821 |
| 21 | 0 | 6,458 | 0 | 6,458 | 0 | 2,951 | 2,760 |
| 22 | 0 | 6,565 | 0 | 6,565 | 0 | 2,890 | 2,695 |
| 23 | 0 | 6,656 | 0 | 6,656 | 0 | 2,823 | 2,624 |
| 24 | 0 | 6,732 | 0 | 6,732 | 0 | 2,750 | 2,548 |
| 25 | 0 | 6,790 | 0 | 6,790 | 0 | 2,673 | 2,468 |
| 26 | 0 | 6,832 | 0 | 6,832 | 0 | 2,591 | 2,385 |

* Discounted at the long-term expected rate of return, 7.90%

** Discounted at the municipal bond rate, 3.80%

*** Discounted at the single interest rate that produces a total actuarial present value equal to the sum of the actuarial present values of "funded" and "unfunded" benefit payments, 4.13%

**Actuarial Present Value of Projected Benefit Payments
(\$ in Millions)**

| Year | Projected Beginning Fiduciary Net Position | Projected Benefit Payments | "Funded" Portion of Benefit Payments | "Unfunded" Portion of Benefit Payments | Present Value of "Funded" Benefit Payments* | Present Value of "Unfunded" Benefit Payments** | Present Value of Total Benefit Payments*** |
|------|---|----------------------------------|---|---|---|--|--|
| 27 | 0 | 6,861 | 0 | 6,861 | 0 | 2,506 | 2,300 |
| 28 | 0 | 6,885 | 0 | 6,885 | 0 | 2,423 | 2,217 |
| 29 | 0 | 6,907 | 0 | 6,907 | 0 | 2,342 | 2,135 |
| 30 | 0 | 6,920 | 0 | 6,920 | 0 | 2,260 | 2,055 |
| 31 | 0 | 6,913 | 0 | 6,913 | 0 | 2,176 | 1,971 |
| 32 | 0 | 6,895 | 0 | 6,895 | 0 | 2,090 | 1,888 |
| 33 | 0 | 6,858 | 0 | 6,858 | 0 | 2,003 | 1,803 |
| 34 | 0 | 6,806 | 0 | 6,806 | 0 | 1,915 | 1,719 |
| 35 | 0 | 6,746 | 0 | 6,746 | 0 | 1,829 | 1,636 |
| 36 | 0 | 6,673 | 0 | 6,673 | 0 | 1,743 | 1,554 |
| 37 | 0 | 6,584 | 0 | 6,584 | 0 | 1,657 | 1,473 |
| 38 | 0 | 6,475 | 0 | 6,475 | 0 | 1,570 | 1,391 |
| 39 | 0 | 6,347 | 0 | 6,347 | 0 | 1,482 | 1,309 |
| 40 | 0 | 6,195 | 0 | 6,195 | 0 | 1,394 | 1,227 |
| 41 | 0 | 6,020 | 0 | 6,020 | 0 | 1,305 | 1,145 |
| 42 | 0 | 5,831 | 0 | 5,831 | 0 | 1,218 | 1,065 |
| 43 | 0 | 5,637 | 0 | 5,637 | 0 | 1,134 | 989 |
| 44 | 0 | 5,441 | 0 | 5,441 | 0 | 1,054 | 917 |
| 45 | 0 | 5,238 | 0 | 5,238 | 0 | 978 | 847 |
| 46 | 0 | 5,026 | 0 | 5,026 | 0 | 904 | 781 |
| 47 | 0 | 4,807 | 0 | 4,807 | 0 | 833 | 717 |
| 48 | 0 | 4,582 | 0 | 4,582 | 0 | 765 | 657 |
| 49 | 0 | 4,354 | 0 | 4,354 | 0 | 700 | 599 |
| 50 | 0 | 4,123 | 0 | 4,123 | 0 | 639 | 545 |
| 51 | 0 | 3,889 | 0 | 3,889 | 0 | 580 | 493 |
| 52 | 0 | 3,653 | 0 | 3,653 | 0 | 525 | 445 |
| 53 | 0 | 3,415 | 0 | 3,415 | 0 | 473 | 400 |
| 54 | 0 | 3,178 | 0 | 3,178 | 0 | 424 | 357 |
| 55 | 0 | 2,941 | 0 | 2,941 | 0 | 378 | 317 |
| 56 | 0 | 2,706 | 0 | 2,706 | 0 | 335 | 280 |
| 57 | 0 | 2,474 | 0 | 2,474 | 0 | 295 | 246 |
| 58 | 0 | 2,248 | 0 | 2,248 | 0 | 258 | 215 |

This work product was prepared solely for the State of NJ for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

**Actuarial Present Value of Projected Benefit Payments
(\$ in Millions)**

| Year | Projected Beginning Fiduciary Net Position | Projected Benefit Payments | "Funded" Portion of Benefit Payments | "Unfunded" Portion of Benefit Payments | Present Value of "Funded" Benefit Payments* | Present Value of "Unfunded" Benefit Payments** | Present Value of Total Benefit Payments*** |
|------|---|----------------------------------|---|---|---|--|--|
| 59 | 0 | 2,028 | 0 | 2,028 | 0 | 225 | 186 |
| 60 | 0 | 1,815 | 0 | 1,815 | 0 | 194 | 160 |
| 61 | 0 | 1,611 | 0 | 1,611 | 0 | 166 | 136 |
| 62 | 0 | 1,418 | 0 | 1,418 | 0 | 140 | 115 |
| 63 | 0 | 1,236 | 0 | 1,236 | 0 | 118 | 96 |
| 64 | 0 | 1,067 | 0 | 1,067 | 0 | 98 | 80 |
| 65 | 0 | 912 | 0 | 912 | 0 | 81 | 66 |
| 66 | 0 | 771 | 0 | 771 | 0 | 66 | 53 |
| 67 | 0 | 646 | 0 | 646 | 0 | 53 | 43 |
| 68 | 0 | 535 | 0 | 535 | 0 | 42 | 34 |
| 69 | 0 | 438 | 0 | 438 | 0 | 33 | 27 |
| 70 | 0 | 355 | 0 | 355 | 0 | 26 | 21 |
| 71 | 0 | 285 | 0 | 285 | 0 | 20 | 16 |
| 72 | 0 | 226 | 0 | 226 | 0 | 15 | 12 |
| 73 | 0 | 177 | 0 | 177 | 0 | 12 | 9 |
| 74 | 0 | 138 | 0 | 138 | 0 | 9 | 7 |
| 75 | 0 | 106 | 0 | 106 | 0 | 6 | 5 |
| 76 | 0 | 80 | 0 | 80 | 0 | 5 | 4 |
| 77 | 0 | 60 | 0 | 60 | 0 | 3 | 3 |
| 78 | 0 | 45 | 0 | 45 | 0 | 2 | 2 |
| 79 | 0 | 33 | 0 | 33 | 0 | 2 | 1 |
| 80 | 0 | 24 | 0 | 24 | 0 | 1 | 1 |
| 81 | 0 | 17 | 0 | 17 | 0 | 1 | 1 |
| 82 | 0 | 12 | 0 | 12 | 0 | 1 | 0 |
| 83 | 0 | 9 | 0 | 9 | 0 | 0 | 0 |
| 84 | 0 | 6 | 0 | 6 | 0 | 0 | 0 |
| 85 | 0 | 5 | 0 | 5 | 0 | 0 | 0 |
| 86 | 0 | 3 | 0 | 3 | 0 | 0 | 0 |
| 87 | 0 | 2 | 0 | 2 | 0 | 0 | 0 |
| 88 | 0 | 2 | 0 | 2 | 0 | 0 | 0 |
| 89 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 90 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |

This work product was prepared solely for the State of NJ for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

**Actuarial Present Value of Projected Benefit Payments
(\$ in Millions)**

| Year | Projected Beginning Fiduciary Net Position | Projected Benefit Payments | "Funded" Portion of Benefit Payments | "Unfunded" Portion of Benefit Payments | Present Value of "Funded" Benefit Payments* | Present Value of "Unfunded" Benefit Payments** | Present Value of Total Benefit Payments*** |
|-------------|---|---|---|---|--|---|---|
| 91 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 92 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 93 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 94 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 95 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 96 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 97 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 98 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Glossary

| | |
|---|---|
| Actuarially Determined Contribution | A target or recommended contribution to a defined benefit pension plan for the reporting period, determined based on the funding policy and most recent measurement available when the contribution for the reporting period was adopted. |
| Deferred Inflows/Outflows of Resources | Portion of changes in net pension liability that is not immediately recognized in Pension Expense. These changes include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on plan investments. |
| Discount Rate | Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of: <ol style="list-style-type: none">1) The actuarial present value of benefit payments projected to be made in future periods where the plan assets are projected to be sufficient to meet benefit payments, calculated using the Long-Term Expected Rate of Return.2) The actuarial present value of projected benefit payments not included in (1), calculated using the Municipal Bond Rate. |
| Fiduciary Net Position | Equal to market value of assets. |
| Long-Term Expected Rate of Return | Long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits, net of investment expenses. |
| Money-Weighted Rate of Return | The internal rate of return on pension plan investments, net of investment expenses. |
| Municipal Bond Rate | Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher. |
| Net Pension Liability | Total Pension Liability minus the Plan's Fiduciary Net Position (unfunded accrued liability). |
| Projected Benefit Payments | All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and expected future service. |
| Service Cost | The portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. |
| Total Pension Liability | The portion of actuarial present value of projected benefit payments that is attributable to past periods of member service using the Entry Age Normal cost method based on the requirements of GASB 67 and 68. |