

**NASHVILLE CITY TEACHERS
RETIREMENT PLAN**

**ACTUARIAL VALUATION
AND REPORT**

JULY 1, 2015



Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

February 15, 2016

Mr. Chris Henson, CPA
Chief Financial Officer
Metropolitan Nashville Public Schools
2601 Bransford Avenue
Nashville, Tennessee 37204

Dear Mr. Henson:

The attached report summarizes the results of the actuarial valuation of the Nashville City Teachers Retirement Plan as of July 1, 2015. We trust this report will be helpful with respect to the financing of the plan.

The opportunity to serve the Metropolitan Board of Public Education is appreciated, and we will be pleased to supplement this report in any way, as you request.

This report has been prepared under my supervision; I am a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC of Brentwood, Tennessee, and have met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship, including investment management or other services that could create, or appear to create, a conflict of interest that would impair the objectivity of our work.

Sincerely

A handwritten signature in black ink that reads 'J. Bradford Fisher, F.S.A.'.

J. Bradford Fisher, F.S.A.

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Current Valuation Results

An actuarial valuation of the Nashville City Teachers Retirement Plan was performed as of July 1, 2015. The purpose of the valuation was to examine the liabilities and to determine an actuarially determined contribution sufficient to fund the plan. Prior to the implementation of the Guaranteed Payment Program, benefits were financed on a "pay as you go" basis.

Beginning on July 1, 2000, the Plan became a portion of the Guaranteed Payment Program (GPP), an umbrella plan created by the state and local government to ensure actuarially sound funding for a group of five plans supervised by the Metro Benefit Board and the Board of Education. Under the GPP, unfunded liabilities of the aggregate plan are amortized over a period of no more than thirty years. Payments for the Plan move to a payment account from which distributions are paid to the constituent plans of the GPP as necessary to satisfy current benefit needs and to satisfy funding objectives of the GPP. Funding issues that are specific to the GPP are addressed in a separate report.

Comparison of Plan Information From Recent Valuations

	2015	2014	2013 *	2012	2011
Active Participants					
Number	0	0	0	0	0
Annual Payroll	\$0	\$0	\$0	\$0	\$0
Retired Participants					
Number	108	117	124	136	150
Average Age	86.91	86.24	85.57	85.12	84.37
Gross Pensions	\$3,498,938	\$3,845,263	\$3,983,975	\$4,244,010	\$4,559,009
Total Participants	108	117	124	136	150
Present Value of Future Benefits	\$12,924,586	\$14,511,591	\$15,576,102	\$16,076,298	\$17,808,829
Actuarial Value of Assets	635,435	0	0	0	3,769,032
Assumed Rate of Return	7.50%	7.50%	7.50%	8.00%	8.00%

* Indicates a change in actuarial assumptions and/or actuarial methods.

The Basis of Valuation section of this report sets forth a summary of benefits provided under the Nashville City Teachers Retirement Plan and summarizes the actuarial assumptions on which the valuation was based. The Actuarial Computations section sets forth details of the determination of an actuarially determined contribution. The Employee Data section summarizes the employee data on which this valuation was based.

The Administrative Retirement Committee adopted a change in actuarial assumptions (lowering the discount rate and updating the mortality assumption) for 2013 that increased the present value of future benefits by 5.5%.

All calculations made in this report have been made utilizing employee data supplied by the Metropolitan Board of Public Education, asset information supplied by the Metropolitan Government of Nashville and Davidson County, and the actuarial assumptions summarized herein.

Summary of Provisions of the Plan

Eligibility

All teachers in the Nashville City schools hired prior to April 1, 1963, are eligible under the plan.

Normal Retirement

Condition

A member may retire and receive an immediate benefit upon either

- (i) reaching age 60 and having accumulated at least 15 years of service; or
- (ii) completion of at least 25 years of service before reaching age 60.

Benefit

The monthly benefit under qualification (i) above is 1/12 of the product of:

- 2-1/2% of the highest annual established salary, and
- Years of Service (not less than 15 years, but not more than 24 years).

The monthly benefit under (ii) above is 1/12 of the product of:

- 2% of the highest annual established salary, and
- Years of Service (not less than 25 years, but not more than 30 years).

Early Retirement

Condition

A participant may elect early retirement after 15 years of credited service.

Benefit

A deferred benefit, commencing at age 60, is determined as of the Early Retirement Date as in the Normal Retirement Benefit above, based on service and salary at the date of early retirement.

Disability Retirement

Condition

If a participant becomes totally and permanently disabled as defined in the plan after the completion of 10 years of credited service or due to injuries arising in the line of duty regardless of service, he may retire and receive a disability benefit.

Benefit

The monthly benefit, commencing on the date of disability is equal to 1/12 of 60% of the highest established annual salary.

Death Before Retirement

If a member dies prior to retirement, a refund of 75% of the member's contributions is payable to his beneficiary, plus \$2,500 if death results from injury received in the line of duty.

Termination of Employment

If employment is terminated before a member is eligible for a benefit as provided above, a refund of 75% of the member's contributions without interest is payable.

Contributions

Members contribute 2% of earnings for a maximum of 24 years.

Each year the employer contributes an amount determined in accordance with the Guaranteed Payment Program.

Reclaim of Service

A member who terminated service, received a refund, subsequently returned to service, and is now a plan member, may elect to reclaim the earlier service by repaying the refund plus interest.

Broken Service - No Refund

A member who terminated service, received no refund, subsequently returned to service and is now a plan member, may elect to reclaim the earlier service at no cost.

Transfer Option

A member may elect to transfer to the Tennessee Consolidated Retirement System at any time prior to retirement.

Military Service

A member who had active duty military service during certain periods of armed conflict may claim up to a maximum of four years of creditable service.

Cost-of-Living Increment After Retirement

Each July 1, up to 3% of the original retirement benefit is added to a member's retirement benefit. The percentage increase is based on the increase in the Consumer Price Index (all items--United States city average), but will not exceed 3%. In any year when the change of CPI is less than a 1% increase, there is no benefit adjustment made on the following July 1.

Unused Sick Leave

A member may use unused sick leave as creditable service on the basis of 20 days equaling one month.

Summary of Actuarial Assumptions

(Sample Values per 1,000 Lives)

	AGE		
	70	80	90
<u>Mortality Rates</u>			
2015 IRS Static Mortality Table for Annuitants			
Male	15.93	51.60	167.93
Female	14.99	39.31	123.26

Adjustments for Future Mortality Improvements: Scale AA used to project improvement to seven years beyond the valuation date

Disablement Rate

Not Applicable

Withdrawal Rate

Not Applicable

Assumed Salary Increases

Not Applicable

Rate of Investment Return

7.50% per annum

Rate of Retirement

Not Applicable

Cost of Living Increases

Benefits increase 3% annually after commencement

Actuarial Funding Method

Level Dollar Amortization

Asset Valuation Method

Market value

Determination of Actuarially Determined Contribution

Present Value of Benefits (Net of State Reimbursements)	
Active Lives	\$ 0
Retired Lives	<u>12,924,586</u>
Total	\$ 12,924,586
Less Actuarial Value of Assets	<u>(635,435)</u>
Present Value of Future Costs	\$ 12,289,151
Amortization Period from Valuation Date *	7.2 Years
Level Dollar Amortization of Future Costs from Valuation Date	2,123,185
Interest Adjustment for Mid-year Payment	<u>79,619</u>
Actuarially Determined Contribution *	\$ 2,202,804

* The above determination is an estimate that may be trued-up upon the determination of the actual benefit payments during the year.

Distribution of Retired Participants' Gross Pensions

BY AGE

Age Group	Male			Female			Total		
	No	Annual Pensions		No	Annual Pensions		No	Annual Pensions	
		Total	Average		Total	Average		Total	Average
0-65	0	\$ 0	\$ 0	0	\$ 0	\$ 0	0	\$ 0	\$ 0
66-70	0	0	0	0	0	0	0	0	0
71-75	0	0	0	2	76,411	38,205	2	76,411	38,205
76-80	7	287,304	41,043	16	561,578	35,098	23	848,882	36,907
81-85	3	127,023	42,341	19	679,203	35,747	22	806,226	36,646
86+	12	507,213	42,267	49	1,260,206	25,718	61	1,767,419	28,974
TOTAL	22	\$921,540	\$41,888	86	\$2,577,398	\$29,969	108	\$3,498,938	\$32,397