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Deerfield Beach Municipal Firefighters' Pension Trust Fund

GASB 67 Supplement As of September 30, 2017



REPORT TO PROVIDE DISCLOSURE UNDER GASB STATEMENT NO. 67
FOR THE PLAN AND FISCAL YEARS ENDING
SEPTEMBER 30, 2017



February 27, 2018

Board of Trustees
Deerfield Beach Municipal Firefighters' Pension Trust Fund
Deerfield Beach, Florida

RE: GASB 67 Supplement as of September 30, 2017

Dear Board Members:

We are pleased to present the Governmental Accounting Standards Board Statement No. 67 (GASB 67) Supplement as of September 30, 2017 for the Deerfield Beach Municipal Firefighters' Pension Trust Fund (the Plan).

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 provides information required to be disclosed under GASB 67 as described in the statement and the implementation guide. The relevant dates are as follows:

GASB 67	
Valuation Date	10/01/2017
Measurement Date	09/30/2017
Reporting Date	09/30/2017

Please let us know if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad M. Little'.

Chad M. Little, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-6619

A handwritten signature in black ink, appearing to read 'Paula C. Freiman'.

Paula C. Freiman, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-5796

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Statement of Fiduciary Net Position

As of September 30,	2017	2016
Assets		
Receivables:		
Accrued interest and dividends	123,652	115,522
Due for securities sold	80,059	4,281,233
Employer contribution	14,833	0
State contribution	<u>12,643</u>	<u>64,210</u>
Total receivables	<u>231,187</u>	<u>4,460,965</u>
Investments, at fair value:		
Equity securities	50,660,101	39,551,471
Corporate bonds	15,935,403	14,130,663
Government securities	12,932,478	14,337,726
Fixed income funds	4,251,980	4,183,620
Real estate funds	11,940,141	11,320,151
Hedge funds	6,234,327	10,243,509
Master limited partnerships	4,770,674	3,272,968
Stable value funds	1,214,068	1,468,772
Money market funds	<u>5,766,741</u>	<u>5,151,221</u>
Total investments	<u>113,705,913</u>	<u>103,660,101</u>
Total assets	<u>113,937,100</u>	<u>108,121,066</u>
Liabilities		
Due for securities purchased	<u>336,880</u>	<u>931,430</u>
Total liabilities	<u>336,880</u>	<u>931,430</u>
Net position restricted for pensions	<u>\$113,600,220</u>	<u>\$107,189,636</u>

Statement of Changes in Fiduciary Net Position

As of September 30,	2017	2016
Additions		
Contributions:		
Employer	\$5,058,562	\$5,060,592
State of Florida	603,646	667,147
Member	<u>898,299</u>	<u>883,740</u>
Total contributions	<u>6,560,507</u>	<u>6,611,479</u>
Investment income (loss):		
Net (depreciation) appreciation in fair value of investments	7,683,804	6,385,731
Interest and dividends	2,818,897	2,165,156
Other income	<u>37,189</u>	<u>0</u>
Total investment income	<u>10,539,890</u>	<u>8,550,887</u>
Less investment expenses:		
Investment expense	<u>526,935</u>	<u>623,909</u>
Net investment income	<u>10,012,955</u>	<u>7,926,978</u>
Total additions	<u>16,573,462</u>	<u>14,538,457</u>
Deductions		
Benefit payments	9,978,487	6,795,446
Refunds of contributions	6,856	0
Administrative expenses	<u>177,535</u>	<u>214,739</u>
Total deductions	<u>10,162,878</u>	<u>7,010,185</u>
Net increase in net position	6,410,584	7,528,272
Net position restricted for pensions		
Beginning of year	<u>107,189,636</u>	<u>99,661,364</u>
End of year	<u>\$113,600,220</u>	<u>\$107,189,636</u>

Net Pension Liability

The total pension liability under GASB 67 is based on the October 1, 2017 actuarial valuation. The October 1, 2017 actuarial valuation was based on the following assumptions applied to all periods in the measurement.

Inflation	2.75%
Salary increases	5% to 11%, including inflation
Investment rate of return	7.5% net of investment expense, including inflation
Mortality:	From the July 1, 2016 and 2017 FRS special risk valuation.
Healthy Pre-Retirement:	Males: 10% RP-00 Combined Healthy White Collar + 90% RP-00 Combined Healthy Blue Collar Females: 100% RP-00 Combined Healthy White Collar Both male and female rates fully generational using Scale BB
Healthy Post-Retirement:	Males: 10% RP-00 Annuitant White Collar + 90% RP-00 Annuitant Blue Collar Females: 100% RP-00 Annuitant White Collar Both male and female rates fully generational using Scale BB
Disabled mortality:	Males: 60% RP-00 Disabled Retiree Set Back 4 Years + 40% RP-00 Annuitant White Collar Females: 60% RP-00 Disabled Retiree Set Forward 2 Yrs + 40% RP-00 Annuitant White Collar No mortality improvement is assumed for disabled lives.

Assumptions are based on the results of an actuarial experience study for the period October 1, 1999 to September 30, 2004. Mortality has been revised since the prior valuation of Plan as required by State statute.

The long-term expected net rate of return on investments was determined using a building-block method. Best-estimate ranges of expected future real rates of return (expected returns net of investment expense and inflation) are developed for each major asset class. The long-term expected net rate of return on investments is the best-estimate ranges weighted by the asset allocation plus expected inflation. Best estimates of arithmetic real rates of return for each major asset class as provided by the investment monitor are shown in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic Equity	31%	7.02%
Int'l Equity	15%	3.67%
Bonds	20%	3.98%
TIPS	5%	2.90%
Convertibles	9%	5.96%
Private Real Estate	8%	4.75%
REITS	2%	6.75%
MLPs	5%	9.67%
Hedge Fund	5%	4.11%
Long-term Expected Real Rate of Return:	100%	5.41%

The discount rate used to measure the total pension liability was 7.5% as of October 1, 2017. This is the single rate that reflects the long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits. A projection of cash flows used to determine the discount rate assumed that plan member contributions are made at the current contribution rate and that City contributions will be made equal to the difference between the actuarially determined contribution and the member contributions. Based on those assumptions, the pension plan's fiduciary net position is projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments is applied to all periods of projected benefit payments to determine the total pension liability. For purposes of this determination we understand pension plan assets are expected to be invested using a strategy to achieve the discount rate.

Note: See "Actuarial Assumptions and Methods" for a full description of the assumptions used in the determination of the total pension liability.

For GASB 67 the net pension liability is required to be measured as of the plan's fiscal year end. The net pension liability was measured as of September 30, 2017 under GASB 67 for the plan's fiscal year ending September 30, 2017. The total pension liability used to calculate the net pension liability as of September 30, 2017 was determined by an actuarial valuation as of October 1, 2017.

The components of the net pension liability at September 30, 2017 were as follows:

Total pension liability	\$147,956,266
Plan fiduciary net position	<u>(113,600,220)</u>
Net pension liability	\$34,356,046

Plan fiduciary net position as a percentage of the total pension liability	76.78%
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Sensitivity of the net pension liability to changes in the discount rate follows as of September 30, 2017.

	1% Decrease <u>(6.5%)</u>	Current Discount Rate <u>(7.5%)</u>	1% Increase <u>(8.5%)</u>
Net pension liability	\$50,364,642	\$34,356,046	\$21,100,839

Schedule of Changes in Net Pension Liability and Related Ratios

This schedule will be updated each year until a 10-year history is accumulated.

Year Ending September 30,	2017	2016	2015	2014
Total pension liability				
Service cost	\$2,786,085	\$2,793,233	\$2,745,537	\$2,859,229
Interest	10,565,444	10,371,874	10,038,296	9,456,530
Changes of benefit terms	0	48,546	106,820	172,555
Differences between expected and actual experience	1,046,101	(82,819)	(1,414,007)	846,838
Changes of assumptions	104,413	140,613	0	1,795,582
Benefit payments	(9,978,487)	(6,795,446)	(7,418,254)	(7,328,455)
Refunds of member contributions	(6,856)	0	(47,544)	0
Net change in total pension liability	4,516,700	6,476,001	4,010,848	7,802,279
Total pension liability - beginning	<u>143,439,566</u>	<u>136,963,565</u>	<u>132,952,717</u>	<u>125,150,438</u>
Total pension liability - ending (a)	\$147,956,266	\$143,439,566	\$136,963,565	\$132,952,717
Plan fiduciary net position				
Contributions - employer	\$5,058,562	\$5,060,592	\$5,064,382	\$5,051,768
Contributions - State of Florida	603,646	667,147	725,199	791,013
Contributions - employee	898,299	883,740	868,805	882,792
Net investment income	10,012,955	7,926,978	(3,188,136)	8,931,143
Benefit payments	(9,978,487)	(6,795,446)	(7,418,254)	(7,328,455)
Refunds of member contributions	(6,856)	0	(47,544)	0
Administrative expense	(177,535)	(214,739)	(237,672)	(232,032)
Net change in plan fiduciary net position	6,410,584	7,528,272	(4,233,220)	8,096,229
Plan fiduciary net position - beginning	<u>107,189,636</u>	<u>99,661,364</u>	<u>103,894,584</u>	<u>95,798,355</u>
Plan fiduciary net position - ending (b)	\$113,600,220	\$107,189,636	\$99,661,364	\$103,894,584
Net pension liability - ending (a) - (b)	\$34,356,046	\$36,249,930	\$37,302,201	\$29,058,133
Plan fiduciary net position as a percentage of the total pension liability	76.78 %	74.73 %	72.76 %	78.14 %
Covered employee payroll	\$9,659,471	\$9,412,235	\$9,628,949	\$9,687,400
Net pension liability as a percentage of covered employee payroll	355.67 %	385.14 %	387.40 %	299.96 %



Schedule of Contributions

Year Ending September 30,	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined contribution	\$5,662,208	\$5,727,617	\$5,789,681	\$5,842,802	\$5,908,360	\$4,954,297	\$3,321,431	\$3,076,012	\$2,751,476	\$2,605,958
Contributions in relation to the actuarially determined contribution	<u>5,662,208</u>	<u>5,727,617</u>	<u>5,789,681</u>	<u>5,842,802</u>	<u>5,908,360</u>	<u>4,954,297</u>	<u>3,321,431</u>	<u>3,076,012</u>	<u>2,751,476</u>	<u>2,605,958</u>
Contribution deficiency (excess)	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Covered employee payroll	\$9,659,471	\$9,412,235	\$9,628,949	\$9,687,400	\$10,187,273	\$10,662,698	\$11,314,341	\$11,385,985	\$11,273,175	\$10,209,732
Contributions as a percentage of covered-employee payroll	58.6 %	60.9 %	60.1 %	60.3 %	58.0 %	46.5 %	29.4 %	27.0 %	24.4 %	25.5 %

Notes to Schedule

The actuarially determined contribution shown above includes state contributions up to \$618,479 toward minimum funding plus any state contributions used toward share allocations.

Methods and assumptions used to determine contributions:

Actuarial cost method	Entry age
Amortization method	Level dollar, closed
Remaining amortization period	15 years as of October 1, 2016 and 2017, 16 years as of October 1, 2015, 17 years as of October 1, 2014
Asset valuation method	5-year smoothed market
Inflation	2.75%
Salary increases	5% to 11%, including inflation
Investment rate of return	Effective for the October 1, 2016 actuarial valuation 7.5% net of investment expenses, including inflation changed from 7.625% used as of October 1, 2015.
Retirement age	See "Description of Assumptions and Methods" for the assumed retirement age assumption
Mortality	Effective for the October 1, 2016 valuation, mortality is as assumed in the FRS valuation as of July 1, 2015, as required by state statute. In the October 1, 2015 valuation mortality was assumed using RP-2000 Combined Mortality Table Fully Generational using Scale AA.

Schedule of Investment Returns

This schedule will be updated each year until a 10-year history is accumulated.

Year Ending September 30,	Annual money-weighted rate of return net of investment expense
2017	10.2 %
2016	6.2 %
2015	(3.1)%
2014	9.7 %
2013	11.6 %
2012	17.1 %
2011	(1.2)%
2010	7.5 %
2009	(1.2)%

Plan Membership Statistics

Valuation as of October 1,	2017	2016
Inactive members or beneficiaries currently receiving benefits	120	118
Inactive members entitled to but not yet receiving benefits	0	0
Active members	<u>81</u>	<u>84</u>
Total	<u>201</u>	<u>202</u>

Plan Description

Plan Type: Single-employer Defined Benefit Pension Plan

Legal Authority: The Plan was established and is amended by local ordinance.

Effective Date: March 22, 1977. The last amendment to the Plan was Ordinance 2016/016 adopted effective September 6, 2016.

Plan Administrator: The Board of Trustees

Board Composition: Two members are elected from among the fire employees of the City, who are members of the plan, two city residents appointed by the Commission and one person is chosen by a majority of the previous four members.

Funding Requirements: Employer contributions are actuarially determined and subject to State statute. Employee contributions are as described below and may be amended by ordinance.

Plan Year: The 12-month period from October 1st to the following September 30th.

Member: Full-time firefighters become Members immediately upon hire.

Actuarial Equivalence: Per Ordinance 2016/016 adopted effective September 6, 2016, optional forms of benefit are determined using a 7.625% interest rate and the RP-2000 Combined Mortality Table projected to 2013 using male improvement scale AA for members and the female RP-2000 Combined Mortality projected to 2013 using female improvement scale AA for beneficiaries. Prior to this change Actuarial Equivalence was determined using the interest rate and mortality used in the actuarial funding valuation of the Plan where in the event of a change in valuation funding assumptions, the factors used to determine optional forms of benefit are changed effective the October 1 subsequent to the October 1 in which the valuation funding assumptions were changed.

Credited Service: Total number of years, and fractional parts of years, while Employee Contributions were made. Employee Contributions with interest may be repaid within 90 days of rehire to reinstate prior service. Accumulated leave time over 350 hours of annual leave and 520 hours of sick leave, is includable as part of Credited Service, if no payment is received for such time directly by the Member. Time spent in the military service while on leave of absence is included if the Member returns as a firefighter within 1 year of release from military service.

Per Ordinance 2016/016 adopted effective September 6, 2016, qualified military service is not only as provided in IRC Section 414(u) but also in accordance with the Uniformed Services Employment and Reemployment Rights Act of 1994 and the Heroes Earnings Assistance and Relief Tax Act of 2008.

A Member with an honorable discharge from prior military service may purchase up to four years of such prior military service to be used in the determination of the amount of benefits payable, but not towards eligibility for such benefits. Prior military service may be purchased at any time, but may not be credited until a Member has attained 16 years of Credited Service without inclusion of the prior military service purchase. Members who separate from service prior to attaining 16 years are refunded the amount paid for purchase without interest. Additionally, prior firefighter service for which no current or future retirement benefit is payable may be purchased according to the same rules applicable to the purchase of prior military service. The total aggregate number of prior military service years and prior service as a firefighter that may be purchased is four.

Vesting: 100% upon earning ten years of Credited Service.

Salary: Total cash remuneration paid to a firefighter for services rendered. Ordinance 2016/016 adopted effective September 6, 2016 amended the definition of Salary to indicate all overtime in excess of 300 hours are excluded and that all accrued unused sick or annual leave is excluded for purposes of determining Plan benefits. We understand that Salary should have included only up to 300 hours of overtime for service earned under collective bargaining agreements entered into on or after July 1, 2011. The Plan attorney indicated that the 300 hour limit on overtime should be applied as of the February 10, 2014 date the collective bargaining agreement was signed at BSO. For this reason the 300 hour limit was first applied, retroactively, to fiscal 2014. In addition, we understand no change has been made with respect to the inclusion of an equivalent payment for up to 350 hours accrued unused annual leave and up to 520 hours accrued unused sick leave in the determination of average final compensation used in the computation of the benefit payable under the Plan where accrued hours over these levels may be used to increase service used in the computation of the benefit payable.

Employee Contributions: 9.0% of Salary. A Member who terminates non-vested is entitled to refund of accumulated Employee Contributions without interest.

Vested Members who terminate employment prior to being eligible to receive an annuity may leave their accumulated contributions in the fund, and upon as early as age 47 begin commencement of the reduced Accrued Benefit, as defined under Early Retirement.

Average Final Compensation (AFC): Average of Salary for the three highest years of Credited Service. Effective December 2002, AFC is determined by inclusion of the three highest nonconsecutive and non-overlapping years of Salary consisting of 79 pay periods total.

All or a portion of accumulated leave, up to 350 hours of annual leave and 520 hours of sick leave, is includable as part of compensation during the highest three years of contributing service. Any firefighter who did not have 25 years of Credited Service as of December 31, 1994 may elect to receive actual payment for the annual leave or sick leave hours accumulated. If such an election is made, the annual leave or sick leave for which payment is received does not go toward the Credited Service or the Average Final Compensation determination, and no Employee Contributions are deducted for such payment.

Normal Retirement Date: First day of the month coincident with or next following the earlier of (1) completion of 20 years of Credited Service without regard to age, or (2) attainment of age 52 and completion of 10 years of Credited Service.

Normal Retirement Benefit: The Accrued Benefit.

Accrued Benefit: The Accrued Benefit is computed according to the following formula, limited to no more than 90% of Average Final Compensation:

$3.0\% \times \text{Average Final Compensation} \times \text{Credited Service up to 10}$

Plus

$3.25\% \times \text{Average Final Compensation} \times \text{Credited Service Over 10}$

This benefit is payable as a 10 year certain and continuous annuity.

Early Retirement Date: The first day of any month prior to the Normal Retirement Date after attainment of age 47 or the completion of 10 years of Credited Service.

Early Retirement Benefit: The Accrued Benefit reduced by 1% per year by which the commencement of benefits precedes the Normal Retirement Date.

Disability Benefit: The benefit payable to any Member who becomes totally and permanently disabled not in the line of duty after having earned 10 years of Credited Service prior to the Normal Retirement

Date is the greater of (1) the Accrued Benefit and (2) 25% of Average Final Compensation as of the disability retirement date, payable as a 10 year certain and continuous annuity commencing the first day of the month after the board of trustees determines such entitlement. Any portion due for a partial month is paid together with the first payment.

Members are not required to meet the 10 years of Credited Service requirement for Disability Benefits payable in the event of total and permanently disability in the line of duty. The line of duty Disability Benefit is the greater of (1) the Accrued Benefit and (2) 42% of Average Final Compensation as of the disability retirement date, payable as a 10 year certain and continuous annuity commencing the first day of the month next following the date of disability.

Disability Benefit payments cease at the earlier of (1) the payment due preceding recovery prior to Normal Retirement Date, (2) the payment due preceding the date of death or the 120th monthly payment, whichever is later, for death without recovery, or (3) the payment due preceding the Normal Retirement Date while still disabled. The Credited Service of a Member who recovers from disability and reenters the service of the City as a firefighter will be deemed to have been continuous, but the period beginning with the first month for which Disability Benefits were payable and ending with the date of reentry to service is not counted as Credited Service.

Death Benefits: The beneficiary of a Member who dies after completion of 10 years Credited Service is paid the Accrued Benefit commencing on the first day of the month following the date of death. This benefit is payable as a 10 year certain annuity, or on an actuarially equivalent basis.

Members who terminate non-vested due to death are entitled to a return of Employee Contributions with interest.

Optional Forms of Benefit: The Accrued Benefit described above is payable in the form of a 10 year certain and continuous annuity. Members may optionally choose an actuarially equivalent (1) joint and survivor option (with 50%, 75% or 100% continuance), (2) a period certain and life option with 5, 10 or 15 years certain, (3) a single life annuity, (4) a joint and last survivor option with (50%, 66 2/3%, 75%, or 100% continuance), or (5) such other amount and form of payment will best meet the circumstances of the Member.

Deferred Retirement Option Plan (DROP): Members are eligible to enter the DROP at the earlier of age 47 with at least 10 years of service and their Normal Retirement Date. DROP participants are not eligible for death or disability benefits. The Accrued Benefit is frozen and no further Employee Contributions are payable at DROP entry. Per Ordinance 2016/016 adopted effective September 6, 2016, two options are offered for the investment of DROP money: a self-directed option and a general trust fund option. The ordinance defines the specific allowable self-directed investments and the computation of the crediting rate under the general trust fund option. The Accrued Benefit is credited or debited according to the Member's self-directed investment option or using the net fund return (or a combination thereof).

The maximum DROP participation duration is determined based on Credited Service at DROP entry, as follows:

Credited Service	Maximum DROP Years
<28	5
<29	4
<30	3
30	2
>30	0

Election to participate in the DROP is forfeited if not exercised within the first 30 years of Credited Service.



Upon termination of employment, firefighters in the DROP receive the balance in the DROP account either as a lump sum, installment or annuity payments.

Variable Benefit: A uniform percentage increase no more than 4% in any one calendar year is granted to retirees and beneficiaries, where the cost of this benefit increase is financed solely from the investment return on fund assets greater than the investment return assumed for purposes of the actuarial valuation of the fund, limited by the total experience gained under the Plan as compared to all actuarial assumptions.

Share Account: Effective June 17, 2008, Ordinance No. 2008-017 was adopted establishing a Share Plan where revenues received from the State of Florida under Chapter 175 in excess of \$618,479 (the adjusted base amount) that are not specifically allocated to a different benefit enacted after that date are divided equally amongst Plan participants (excluding vested terminations) as of the first of the year for which the revenues were received.

Transfer of Fire Services to BSO: Effective October 1, 2011 the City transferred fire services to the Broward County Sheriff's Office (BSO) with the following effect on how the Plan operates:

- Members actively employed on October 1, 2011 chose whether to continue benefit accruals under this Plan or whether they instead chose to begin benefit accruals under the Florida Retirement System (FRS). All members of the fund opted to continue as members of this Plan. Active members continue to accrue benefits under the Plan in the way they would have had the transfer of services not occurred. Pensionable pay is that being paid by BSO effective October 1, 2011.
- Members in the Deferred Retirement Option Program (DROP) at the time of the transfer of services began to accrue services under FRS immediately. DROP members may choose to allow their monthly benefit to continue to be credited to their DROP account or to alternatively retire for purposes of the Plan and begin receipt of monthly benefits and their DROP balance.
- Members retired at the time of the transfer of services continue to be paid their monthly benefits and DROP balance, if any, in exactly the way benefits would have been paid had the transfer of services not occurred.

There are no future new entrants to the Plan effective October 1, 2011.

Actuarial Assumptions and Methods

Assumed Investment Return (Net of Expenses): 7.5% per year

Salary Increase – Individual: 11.0% per year up to 8 years, 5% each year thereafter. Salary in year of retirement is increased 30%.

Administrative Expenses: Prior year's actual administrative expense added to Normal Cost

Percentage Married at Retirement: 80% of active Members are assumed to be married at retirement.

Spouse Ages: Where spousal information was supplied, that information was used. Otherwise, wives are assumed to be three years younger than their husbands.

Mortality: In the prior valuation, the mortality table was that used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2015, as required by state statute. The mortality table has been revised to that used for special risk employees in the valuation of FRS as of July 1, 2016 and 2017, as required by state statute. While healthy post-retirement mortality and disabled mortality rates were unchanged, healthy pre-retirement was revised. The mortality rates are as follows:

Healthy mortality (Pre-retirement):

Males: 10% RP-00 Combined Healthy White Collar +
90% RP-00 Combined Healthy Blue Collar
Females: 100% RP-00 Combined Healthy White Collar
Both male and female rates fully generational using Scale BB

Healthy mortality (Post-retirement):

Males: 10% RP-00 Annuitant White Collar +
90% RP-00 Annuitant Blue Collar
Females: 100% RP-00 Annuitant White Collar
Both male and female rates fully generational using Scale BB

Disabled mortality:

Males: 60% RP-00 Disabled Retiree Set Back 4 Years +
40% RP-00 Annuitant White Collar
Females: 60% RP-00 Disabled Retiree Set Forward 2 Yrs +
40% RP-00 Annuitant White Collar

No mortality improvement is assumed for disabled lives.

Retirement: Members are assumed to retire at a rate of 100% upon retirement eligibility.

Termination: Unisex rates, as follows:

Age	Rate	Age	Rate	Age	Rate	Age	Rate
<=19	0.000	31	0.044	38	0.037	45	0.030
20-25	0.050	32	0.043	39	0.036	46	0.029
26	0.049	33	0.042	40	0.035	47	0.028
27	0.048	34	0.041	41	0.034	>=48	0.000
28	0.047	35	0.040	42	0.033		
29	0.046	36	0.039	43	0.032		
30	0.045	37	0.038	44	0.031		

Disability: Unisex rates, as follows:

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
<=15	0.0000	34	0.0022	43	0.0039	52	0.0120
16-21	0.0014	35	0.0023	44	0.0044	53	0.0131
22-25	0.0015	36	0.0024	45	0.0051	54	0.0143
26-27	0.0016	37	0.0025	46	0.0059	55	0.0155
28-29	0.0017	38	0.0026	47	0.0070	56	0.0168
30	0.0018	39	0.0028	48	0.0079	57	0.0181
31	0.0019	40	0.0030	49	0.0090	58	0.0195
32	0.0020	41	0.0032	50	0.0100	59	0.0209
33	0.0021	42	0.0035	51	0.0110	>=60	0.0000

On and Off Duty Disability and Death: 75% of disabilities are assumed to be in the line of duty.

Funding Method: Entry Age Normal (level percent of salary).

Actuarial Value of Assets: The market value of assets is adjusted to recognize gains and losses over a five-year period. The Actuarial Value of Assets shall not be more than 120% or less than 80% of the market value of assets.