



July 9, 2019

Pension Board
South Miami Pension Plan
c/o Ms. Edemir K. Estrada
Pension Administrator
Gabriel, Roeder, Smith & Company
One East Broward Blvd.
Suite 505
Fort Lauderdale, Florida 33301-1804

**Re: South Miami Pension Plan
October 1, 2018 Chapter 112.664 Compliance Report**

Dear Board Members:

As requested, we are pleased to enclose twelve (12) copies of the October 1, 2018 Chapter 112.664 Compliance Report for the South Miami Pension Plan (Plan).

As required, we will timely upload the required data to the State's online portal prior to the filing deadline.

Please note we understand the following items must be posted on the Plan's website and must be posted on any website containing budget information relating to the City or actuarial or performance information relating to the Plan:

- this compliance report
- most recent financial statement
- most recent actuarial valuation report
- a link to the Division of Retirement Actuarial Summary Fact Sheet
http://www.dms.myflorida.com/workforce_operations/retirement/local_retirement_plans/local_retirement_section/actuarial_summary_fact_sheets
- for the previous five years - a side-by-side comparison of the Plan's assumed rate of return compared to the actual rate of return as well as the percentages of cash, equity, bond and alternative investments in the Plan portfolio
- the Plan's funded ratio as determined in the most recent actuarial valuation – 110.3% on a market value of assets basis as of October 1, 2018

We appreciate the opportunity to work with the Board on this important assignment.

Pension Board
July 9, 2019
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If you should have any questions concerning the above, please do not hesitate to contact us.

Sincerest regards,



Jennifer M. Borregard, E.A.
Consultant and Actuary

Enclosures

South Miami Pension Plan

CHAPTER 112.664, F.S. COMPLIANCE REPORT

In Connection with the October 1, 2018 Funding Actuarial Valuation Report and the Plan's Financial Reporting for the Year Ended September 30, 2018





July 9, 2019

Pension Board
South Miami Pension Plan
c/o Ms. Edemir K. Estrada
Pension Administrator
Gabriel, Roeder, Smith & Company
One East Broward Blvd.
Suite 505
Fort Lauderdale, Florida 33301-1804

Re: October 1, 2018 Chapter 112.664 Compliance Report

Dear Board Members:

Gabriel, Roeder, Smith & Company (GRS) has been engaged by the Pension Board (Board) of the South Miami Pension Plan (Plan) to prepare a disclosure report to satisfy the requirements set forth in Chapter 112.664, F.S. and as further required pursuant to Chapter 60T-1.0035, F.A.C.

This report was prepared at the request of the Board and is intended for use by the Board and those designated or approved by the Board. This report may be provided to parties other than the Board only in its entirety and only with the permission of the Board.

The purpose of the report is to provide the required information specified in Chapter 112.664, F.S. and to supplement this information with additional exhibits. This report should not be relied on for any purpose other than the purpose described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in Plan provisions or applicable law. The scope of this engagement does not include an analysis of the potential range of such measurements.

This report was based upon information furnished by the City and the Board concerning Plan benefits, Plan provisions and Plan members as used in the corresponding Actuarial Valuation Reports for the Valuation Dates indicated. Financial information was provided by the City and Board as of September 30, 2018. We reviewed the information provided for internal and year-to-year consistency, but did not audit the data. The Plan is responsible for the accuracy of the data.

Except where specific assumptions are required by Chapter 112.664, F.S, this report was prepared using actuarial assumptions adopted by the Board as described in Section C. The Board's assumptions are based on the results of an Experience Study covering the period October 1, 2005 – May 31, 2013 along with past and expected future Plan experience. The mortality assumptions are prescribed by statute and were last updated in 2016. The assumptions represent an estimate of future Plan experience.

The investment return assumption of 2% higher than the investment return assumption utilized in the Actuarial Valuation Report does not represent an estimate of future Plan experience nor observation of the estimates inherent in market data. This assumption is provided as a counterpart to the Chapter 112.664, F.S. requirement to utilize an investment return assumption of 2% lower than the investment return assumption utilized in the Actuarial Valuation Report. The inclusion of the additional 2% higher assumption shows a more complete assessment of the range of potential results as opposed to the *one-sided* range required by statute.

If all actuarial assumptions are met and if all current and future minimum required contributions are paid Plan assets will be sufficient to pay all Plan benefits, future contributions are expected to remain relatively stable as a percent of payroll and the funded status is expected to approach 100%. Plan minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act and Police Officers Retirement Chapter 185 with normal cost determined as a level percent of covered payroll and a level percent of pay amortization payment using a maximum amortization period of 30 years.

The Plan's funded ratio as of October 1, 2018 is 110.3% defined as the ratio of the market value of Plan assets to the actuarial accrued liability.

The Plan's funded ratio and the GASB Net Pension Liability may not be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the Plan sponsor.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and presents the actuarial position of the Plan as of the valuation date as required by statute. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

With respect to the reporting standards for defined benefit retirement plans or systems contained in Section 112.664(1), F.S., the actuarial disclosures required under this section were prepared and completed by us or under our direct supervision and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate, and in our opinion, meet the requirements of Section 112.664(1), F.S., and Section 60T-1.0035, F.A.C.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY

By *Jennifer Borregard*

Jennifer M. Borregard, M.A.A.A.
Enrolled Actuary No. 17-07624
Consultant & Actuary

By *Michelle Jones*

Shelly L. Jones, M.A.A.A.
Enrolled Actuary No. 17-08646
Consultant & Actuary

Date: July 9, 2019

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SECTION A

CHAPTER 112.664, F.S. RESULTS

Net Pension Liability
Using Financial Reporting Assumptions per GASB Statements No. 67 and No. 68
and Using Assumptions Required Under 112.664(1)(a), F.S.

Measurement Date	September 30, 2018
A. <u>Total Pension Liability (TPL)</u>	
Service Cost	\$ 796,141
Interest	2,834,288
Benefit Changes	0
Difference Between Actual and Expected Experience	901,489
Assumption Changes	0
Benefit Payments	(1,462,029)
Contribution Refunds	(101,276)
Other	0
Net Change in Total Pension Liability	\$ 2,968,613
Total Pension Liability (TPL) - (beginning of year)	37,515,052
Total Pension Liability (TPL) - (end of year)	\$ 40,483,665
B. <u>Plan Fiduciary Net Position</u>	
Contributions - City	\$ 652,852
Contributions - State	37,780
Contributions - Member	536,473
Net Investment Income	3,984,542
Benefit Payments	(1,462,029)
Contribution Refunds	(101,276)
Administrative Expenses	(139,324)
Other	260,999
Net Change in Plan Fiduciary Net Position	\$ 3,770,017
Plan Fiduciary Net Position - (beginning of year)	39,449,361
Plan Fiduciary Net Position - (end of year)	\$ 43,219,378
C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u>	\$ (2,735,713)

Valuation Date October 1, 2017

Certain Key Assumptions

Investment Return Assumption 7.375%

Mortality Table:

General Employees including AMSC Mortality Assumptions: For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements. Police Officer Mortality Assumptions: For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table, with White Collar Adjustment and no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment, without projected mortality improvements.

Net Pension Liability
Using Assumptions Required Under 112.664(1)(b), F.S.

Measurement Date	September 30, 2018
A. <u>Total Pension Liability (TPL)</u>	
Service Cost	\$ 1,287,495
Interest	2,739,991
Benefit Changes	0
Difference Between Actual and Expected Experience	1,265,868
Assumption Changes	0
Benefit Payments	(1,462,029)
Contribution Refunds	(101,276)
Other	0
Net Change in Total Pension Liability	\$ 3,730,049
Total Pension Liability (TPL) - (beginning of year)	49,204,860
Total Pension Liability (TPL) - (end of year)	\$ 52,934,909
B. <u>Plan Fiduciary Net Position</u>	
Contributions - City	\$ 652,852
Contributions - State	37,780
Contributions - Member	536,473
Net Investment Income	3,984,542
Benefit Payments	(1,462,029)
Contribution Refunds	(101,276)
Administrative Expenses	(139,324)
Other	260,999
Net Change in Plan Fiduciary Net Position	\$ 3,770,017
Plan Fiduciary Net Position - (beginning of year)	39,449,361
Plan Fiduciary Net Position - (end of year)	\$ 43,219,378
C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u>	\$ 9,715,531
Valuation Date	October 1, 2017

Certain Key Assumptions

Investment Return Assumption 5.375%

Mortality Table:

General Employees including AMSC Mortality Assumptions: For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements. Police Officer Mortality Assumptions: For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table, with White Collar Adjustment and no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment, without projected mortality improvements.

Net Pension Liability

Using Assumptions Required Under 112.664(1)(a), F.S. Plus 2% on Investment Return Assumption

Measurement Date	September 30, 2018
A. <u>Total Pension Liability (TPL)</u>	
Service Cost	\$ 522,037
Interest	2,827,018
Benefit Changes	0
Difference Between Actual and Expected Experience	670,486
Assumption Changes	0
Benefit Payments	(1,462,029)
Contribution Refunds	(101,276)
Other	0
Net Change in Total Pension Liability	\$ 2,456,236
Total Pension Liability (TPL) - (beginning of year)	29,743,990
Total Pension Liability (TPL) - (end of year)	\$ 32,200,226
B. <u>Plan Fiduciary Net Position</u>	
Contributions - City	\$ 652,852
Contributions - State	37,780
Contributions - Member	536,473
Net Investment Income	3,984,542
Benefit Payments	(1,462,029)
Contribution Refunds	(101,276)
Administrative Expenses	(139,324)
Other	260,999
Net Change in Plan Fiduciary Net Position	\$ 3,770,017
Plan Fiduciary Net Position - (beginning of year)	39,449,361
Plan Fiduciary Net Position - (end of year)	\$ 43,219,378
C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u>	\$ (11,019,152)
Valuation Date	October 1, 2017

Certain Key Assumptions

Investment Return Assumption 9.375%

Mortality Table:

General Employees including AMSC Mortality Assumptions: For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements. Police Officer Mortality Assumptions: For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table, with White Collar Adjustment and no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment, without projected mortality improvements.

Asset and Benefit Payment Projection
Not Reflecting Any Future Contributions
Using Financial Reporting Assumptions per GASB Statements No. 67 and No. 68
and Using Assumptions Required Under 112.664(1)(a), F.S.

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2019	\$ 43,219,378	\$ 3,116,452	\$ 1,796,269	\$ 44,539,561
2020	44,539,561	3,208,262	1,936,807	45,811,016
2021	45,811,016	3,298,471	2,026,925	47,082,562
2022	47,082,562	3,386,707	2,167,143	48,302,126
2023	48,302,126	3,472,107	2,282,127	49,492,106
2024	49,492,106	3,554,546	2,416,800	50,629,852
2025	50,629,852	3,635,350	2,495,373	51,769,829
2026	51,769,829	3,714,225	2,626,928	52,857,126
2027	52,857,126	3,792,033	2,687,185	53,961,974
2028	53,961,974	3,871,890	2,728,304	55,105,560
2029	55,105,560	3,953,210	2,804,733	56,254,037
2030	56,254,037	4,034,823	2,882,860	57,406,000
2031	57,406,000	4,116,037	2,977,587	58,544,450
2032	58,544,450	4,197,363	3,044,277	59,697,536
2033	59,697,536	4,281,625	3,063,972	60,915,189
2034	60,915,189	4,370,616	3,084,470	62,201,335
2035	62,201,335	4,464,380	3,112,044	63,553,671
2036	63,553,671	4,564,483	3,102,734	65,015,420
2037	65,015,420	4,672,620	3,094,313	66,593,727
2038	66,593,727	4,789,864	3,072,940	68,310,651
2039	68,310,651	4,917,054	3,058,596	70,169,109
2040	70,169,109	5,054,203	3,056,390	72,166,922
2041	72,166,922	5,202,677	3,027,659	74,341,940
2042	74,341,940	5,363,138	3,026,303	76,678,775
2043	76,678,775	5,536,914	2,989,988	79,225,701
2044	79,225,701	5,726,265	2,951,653	82,000,313
2045	82,000,313	5,932,717	2,905,483	85,027,547
2046	85,027,547	6,158,018	2,853,789	88,331,776
2047	88,331,776	6,403,677	2,803,869	91,931,584
2048	91,931,584	6,671,691	2,739,896	95,863,379
2049	95,863,379	6,964,133	2,677,331	100,150,181
2050	100,150,181	7,283,138	2,605,117	104,828,202
2051	104,828,202	7,631,106	2,530,101	109,929,207
2052	109,929,207	8,010,526	2,448,596	115,491,137
2053	115,491,137	8,424,017	2,365,121	121,550,033
2054	121,550,033	8,874,399	2,275,560	128,148,872
2055	128,148,872	9,364,564	2,186,982	135,326,454
2056	135,326,454	9,897,807	2,088,373	143,135,888
2057	143,135,888	10,477,794	1,986,088	151,627,594

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 99.99

Certain Key Assumptions

Investment return assumption 7.375%

Mortality Table:

General Employees including AMSC Mortality Assumptions: For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements. Police Officer Mortality Assumptions: For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table, with White Collar Adjustment and no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment, without projected mortality improvements.

Note: As required in Section 112.664(c) of the Florida Statutes, the projection of Plan assets does not include contributions from the City, Members or State. For this reason, this projection should not be viewed as representative of the amount of time the Plan can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Plan is expected to be able to pay all future benefit payments.

Asset and Benefit Payment Projection
Not Reflecting Any Future Contributions
Using Assumptions Required Under 112.664(1)(b), F.S.

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2019	\$ 43,219,378	\$ 2,271,162	\$ 1,796,269	\$ 43,694,271
2020	43,694,271	2,292,629	1,936,807	44,050,093
2021	44,050,093	2,309,151	2,026,925	44,332,319
2022	44,332,319	2,320,271	2,167,143	44,485,447
2023	44,485,447	2,325,181	2,282,127	44,528,501
2024	44,528,501	2,323,606	2,416,800	44,435,307
2025	44,435,307	2,316,327	2,495,373	44,256,261
2026	44,256,261	2,302,904	2,626,928	43,932,237
2027	43,932,237	2,283,747	2,687,185	43,528,799
2028	43,528,799	2,260,875	2,728,304	43,061,370
2029	43,061,370	2,233,543	2,804,733	42,490,180
2030	42,490,180	2,200,585	2,882,860	41,807,905
2031	41,807,905	2,161,177	2,977,587	40,991,495
2032	40,991,495	2,115,369	3,044,277	40,062,587
2033	40,062,587	2,064,871	3,063,972	39,063,486
2034	39,063,486	2,010,578	3,084,470	37,989,594
2035	37,989,594	1,952,060	3,112,044	36,829,610
2036	36,829,610	1,889,979	3,102,734	35,616,855
2037	35,616,855	1,825,037	3,094,313	34,347,579
2038	34,347,579	1,757,431	3,072,940	33,032,070
2039	33,032,070	1,687,136	3,058,596	31,660,610
2040	31,660,610	1,613,484	3,056,390	30,217,704
2041	30,217,704	1,536,758	3,027,659	28,726,803
2042	28,726,803	1,456,661	3,026,303	27,157,161
2043	27,157,161	1,373,341	2,989,988	25,540,514
2044	25,540,514	1,287,554	2,951,653	23,876,415
2045	23,876,415	1,199,442	2,905,483	22,170,374
2046	22,170,374	1,109,235	2,853,789	20,425,820
2047	20,425,820	1,016,907	2,803,869	18,638,858
2048	18,638,858	922,706	2,739,896	16,821,668
2049	16,821,668	826,839	2,677,331	14,971,176
2050	14,971,176	729,460	2,605,117	13,095,519
2051	13,095,519	630,810	2,530,101	11,196,228
2052	11,196,228	531,078	2,448,596	9,278,710
2053	9,278,710	430,422	2,365,121	7,344,011
2054	7,344,011	329,019	2,275,560	5,397,470
2055	5,397,470	226,950	2,186,982	3,437,438
2056	3,437,438	124,446	2,088,373	1,473,511
2057	1,473,511	26,062	1,986,088	-

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 38.75

Certain Key Assumptions

Investment return assumption 5.375%

Mortality Table:

General Employees including AMSC Mortality Assumptions: For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements. Police Officer Mortality Assumptions: For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table, with White Collar Adjustment and no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment, without projected mortality improvements.

Note: As required in Section 112.664(c) of the Florida Statutes, the projection of Plan assets does not include contributions from the City, Members or State. For this reason, this projection should not be viewed as representative of the amount of time the Plan can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Plan is expected to be able to pay all future benefit payments.

Asset and Benefit Payment Projection
Not Reflecting Any Future Contributions
Using Assumptions Required Under 112.664(1)(a), F.S. Plus 2% on Investment Return Assumption

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2019	\$ 43,219,378	\$ 3,961,849	\$ 1,796,269	\$ 45,384,958
2020	45,384,958	4,157,833	1,936,807	47,605,984
2021	47,605,984	4,361,540	2,026,925	49,940,599
2022	49,940,599	4,573,387	2,167,143	52,346,843
2023	52,346,843	4,793,214	2,282,127	54,857,930
2024	54,857,930	5,021,883	2,416,800	57,463,013
2025	57,463,013	5,262,174	2,495,373	60,229,814
2026	60,229,814	5,514,972	2,626,928	63,117,858
2027	63,117,858	5,782,709	2,687,185	66,213,382
2028	66,213,382	6,070,854	2,728,304	69,555,932
2029	69,555,932	6,380,390	2,804,733	73,131,589
2030	73,131,589	6,711,695	2,882,860	76,960,424
2031	76,960,424	7,065,904	2,977,587	81,048,741
2032	81,048,741	7,445,843	3,044,277	85,450,307
2033	85,450,307	7,857,504	3,063,972	90,243,839
2034	90,243,839	8,305,871	3,084,470	95,465,240
2035	95,465,240	8,793,996	3,112,044	101,147,192
2036	101,147,192	9,327,145	3,102,734	107,371,603
2037	107,371,603	9,911,106	3,094,313	114,188,396
2038	114,188,396	10,551,251	3,072,940	121,666,707
2039	121,666,707	11,253,061	3,058,596	129,861,172
2040	129,861,172	12,021,402	3,056,390	138,826,184
2041	138,826,184	12,863,311	3,027,659	148,661,836
2042	148,661,836	13,785,471	3,026,303	159,421,004
2043	159,421,004	14,795,962	2,989,988	171,226,978
2044	171,226,978	15,904,692	2,951,653	184,180,017
2045	184,180,017	17,121,352	2,905,483	198,395,886
2046	198,395,886	18,456,679	2,853,789	213,998,776
2047	213,998,776	19,921,950	2,803,869	231,116,857
2048	231,116,857	21,529,975	2,739,896	249,906,936
2049	249,906,936	23,294,678	2,677,331	270,524,283
2050	270,524,283	25,231,171	2,605,117	293,150,337
2051	293,150,337	27,356,121	2,530,101	317,976,357
2052	317,976,357	29,687,643	2,448,596	345,215,404
2053	345,215,404	32,245,484	2,365,121	375,095,767
2054	375,095,767	35,051,254	2,275,560	407,871,461
2055	407,871,461	38,128,412	2,186,982	443,812,891
2056	443,812,891	41,502,860	2,088,373	483,227,378
2057	483,227,378	45,203,091	1,986,088	526,444,381

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 99.99

Certain Key Assumptions

Investment return assumption 9.375%

Mortality Table:

General Employees including AMSC Mortality Assumptions: For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements. Police Officer Mortality Assumptions: For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table, with White Collar Adjustment and no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment, without projected mortality improvements.

Note: As required in Section 112.664(c) of the Florida Statutes, the projection of Plan assets does not include contributions from the City, Members or State. For this reason, this projection should not be viewed as representative of the amount of time the Plan can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Plan is expected to be able to pay all future benefit payments.

ACTUARIALLY DETERMINED CONTRIBUTION

	Valuation and 112.664(1)(a), F.S. Assumptions	112.664(1)(b), F.S. Assumptions	112.664(1)(a), F.S. Assumptions Plus 2% on Investment Return Assumption
A. Valuation Date	October 1, 2018	October 1, 2018	October 1, 2018
B. Actuarial Determined Contribution to Be Paid During Fiscal Year Ending	September 30, 2020	September 30, 2020	September 30, 2020
C. Annual Payroll of Active Employees	\$ 6,675,196	\$ 6,675,196	\$ 6,675,196
D. Total Minimum Funding Requirement			
1. Total Normal Cost	\$ 981,888	\$ 1,499,284	\$ 693,141
2. Annual Payment to Amortize Unfunded Actuarial Liability	(193,875)	619,484	(949,587)
3. Interest Adjustment	28,696	55,946	(10,640)
4. Total Minimum Funding Requirement	\$ 816,709	\$ 2,174,714	\$ (267,086)
E. Minimum Required Contribution (F.S. 112.66 (13))	\$ 1,066,311	\$ 2,174,714	\$ 726,184
F. Expected Payroll of Active Employees for Following Plan Year (\$ / % of pay)	\$ 6,721,049 100.69%	\$ 6,721,049 100.69%	\$ 6,721,049 100.69%
G. Expected Contribution Sources (\$ / % of pay)			
1. City	\$ 597,995 8.90%	\$ 1,320,401 19.65%	\$ 255,054 3.79%
2. Member	439,175 6.53%	837,293 12.46%	439,175 6.53%
3. State	37,780 0.56%	37,780 0.56%	37,780 0.56%
4. Total	\$ 1,074,950 15.99%	\$ 2,195,474 32.67%	\$ 732,009 10.89%

Unfunded Actuarial Accrued Liabilities Bases and Amortization Payments

(General Employees Tier 1)

Amortization Base	Current Unfunded Liabilities	Amortization Payment			Remaining Funding Period
		Valuation and 112.664(1)(a), F.S. Assumptions	112.664(1)(b), F.S. Assumptions	112.664(1)(a), F.S. Assumptions Plus 2%	
10/01/2015 Combined Bases *	\$ (1,166,604)	\$ (117,886)	\$ (104,896)	\$ (131,296)	16 years
10/01/2016 Actuarial Loss / (Gain)	(413,545)	(35,269)	(30,132)	(40,618)	23 years
10/01/2016 Assumption Change	426,727	36,393	31,093	41,913	23 years
10/01/2017 Actuarial Loss / (Gain)	(280,976)	(23,571)	(20,035)	(27,256)	24 years
10/01/2018 Actuarial Loss / (Gain)	(1,290,160)	(106,612)	(90,164)	(123,756)	25 years
10/01/2018 Assumption Change - 112.664(1)(b), F.S. Assumptions	3,421,938	N/A	239,146	N/A	25 years
10/01/2018 Assumption Change - 112.664(1)(a), F.S. Assumptions Plus 2%	(2,374,331)	N/A	N/A	(227,753)	25 years

(General Employees Tier 2)

10/01/2017 Initial Base	\$ 61,121	\$ 5,213	\$ 4,453	\$ 6,003	23 years
10/01/2018 Actuarial Loss / (Gain)	19,733	1,631	1,379	1,893	25 years
10/01/2018 Assumption Change - 112.664(1)(b), F.S. Assumptions	169,379	N/A	11,837	N/A	25 years
10/01/2018 Assumption Change - 112.664(1)(a), F.S. Assumptions Plus 2%	(102,898)	N/A	N/A	(9,870)	25 years

(General Employees AMSC)

10/01/2017 Combined Bases *	\$ 187,758	\$ 16,013	\$ 13,681	\$ 18,441	23 years
10/01/2018 Actuarial Loss / (Gain)	487,112	40,252	34,042	46,725	25 years
10/01/2018 Assumption Change - 112.664(1)(b), F.S. Assumptions	576,687	N/A	40,302	N/A	25 years
10/01/2018 Assumption Change - 112.664(1)(a), F.S. Assumptions Plus 2%	(395,574)	N/A	N/A	(37,945)	25 years

(Police Officers)

10/01/2018 Combined Bases *	\$ (126,196)	\$ (10,039)	\$ (8,592)	\$ (11,559)	21 years
10/01/2018 Assumption Change - 112.664(1)(b), F.S. Assumptions	8,143,158	N/A	497,370	N/A	25 years
10/01/2018 Assumption Change - 112.664(1)(a), F.S. Assumptions Plus 2%	(5,294,337)	N/A	N/A	(454,509)	25 years

* Combined per Internal Revenue Code Regulation 1.412(b)-1

SECTION B

SUMMARY OF PLAN PROVISIONS

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

A. Effective Date:

October 1, 1965. Most recently amended by Ordinance 1-17-2271 adopted January 17, 2017.

B. Eligibility Requirements:

1. General Employees

Tier 1:

Regular full-time employee hired before October 1, 2011 is eligible to enter the Plan following the completion of six months of Credited Service and attainment of age 20.

Tier 2:

Regular full-time employee hired on or after October 1, 2011 and not participating in the Plan as of October 1, 2016 who elects to join or fails to make any election within ninety (90) days from effective date of Ordinance is eligible to enter the Plan as a Tier 2 employee as of the effective date of Ordinance.

Regular full-time employee hired on or after October 1, 2016 who elects to join or fails to make any election within ninety (90) days from date of hire is eligible to enter the Plan as a Tier 2 employee as of their date of hire.

2. Police Officers

Regular full-time Police Officer is eligible to enter the Plan as of date of employment.

3. Administration Management Service Class (AMSC)

Employees of the City with the following positions who do not elect to participate in a defined contribution Plan of the City:

- City Manager
- City Attorney
- City Clerk
- Assistant / Deputy City Manager
- Finance Director / Chief Financial Officer
- Chief of Police
- Planning and Zoning Director
- Building Director
- Director of Public Works
- Chief Administrative Officer (currently Finance Office Manager)
- Chief Procurement Officer (currently Purchasing Manager)
- Parks and Recreation Director

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

C. Credited Service:

1. General Employees and AMSC

Continuous employment. Credited service shall exclude continuous employment prior to Plan participation as follows: (1) If employed prior to October 1, 1973, credited service shall exclude the first two years of continuous employment and any additional year of continuous employment prior to attainment of age 25. (2) If employed on or after October 1, 1973, credited service shall exclude the first six (6) months of continuous employment and continuous employment prior to age 20.

Credited service for Tier 2 employees and AMSC will be continuous employment from the date of hire for all purposes except for benefit accruals which will be from the later of October 1, 2016 or date of hire.

2. Police Officers

Continuous employment. For Police Officers who did not participate when first eligible for the Plan, Credited Service shall exclude continuous employment prior to Plan participation as follows: (1) If employed prior to October 1, 1973, Credited Service shall exclude the first two years of continuous employment and any additional year of continuous employment prior to attainment of age 25. (2) If employed on or after October 1, 1973, Credited Service shall exclude the first six (6) months of continuous employment and continuous employment prior to age 20.

D. Final Monthly Compensation (FMC):

Final Average Compensation is 1/36th of the final 36 consecutive months of compensation. For Police Officers, not less than 1/5th of the highest five (5) years out of the last (10) ten years of compensation. Compensation shall mean regular wages and salaries, excluding bonuses, vacation, sick leave and other additional compensation.

Effective October 1, 2011, Final Average Compensation for General Employees is 1/60th of the final 60 consecutive months of basic compensation, provided it is not less than the Final Average Compensation as of September 30, 2011 based on the definition above. Basic compensation shall mean base wages and salaries, excluding commissions, overtime pay, bonuses and any other forms of additional compensation earned outside of base wages.

Effective October 1, 2011, Final Average Compensation for members covered under the Police Officers and Sergeants collective bargaining agreement is the best five (5) years of basic compensation, provided it is not less than the Final Average Compensation as of September 30, 2011 based on the definition above. Basic compensation shall mean base wages and salaries, including up to 300 hours of overtime in a fiscal year and excluding payments for accrued unused sick or annual leave, extra duty or special detail work, shift differential, assignment pay, bonuses and any other forms of additional compensation earned outside of base wages.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

D. **Final Monthly Compensation (FMC) (cont'd):**

Effective October 1, 2016, Final Average Compensation for members covered under the Miami-Dade County Police Benevolent Association Upper-Collective Bargaining Union (Lieutenants & Captains) collective bargaining agreement is the best five (5) years of basic compensation, provided it is not less than the Final Average Compensation as of September 30, 2016 based on the definition above. Basic compensation shall mean base wages and salaries, including up to 300 hours of overtime in a fiscal year and excluding payments for accrued unused sick or annual leave, extra duty or special detail work, shift differential, assignment pay, bonuses and any other forms of additional compensation earned outside of base wages.

Final Average Compensation for Tier 2 General Employees and AMSC shall be the average of the highest eight (8) years of credit service.

E. **Normal Retirement:**

1. **Eligibility:**

a. **General Employees:** Attainment of age 55 and completion of ten (10) years of Credited Service for benefits accrued as of September 30, 2011.

Attainment of age 60 and completion of ten (10) years of Credited Service for benefits accrued after September 30, 2011, including increases in the accrued benefit as of September 30, 2011 due to increases in the Final Average Compensation.

Attainment of age 65 and completion of ten (10) years of Credited Service or completion of thirty-three (33) years of Credited Service regardless of age for Tier 2 General Employees.

b. **Police Officers:** Attainment of age 60 and completion of ten (10) years of Credited Service or completion of twenty-five (25) years of Credited Service regardless of age.

c. **AMSC:** Attainment of age 65 and completion of three (3) years of Credited Service or completion of thirty-three (33) years of Credited Service regardless of age.

2. **Benefit:**

The monthly Plan benefit is the product of:

- a. FMC,
- b. Credited Service during the appropriate period and
- c. The appropriate benefit percentage

The appropriate benefit percentages are:

<u>a. General Employees</u>	<u>For Credited Service</u>	<u>Percentage</u>
	Through September 30, 1999	2.50%
	October 1, 1999 through September 30, 2011	2.75%
	October 1, 2011 and thereafter	2.25%

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

E. Normal Retirement (cont'd):

2. Benefit:

b. <u>Police Officers</u>	For Credited Service	Percentage
	Through September 30, 1995	2.00%
	October 1, 1995 through September 30, 1996	2.25%
	October 1, 1996 through September 30, 1997	2.50%
	October 1, 1997 through September 30, 2001	2.75%
	October 1, 2001 through September 30, 2002	2.80%
	October 1, 2002 through September 30, 2003	2.90%
	October 1, 2003 and thereafter	3.00%
c. <u>General Employees (Tier 2)</u>	For Credited Service	Percentage
	October 1, 2016 and thereafter	1.60%
d. <u>AMSC</u>	For Credited Service	Percentage
	October 1, 2016 and thereafter	3.00%

F. Supplemental Benefit:

A cost-of-living supplemental benefit based upon the consumer price index is provided upon retirement. The annual increase is limited to 3%.

For General Employees the cost-of-living supplemental benefit is only provided on the accrued benefit as of September 30, 2011 and does not apply to increases in this accrued benefit due to increases in the Final Average Compensation.

No cost-of-living supplemental benefit is provided for Tier 2 General Employees.

No cost-of-living supplemental benefit is provided for AMSC for benefit accruals on or after October 1, 2011.

G. Early Retirement:

1. Eligibility:

- a. Police Officers: Attainment of age 50 and completion of 15 years of Credited Service.
- b. AMSC: Attainment of age 55 and completion of 10 years of Credited Service.

2. Benefit:

- a. Police Officers: Accrued benefit based upon FMC and Credited Service as of Early Retirement Date, reduced 3% for each year that the benefit commencement date precedes Normal Retirement.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

G. Early Retirement (cont'd):

2. Benefit:

- b. AMSC: Accrued benefit based upon FMC and Credited Service as of Early Retirement Date, reduced 1/15 for each of the first five years and 1/30 for the next five years that the benefit commencement date precedes Normal Retirement.

H. Delayed Retirement:

1. Eligibility: Retirement subsequent to Normal Retirement Date.
2. Benefit: Accrued benefit based upon FMC and Credited Service as of Delayed Retirement Date.

I. Disability Retirement:

1. Eligibility: Totally and permanently disabled for a six month period while actively employed.
2. Benefit: Accrued benefit based upon FMC and Credited Service as of date of disability, actuarially reduced as for Early Retirement for early commencement.

J. Pre-Retirement Death Benefit:

The beneficiary shall receive the member's accumulated Employee Contributions.

K. Benefit Upon Termination of Service:

1. Benefit payable at Normal Retirement equal to the greater of:
 - a. Accrued benefit based upon FMC and Credited Service as of date of termination times the vesting percentage shown below, or
 - b. Benefit which can be supported by the accumulated Member Contributions with interest to Normal Retirement Date.

No supplemental benefit shall be payable to vested terminees.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

K. Benefit Upon Termination of Service (cont'd):

2. Vesting Schedule:

All employees except AMSC:

<u>Years of Credited Service</u>	<u>Vesting Percentage</u>
Less than 10	0%
10 or more years	100%

AMSC:

<u>Years of Credited Service</u>	<u>Vesting Percentage</u>
Less than 3	0%
3 or more years	100%

3. Refund Option:

A terminated member may elect to receive a refund of Accumulated Contributions without interest in lieu of receiving any other Plan benefits.

L. Member Contributions:

Members contribute 7.0% (3.0% for Tier 2 General Employees and 7.5% for Police Officers) of member's basic annual compensation.

Should the City contribution for General Employees be actuarially determined to exceed 7.0%, not including expenses, both the City and the General Employees (other than Tier 2 General Employees and AMSC) will share equally in the amount in excess of 7.0%. General Employees (other than Tier 2 General Employees and AMSC) Contributions are capped at 10% of basic annual compensation as of October 1, 2016.

Should the City contribution for Police Officers be actuarially determined to exceed 7.5%, not including expenses, both the City and the Police Officers will share equally in the amount in excess of 7.5% but not more than 12.0% for Police Lieutenants and Police Captains.

M. Normal Form of Retirement Income:

The normal form of payment shall be a life annuity with a guarantee of a refund of accumulated Employee Contributions.

N. Changes Since Previous Actuarial Valuation:

None.

SECTION C

ACTUARIAL ASSUMPTIONS AND COST METHODS USED FOR FUNDING

Actuarial Assumptions and Methods Used in the Valuation
(as of October 1, 2018)

A. Mortality

General Employees including AMSC Mortality Assumptions:

For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.

Sample Ages (2018)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	30.53	33.57	30.10
60	25.60	28.54	25.44	28.44
62	23.70	26.58	23.60	26.52

Sample Ages (2038)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.67	35.41	32.26
60	27.78	30.38	27.63	30.30
62	25.87	28.40	25.78	28.35

Actuarial Assumptions and Methods Used in the Valuation
(as of October 1, 2018)

A. Mortality (cont'd)

Police Officer Mortality Assumptions:

For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table, with White Collar Adjustment and no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment, without projected mortality improvements.

Sample Ages (2018)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	29.84	32.60	29.33
60	24.96	27.56	24.76	27.41
62	23.09	25.59	22.97	25.49

Sample Ages (2038)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.06	34.54	31.57
60	27.21	29.49	27.03	29.36
62	25.34	27.51	25.23	27.42

Actuarial Assumptions and Methods Used in the Valuation
(as of October 1, 2018)

B. Investment Return to be Earned by Fund

7.375% (net of investment expenses), compounded annually - includes inflation at 2.75%.

C. Allowances for Expenses or Contingencies

Actual expenses paid in previous year.

D. Employee Withdrawal Rates

Withdrawal rates for males and for females were used in accordance with the following illustrative example based upon number of years of service:

<u>Service</u>	<u>Withdrawal Rates</u>	
	<u>Per 100 Employees</u>	
	<u>Police</u>	<u>General / AMSC</u>
1 - 2	12.00	20.00
3 - 6	8.00	9.25
7 - 10	8.00	5.00
11 & Over	3.50	5.00

E. Disability Rates

1985 Disability Study, Class 1 with separate rates for females was used.

F. Marital Assumptions

100% of active members are assumed to be married. Where applicable, females are assumed to be three years younger than their male spouses.

G. Salary Increase Factors

Current salary is assumed to increase in accordance with the following table based upon number of years of service - includes wage inflation of 3.25%.

<u>Service</u>	<u>Police</u>	<u>General / AMSC</u>
0 - 9	5.25%	5.25%
10 - 14	3.75%	4.75%
15 - 19	3.75%	4.25%
20 & over	3.75%	3.75%

Actuarial Assumptions and Methods Used in the Valuation
(as of October 1, 2018)

H. Increase in Covered Payroll

4.0% per year, limited to average annual increase over most recent ten years (-0.7%) but not less than 0.0% for Police Officers. No increase in covered payroll is assumed for General Employees including AMSC.

I. Retirement Rates

Rates of Early Retirement for Police Officers were used in accordance with the following table.

Years Preceding	
<u>Normal Retirement</u>	<u>Police</u>
1 - 6	5%
7 - 10	10%

Rates of Normal Retirement were used in accordance with the following tables.

<u>Age</u>	<u>Police</u>	<u>General & AMSC*</u>
55 - 59	N/A	10%
60 - 61	25%	10%
62 - 64	40%	25%
65 - 66	100%	25%
67 & above	100%	100%

<u>Service</u>	<u>Police</u>
25 years	100%

* Includes Early Retirement for AMSC Employees. Rates are 25% for Tier 2 and AMSC members for each year upon meeting 33 years of service until 100% at age 67.

General Employees who retire prior to age sixty (60) but after attainment of ten (10) years of Credited Service (55 & 10) are assumed to receive an actuarially reduced benefit payable immediately upon retirement.

J. Cost of Living Increases

Future cost of living increases for General Employees (other than Tier 2 General Employees) and Police Officers are assumed to be 3.0% per annum.

K. Valuation of Assets

The method used for determining the actuarial value of assets phases in the deviation between the expected and actual return on assets at the rate of 20% per year. The actuarial value of assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the fair market value of Plan assets and whose upper limit is 120% of the fair market value of Plan assets.

Actuarial Assumptions and Methods Used in the Valuation
(as of October 1, 2018)

L. Cost Methods

Normal Retirement, Termination, Disability and Pre-Retirement Death Benefit:
Entry-Age-Actuarial Cost Method

Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his date of hire to his retirement age to fund his estimated benefits, assuming the Plan had always been in effect. The normal cost for the Plan is the sum of the individual normal costs for all active employees. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the Plan is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the actuarial value of assets of the Plan.

M. Changes Since Previous Actuarial Valuation

None.

SECTION D

GLOSSARY

GLOSSARY

<i>Actuarial Accrued Liability</i>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<i>Actuarial Assumptions</i>	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members and other items.
<i>Actuarial Cost Method</i>	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.
<i>Actuarial Equivalent</i>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<i>Actuarial Present Value</i>	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
<i>Actuarial Present Value of Future Benefits</i>	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
<i>Actuarial Valuation</i>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67.
<i>Actuarial Value of Assets</i>	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution.

<i>Amortization Method</i>	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
<i>Amortization Payment</i>	That portion of the plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
<i>Amortization Period</i>	The period used in calculating the Amortization Payment.
<i>Annual Required Contribution</i>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The annual required contribution consists of the Employer Normal Cost and Amortization Payment plus interest adjustment.
<i>Closed Amortization Period</i>	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
<i>Employer Normal Cost</i>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<i>Equivalent Single Amortization Period</i>	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
<i>Experience Gain/Loss</i>	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. Losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
<i>Funded Ratio</i>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.

<i>GASB</i>	Governmental Accounting Standards Board.
<i>GASB No. 67 and GASB No. 68</i>	These are the governmental accounting standards that set the accounting rules for public retirement plans and the employers that sponsor or contribute to them. Statement No. 67 sets the accounting rules for the plans themselves, while Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement plans.
<i>Normal Cost</i>	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
<i>Open Amortization Period</i>	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
<i>Unfunded Actuarial Accrued Liability</i>	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
<i>Valuation Date</i>	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.