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June 7, 2016

Mr. Jose del Risco
Assistant Director
Department of Human Services
City of Miami Beach
1700 Convention Center Drive
Miami Beach, Florida 33139

Re: City Pension Fund for Firefighters and Police Officers in the City of Miami Beach
Proposed Collective Bargaining Agreements

Dear Jose:

As requested, we are pleased to enclose three (3) copies of an Actuarial Impact Statement as of October 1, 2015 for filing proposed changes due to the proposed collective bargaining agreements under the City Pension Fund for Firefighters and Police Officers in the City of Miami Beach (Fund) with the State of Florida.

Proposed Changes – We understand the proposed collective bargaining agreements will provide:

- Salary cost of living adjustments (COLA) will be 1% effective April 1, 2016, 3% effective July 1, 2017 and 3% effective July 1, 2018.
- Effective October 1, 2016 for Firefighter members with ranks of Firefighter, Lieutenant or Captain a five percent (5%) of base pay differential will be provided for Marine duties. However the Marine pay differential cannot be combined with Special Operations pay differential.
- Effective October 1, 2016 for Firefighter members with ranks of Firefighter, Lieutenant or Captain a five percent (5%) of base pay differential will be provided for Special Operations duties. However the Special Operations pay differential cannot be combined with Marine pay differential.
- Effective October 1, 2016 for Firefighter members with ranks of Firefighter, Lieutenant or Captain, rescue out of class pay will increase from $2 to $3 per hour.
- Effective June 1, 2016 FLSA minimum overtime provisions for sick leave usage only. All sick leave hours used must be made up with straight time instead of time and one half.
- Effective October 1, 2015 for Firefighter members with ranks of Firefighter, Lieutenant or Captain, six (6) additional hours of holiday pay are provided for each holiday.

ATTACHMENT # 2

- Effective June 1, 2016 for Police Officer members with ranks of Police Officer, Lieutenant or Sergeant, FTO pay is increased to five percent (5%) of base pay. This cannot be combined with training unit pay.
- Effective June 1, 2016 for Police Officer members with ranks of Police Officer, Lieutenant or Sergeant, a five percent (5%) of base pay differential will be provided for training unit assignment. This cannot be combined with FTO pay.
- Effective October 1, 2015 for Firefighter members with ranks of Firefighter, Lieutenant or Captain, $500 paramedic bonus is changed from being paid biennially to annually.
- Effective October 1, 2015 for Firefighter members with ranks of Firefighter, Lieutenant or Captain, clothing allowance if increased from $50 to $85 monthly.
- Effective October 1, 2016 a five percent (5%) of base pay differential will be provided for Drug Recognition Experts and Arson Investigators and a 2.5% of base pay differential will be provided for Arson Investigator Trainees.

Results – Based upon the results of our Actuarial Impact Statement, the proposed Collective Bargaining Agreements along with the Proposed Ordinance (see Actuarial Impact Statement dated June 7, 2016) decreases the first year annual City contribution by **$1,117,986** (1.8% / 1.6%). The figures in parentheses are the Fund cost expressed as a percentage of projected covered annual payroll including DROP payroll ($60,477,959) and projected covered annual payroll excluding DROP payroll ($69,222,673), respectively as of October 1, 2015.

Filing Requirements – We have prepared the Actuarial Impact Statement for filing with the State of Florida. Please note that this Statement must be signed and dated on behalf of the Board of Trustees. Copies of the Ordinance upon passage at first reading along with the signed and dated Actuarial Impact Statement are generally required to be filed with the State at the following addresses:

Mr. Douglas E. Beckendorf, A.S.A.
Bureau of Local Retirement Services
Division of Retirement
Building 8
Post Office Box 9000
Tallahassee, Florida 32315-9000

Ms. Sarah Carr
Office of Municipal Police Officers'
& Firefighters' Pension Fund
Building 8
Post Office Box 3010
Tallahassee, Florida 32315-3010

We understand the State requires funding no later than the fiscal year next following the effective date of the increases in costs resulting from the Ordinance.

Actuarial Assumptions and Methods, Fund Provisions, Financial Data, Member Census Data
The financial data utilized in the preparation of this Actuarial Impact Statement is the same financial data utilized for the October 1, 2015 Actuarial Valuation.

The Fund provisions employed for purposes of our Actuarial Impact Statement are the same Fund provisions utilized for the Actuarial Impact Statement dated June 7, 2016 for the Proposed

Ordinance changes. (See attached Outline of Principal Provisions of the Pension Fund section of this Actuarial Impact Statement for details.)

The actuarial assumptions and methods and member census data utilized in the preparation of this Actuarial Impact Statement are the same actuarial assumptions and methods and member census data utilized for the Actuarial Impact Statement dated June 7, 2016 for Proposed Ordinance changes modified as follows:

- Salary changes based on the proposed collective bargaining agreements were provided by the City including estimated impact on pensionable pay. Adjustments were made to the census data to reflect these changes.
- The COLA portion of the salary increases were adjusted based on the proposed collective bargaining agreements. (See attached actuarial assumptions and methods section of this Actuarial Impact Statement for details.)

This Actuarial Impact Statement is intended to describe the estimated future financial effects of the proposed benefit changes on the Fund, and is not intended as a recommendation in favor of the benefit changes or in opposition of the benefit changes.

If all actuarial assumptions are met and if all future minimum required contributions are paid, Fund assets will be sufficient to pay all Fund benefits. Fund minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act, Firefighters Retirement Chapter 175 and Police Officers Retirement Chapter 185with normal cost determined as a level percent of covered payroll and a level percent amortization payment using an initial closed amortization period of 30 years.

The Unfunded Actuarial Accrued Liability (UAAL) may not be appropriate for assessing the sufficiency of Fund 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 UAAL Ratio would be different if they reflected the market value of assets rather than the smoothed actuarial value of assets.

These calculations are based upon assumptions regarding future events. However, the Fund's long term costs will be determined by actual future events, which may differ materially from the assumptions made. These calculations are also based upon present and proposed Fund provisions that are outlined or referenced in this Actuarial Impact Statement.

If you have reason to believe the assumptions used are unreasonable, the Fund provisions are incorrectly described or referenced, important Fund provisions relevant to this Actuarial Impact Statement are not described or that conditions have changed since the calculations were made, you should contact the undersigned prior to relying on information in this Actuarial Impact Statement.

If you have reason to believe that the information provided in this Actuarial Impact Statement is inaccurate, or is in any way incomplete, or if you need further information in order to make an

informed decision on the subject matter of this report, please contact the undersigned prior to making such decision.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Fund 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); and changes in Fund provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

This Actuarial Impact Statement should not be relied on for any purpose other than the purpose described in the primary communication. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

This Actuarial Impact Statement 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 fairly presents the actuarial position of the Fund as of the Actuarial Impact Statement date. 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.

This Actuarial Impact Statement may be provided to parties other than the City or Board only in its entirety and only with the permission of an approved representative of the City or Board.

The signing actuaries are independent of the Fund sponsor.

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 opinion contained herein.

If you should have any question concerning the above or if we may be of further assistance with this matter, please do not hesitate to contact us.

Sincerest regards,

L. F. Wilson

Lawrence F. Wilson, A.S.A.
Senior Consultant and Actuary

Kelly L. Adams

Kelly L. Adams, A.S.A.
Consultant and Actuary

Enclosures

cc: Ms. Donna Brito

City Pension Fund for Firefighters and Police Officers in the City of Miami Beach

Actuarial Impact Statement as of October 1, 2015

A. Description of Proposed Changes Due to Collective Bargaining Agreements

Salary cost of living adjustments (COLA) will be 1% on April 1, 2016, 3% on July 1, 2017 and 3% on July 1, 2018.

Effective October 1, 2016 for Firefighter members with ranks of Firefighter, Lieutenant or Captain a five percent (5%) of base pay differential will be provided for Marine duties. However the Marine pay differential cannot be combined with Special Operations pay differential.

Effective October 1, 2016 for Firefighter members with ranks of Firefighter, Lieutenant or Captain a five percent (5%) of base pay differential will be provided for Special Operations duties. However the Special Operations pay differential cannot be combined with Marine pay differential.

Effective October 1, 2016 for Firefighter members with ranks of Firefighter, Lieutenant or Captain, rescue out of class pay will increase from $2 to $3 per hour.

Effective June 1, 2016 FLSA minimum overtime provisions for sick leave usage only. All sick leave hours used must be made up with straight time instead of time and one half.

Effective October 1, 2015 for Firefighter members with ranks of Firefighter, Lieutenant or Captain, six (6) additional hours of holiday pay are provided for each holiday.

Effective June 1, 2016 for Police Officer members with ranks of Police Officer, Lieutenant or Sergeant, FTO pay is increased to five percent (5%) of base pay. This cannot be combined with training unit pay.

Effective June 1, 2016 for Police Officer members with ranks of Police Officer, Lieutenant or Sergeant, a five percent (5%) of base pay differential will be provided for training unit assignment. This cannot be combined with FTO pay.

Effective October 1, 2015 for Firefighter members with ranks of Firefighter, Lieutenant or Captain, $500 paramedic bonus is changed from being paid biennially to annually.

Effective October 1, 2015 for Firefighter members with ranks of Firefighter, Lieutenant or Captain, clothing allowance if increased from $50 to $85 monthly.

Effective October 1, 2016 a five percent (5%) of base pay differential will be provided for Drug Recognition Experts and Arson Investigators and a 2.5% of base pay differential will be provided for Arson Investigator Trainees.
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B. An estimate of the cost of implementing these proposed changes due to collective bargaining.

C. In my opinion, the proposed changes are in compliance with Part VII, Chapter 112, Florida Statutes and Section 14, Article X of the State Constitution.

_____

Chairman, Retirement Committee

_____

Date

City Pension Fund for Firefighters and Police Officers
in the City of Miami Beach

Actuarial Impact Statement as of October 1, 2015

All Members

	Actuarial Valuation	Proposed Ordinance	Bargaining Agreement
A. Participant Data			
1. Active participants	508	508	508
2. Retired participants and beneficiaries receiving benefits (including DROPs)	668	668	668
3. Disabled participants receiving benefits	56	56	56
4. Terminated vested participants	20	20	20
5. Annual Pensionable Payroll	$ 59,124,134	$ 59,124,134	$ 58,545,943
6. Projected Annual Pensionable Payroll	$ 61,075,230	$ 61,075,230	$ 60,477,959
7. Annual benefits payable to those currently receiving benefits (including DROPs)	$ 60,900,968	$ 60,900,968	$ 60,900,968
B. Assets			
1. Smoothed actuarial value	$ 759,327,614	$ 759,327,614	$ 759,327,614
2. Market value	$ 750,617,498	$ 750,617,498	$ 750,617,498
C. Liabilities			
1. Actuarial present value of future expected benefit payments for active members			
a. Retirement benefits	$ 359,044,505	$ 348,160,408	$ 347,402,867
b. Vesting benefits	13,336,011	13,336,011	13,378,921
c. Death benefits	5,631,619	5,631,618	5,632,243
d. Disability benefits	29,599,417	29,599,417	29,570,850
e. Total	$ 407,611,552	$ 396,727,454	$ 395,984,881
2. Actuarial present value of future expected benefit payments for terminated vested members	$ 4,183,372	$ 4,183,372	$ 4,183,372
3. Actuarial present value of future expected benefit payments for those currently receiving benefits			
a. Service retired (includes DROPs)	$ 740,928,052	$ 739,196,095	$ 739,196,095
b. Beneficiaries	38,521,088	38,521,088	38,521,088
c. Disability retired	42,956,281	42,956,281	42,956,281
d. Total	$ 822,405,421	$ 820,673,464	$ 820,673,464
4. Total actuarial present value of future expected benefit payments	$ 1,234,200,345	$ 1,221,584,290	$ 1,220,841,717
5. Actuarial accrued liabilities (EAN)	$1,058,484,242	$1,049,789,147	$ 1,050,154,648
6. Unfunded actuarial accrued liability (EAN)	$ 299,156,628	$ 290,461,533	$ 290,827,034

City Pension Fund for Firefighters and Police Officers in the City of Miami Beach

Actuarial Impact Statement as of October 1, 2015

All Members

	Actuarial Valuation	Proposed Ordinance	Bargaining Agreement
D. Statement of Accumulated Plan Benefits			
1. Actuarial present value of accumulated vested benefits			
a. Participants currently receiving benefits (including DROPs)	$ 822,405,421	$ 820,673,464	$ 820,673,464
b. Other participants	171,086,910	170,106,822	170,106,822
c. Total	$ 993,492,331	$ 990,780,286	$ 990,780,286
2. Actuarial present value of accumulated non-vested plan benefits	9,431,784	5,657,726	5,657,726
3. Total actuarial present value of accumulated plan benefits	$ 1,002,924,115	$ 996,438,012	$ 996,438,012
E. Pension Cost			
1. Total normal cost	$ 18,581,095	$ 18,163,913	$ 17,931,596
2. Payment required to amortize unfunded liability	21,205,832	20,697,603	20,718,967
3. Interest	224,475	224,475	222,287
4. Expected service buyback	162,591	162,591	161,001
5. Total required contributions	$ 40,173,993	$ 39,248,582	$ 39,033,851
6. Item 5 as a percentage of projected pensionable payroll	65.8%	64.3%	64.5%
7. Estimated employee contributions	$ 6,131,868	$ 6,131,868	$ 6,072,088
8. Item 7 as a percentage of projected pensionable payroll	10.0%	10.0%	10.0%
9. Estimated State contributions	$ 120,549	$ 120,549	$ 120,549
10. Item 9 as a percentage of projected pensionable payroll	0.2%	0.2%	0.2%
11. Net amount payable by City	$ 35,247,317	$ 34,291,368	$ 34,129,331
12. Item 11 as a percentage of projected pensionable payroll	57.7%	56.1%	56.4%

City Pension Fund for Firefighters and Police Officers in the City of Miami Beach

Actuarial Impact Statement as of October 1, 2015

All Members

	Actuarial Valuation	Proposed Ordinance	Bargaining Agreement
F. Disclosure of Following Items:			
1. Actuarial present value of future salaries excluding DROP payroll - attained age	$ 590,869,479	$ 590,869,479	$ 588,001,202
2. Actuarial present value of future employee contributions - attained age	$ 59,437,078	$ 59,437,078	$ 59,151,994
3. Actuarial present value of future contributions from other sources	N/A	N/A	N/A
4. Amount of active members' accumulated contributions	$ 52,418,404	$ 52,418,404	$ 52,418,404
5. Actuarial present value of future salaries and future benefits at entry age	N/A	N/A	N/A
6. Actuarial present value of future employee contributions at entry age	N/A	N/A	N/A

G. Amortization of Unfunded Actuarial Accrued Liability

	Unfunded Actuarial Accrued Liabilities	Unfunded Liability	Amortization Payment	Remaining Funding Period
10/01/2001	Initial Unfunded Liability	$ 11,891,501	$ 1,009,954	16 years
10/01/2002	Method Change	13,521,452	1,101,783	17 years
10/01/2003	Fund Amendment	1,166,830	91,522	18 years
10/01/2003	Actuarial (Gain) / Loss	35,130,772	2,755,541	18 years
10/01/2004	Actuarial (Gain) / Loss	37,698,503	2,854,733	19 years
10/01/2005	Method Change	(33,438,069)	(2,450,998)	20 years
10/01/2005	Assumption Change	6,725,744	492,995	20 years
10/01/2005	Actuarial (Gain) / Loss	24,976,118	1,830,740	20 years
10/01/2006	Method Change	(5,025,599)	(357,414)	21 years
10/01/2006	Actuarial (Gain) / Loss	21,754,805	1,547,171	21 years
10/01/2007	Actuarial (Gain) / Loss	25,345,330	1,752,599	22 years
10/01/2008	Assumption Change	6,032,797	406,385	23 years
10/01/2008	Actuarial (Gain) / Loss	33,297,680	2,243,017	23 years
10/01/2009	Assumption Change	23,664,844	1,555,652	24 years
10/01/2009	Actuarial (Gain) / Loss	68,108,317	4,477,226	24 years
10/01/2010	Assumption Change	4,576,885	294,075	25 years
10/01/2010	Actuarial (Gain) / Loss	17,295,879	1,111,300	25 years
10/01/2011	Fund Amendment	(3,101,976)	(195,091)	26 years
10/01/2011	Assumption Change	17,130,724	1,077,395	26 years
10/01/2011	Actuarial (Gain) / Loss	30,472,366	1,916,485	26 years
10/01/2012	Assumption Change	7,806,919	481,247	27 years
10/01/2012	Actuarial (Gain) / Loss	26,284,914	1,620,298	27 years
10/01/2012	Plan Amendment	(20,089,474)	(1,238,388)	27 years
10/01/2013	Actuarial (Gain) / Loss	1,555,268	94,084	28 years
10/01/2013	Method Change	(64,520,385)	(3,903,068)	28 years
10/01/2014	Actuarial (Gain) / Loss	(5,946,443)	(353,409)	29 years
10/01/2014	Assumption Change	5,748,022	341,617	29 years
10/01/2015	Actuarial (Gain) / Loss	8,645,019	505,302	30 years
10/01/2015	Assumption Change	2,447,885	143,079	30 years
10/01/2016	Proposed Ordinance	(8,695,095)	(508,229)	30 years
10/01/2015	Bargaining Agreements	365,501	21,364	30 years
TOTAL		$ 290,827,034	$ 20,718,967	

This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the Plan and/or paid from the Plan's assets for which liabilities or current costs have not been established or otherwise taken into account for in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.

Enrollment Number: 14-02802
Dated: June 7, 2016

L. F. Wilson

Lawrence F. Wilson, A.S.A.

City Pension Fund for Firefighters and Police Officers in the City of Miami Beach

Outline of Principal Provisions of the Pension Fund

A. Relevant Provisions:

The Fund was created under Chapter 23414, Laws of Florida, Special Act of 1945, as amended by Ordinance No. 2015-3970 adopted October 14, 2015.

B. Eligibility Requirements:

Any full-time employee of the City who is certified as a Firefighter or Police Officer as a condition of employment.

C. Membership Tiers:

Tier 1 - Members hired prior to July 14, 2010
Tier 2 - Members hired on or after July 14, 2010 but prior to September 30, 2013
Tier 3 - Members hired on or after September 30, 2013 but prior to the date of ratification of current collective bargaining agreement
Tier 4 - Members hired on or after the date of ratification of current collective bargaining agreement

D. Credited Service:

All periods of employment as an Employee for which contributions have been made to the Fund together with all service in the uniformed services of the United States required to be included.

E. Pre-Employment Service:

Effective September 30, 2013 members with at least 5 years of service may contribute an additional amount of 10.0% for those hired prior to September 30, 2013 and 10.5% for those hired on or after September 30, 2013 to receive credit for pre-employment military service. A member may purchase up to 2 total years of additional service credit at the 3% accrual rate for time spent on active military duty. The total of all combinations of pre-employment benefit purchased cannot exceed a 12% increase in accrual.

Pre-employment benefit service must be purchased within 36 months following September 30, 2013, or upon completion of 5 years of creditable pension service under the pension fund, whichever occurs later.

Effective September 30, 2013, members will no longer be able to purchase an increase in benefit multiplier or pre-employee public safety service credit as a Police Officer or Firefighter.

Outline of Principal Provisions of the Pension Fund

F. Pensionable Pay:

Salary is defined as base pay, longevity pay, overtime, shift differential and extra compensation allowance such as uniform allowance and any pays which are negotiated as pensionable. Effective July 14, 2010, off-duty pay is pensionable for any member who is eligible for overtime and receives off-duty compensation through the City. Effective September 30, 2013, overtime is limited to 300 hours a year.

1. Overtime and Off-Duty pay included in pension computation for Police Officers:

   - Off-Duty and overtime pay not exceeding 300 hours per calendar year is limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at time of retirement.

   - The 11% limitation shall not apply to any member who holds the rank of sergeant or lieutenant on September 30, 2013, or any Police Officer promoted to the rank of sergeant prior to the date the 2013 Certified Police Sergeant Promotional Register expired in 2015. For these members, the inclusion of overtime and / or off duty in the member's salary shall be limited in each year to an amount which is equal to 70% of the difference between the member's annualized pay rate at retirement and the highest annualized pay rate for the next higher salary rank. For any of these members who self-demote their benefit will not exceed eleven percent (11%) of the highest annualized pay rate for the same salary rank the member is in at the time of retirement; and overtime, off-duty or any other compensation will not be applied to produce a benefit that exceeds the eleven percent (11%) limitation.

2. Overtime and Off-Duty pay included in pension computation for Firefighters:

   - Off-Duty and overtime pay not exceeding 300 hours per calendar year is limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at time of retirement.

G. Final Average Monthly Earnings (FAME):

Tier 1 and eligible to retire prior to September 30, 2015 - the greater of the average of the 2 highest paid years prior to date of retirement or the 2 last paid years after taking into consideration the overtime limit.

Tier 1 and eligible to retire on or after September 30, 2015 - the greater of the average of the 3 highest paid years prior to date of retirement or the 3 last paid years after taking into consideration the overtime limit.

Tier 2 - the greater of the average of the 3 highest paid years prior to date of retirement or the 3 last paid years after taking into consideration the overtime limit.

Tier 3 - the greater of the average of the 5 highest paid years prior to date of retirement or the 5 last paid years after taking into consideration the overtime limit.

Tier 4 - the average of the 5 highest paid years prior to date of retirement taking into consideration the overtime limit.

H. Normal Retirement:

1. Eligibility:

Tier 1 and eligible to retire prior to September 30, 2013 - the earlier of attainment of age 50 or Rule of 70

Tier 1 and eligible to retire on or after September 30, 2013 - the earlier of attainment of age 50 or Rule of 70 (must attain age 47)

Tier 2 and Tier 3 - the earlier of attainment of age 50 or Rule of 70 (must attain age 48)

Tier 4 - the earlier of attainment of age 52 or Rule of 70 (must attain age 48)

2. Benefit:

Tier 1 and eligible to retire prior to September 30, 2013:
3% x FAME x Credited Service up to 15 years plus 4% x Credited Service after 15 years
Benefit shall not exceed 90% of FAME.

Tier 1 and eligible to retire on or after September 30, 2013 but prior to September 30, 2015:
3% x FAME x Credited Service up to 20 years plus 4% x Credited Service after 20 years
Benefit shall not exceed 85% of FAME (exception if exceeded 85% as of September 30, 2013).

Tier 1 and eligible to retire on or after September 30, 2015, Tier 2, Tier 3 and Tier 4:
3% x FAME x Credited Service up to 20 years plus 4% x Credited Service after 20 years
Benefit shall not exceed 85% of FAME. For Tier 4 benefit shall not exceed 85% of pensionable Salary.

A member's benefit multiplier for credited service earned before October 1, 2013 shall not be reduced.

I. Deferred Retirement:

1. Eligibility:

Any first day of the month past Normal Retirement Date.

2. Benefit:

Benefit calculated as for Normal Retirement based upon service and pay to Deferred Retirement Date.

J. Disability Retirement:

1. Eligibility:

   Totally and permanently disabled meaning incapacity to perform regular duty as Firefighter or Police Officer (and completion of at least 5 years of Credited Service for non-service incurred

2. Benefit:

   Accrued benefit (minimum of 85% of current salary at time of disability for service incurred disability).

K. Death Benefit:

1. Service Incurred:

   Greater of accrued benefit or 85% of compensation payable as a monthly benefit to the widow until death or remarriage, to a Domestic Partner until death, marriage or entry into another Domestic Partnership, to unmarried children in equal shares until age 18 (until age 22 if a full-time student or until recovery from handicap if handicapped), or to dependent parents in equal shares.

2. Non-Service Incurred:

   For members with at least 5 years of service, accrued benefit is payable for the first 12 months after death and 75% of the accrued benefit is payable thereafter (with a minimum benefit of 25% of average monthly salary); Benefits are payable to the widow until death or remarriage, to a Domestic Partner until death, marriage or entry into another Domestic Partnership, to unmarried children in equal shares until age 18 (until age 22 if a full-time student or until recovery from handicap or until marriage if handicapped), or to dependent parents in equal shares. However, if the member has been married for less than 10 years, benefits are payable to the spouse only for the life expectancy of the deceased member at time of death.

L. Withdrawal Benefit:

1. Eligibility:

   Any age prior to 50 with at least 5 years of service for members who terminate employment on or after September 30, 2013.

2. Benefit:

   Return of employee contributions or accrued benefit upon attainment of age 50. If a member withdrawals with less than 10 years of service and passes away prior to the normal retirement date the return of employee contributions is the only benefit.

Outline of Principal Provisions of the Retirement Plan

M. Employee Contributions:

10.0% of salary per year (on a pre-tax basis) for members hired prior to September 30, 2013 and 10.5% of salary per year (on a pre-tax basis) for members hired on or after September 30, 2013; If contributions are refunded to the member or to his beneficiaries, then interest is credited at the rate of 3% per annum.

N. Normal Form of Payment of Retirement Income:

For members except those retiring prior to November 5, 2003, the normal form of payment is a 75% joint and survivor annuity with a specified beneficiary as provided under the plan. The specified beneficiary will receive a survivor annuity equal to 100% of the total benefit for one year following the death of the member and thereafter the greater of 75% of the total benefit or 25% of the average monthly salary for the two highest paid years. However, upon death, if the member has been married for less than 10 years, the survivor annuity is payable only for the life expectancy of the deceased member at time of death.

The members may also elect the actuarial equivalent of the 10 year certain and life annuity, with a designated beneficiary, any of the following optional forms of payment:

- 75% joint and contingent survivor annuity with a designated beneficiary
- 66 ⅔% joint and contingent annuity with a designated beneficiary
- 50% joint and contingent annuity with a designated beneficiary
- 25% joint and contingent annuity with a designated beneficiary
- 10 year certain and life annuity with a designated beneficiary

Members who retired prior to November 5, 2003 were subject to different normal and optional forms of payment.

O. Deferred Retirement Option Program (DROP):

Police Officers and Firefighters are eligible to participate in a Deferred Retirement Option Program (DROP) upon meeting eligibility for a normal service retirement.

Operations of the DROP:

- The member's monthly retirement benefit, based on final average earnings and service, will be calculated as of the date prior to them entering the DROP.
- The member's monthly pension will be deposited into the selected investment vehicles.
- The member will cease to accrue additional pension benefits (with the exception of the COLA under the pension plan).
- The member will no longer be eligible for Disability or Service Connected Death benefits from the Pension Plan.
- Member contributions to the Pension Plan will cease upon entering the DROP.

Outline of Principal Provisions of the Pension Fund

- Upon entering the DROP, the member will select the length of the DROP period. The maximum period of participation in the DROP is 36 months for members who enter the DROP prior to September 1, 2012 and 60 months for members who enter the DROP on or after September 1, 2012. Notwithstanding the above, participation may not continue beyond the date when the member's combined years of creditable service and time in the DROP equals 352 months for members who enter the DROP prior to September 1, 2012 and 456 months for members who enter the DROP on or after September 1, 2012.

  Members who enter the DROP on or before September 30, 2015 may extend their DROP participation period by 12 months for a total maximum DROP participation period not to exceed seventy-two (72) months.

  Members who enter the DROP on or after October 1, 2015 but prior to ratification of the current collective bargaining agreements may extend their DROP participation period by up to 36 months for a total maximum DROP participation period not to exceed ninety-six (96) months.

  Members who enter the DROP on or after ratification of the current collective bargaining agreements may participate in DROP for a period not to exceed ninety-six (96) months.

- Members who are participating in the DROP on the date of ratification of the current collective bargaining agreements and elect to extend their DROP participation period must complete such forms as are required by the Board not later than September 1, 2016.

- The member will not have access or be able to borrow against any of the funds accumulated in their DROP account.

- The member may sever employment with the City at any time during the DROP period. Such separation will terminate their participation in the DROP.

- No payment will be made from the DROP account until the member severs employment with the City.

- Following severance of employment, the funds in the DROP will be paid under the options the member selected. The member will also start receiving their monthly pension which was previously being deposited in the DROP.

- A 2.5% COLA (1.5% per year for participants hired on or after July 14, 2010) is paid annually on the anniversary date of the member's retirement. For members who enter the DROP after September 1, 2012 and before September 30, 2013 - no cost of living adjustment for the third and fourth annual anniversary date, if the member participates in the DROP for six months or longer. Any member who exits the DROP within 6 months following the date of DROP entry, shall be eligible for the 2.5% COLA annually on the anniversary date of the member's retirement.

Members hired before the date of ratification of the collective bargaining agreements who elect to extend or enter the DROP and participate for more than 5 years will have no COLA adjustment applied for years six (6), seven (7), and eight (8) while participating in the DROP. Members hired on or after the date of ratification of the current collective bargaining agreements will receive a zero percent (0%) COLA for the first (1st), second (2nd), third (3rd) and fourth (4th) annual adjustment dates while participating in the DROP.

P. Cost-of-Living Adjustment:

Effective October 1, 2010, benefits are increased by 2.5% per year (1.5% per year for participants hired on or after July 14, 2010), compounded annually, on the anniversary date of each member's retirement. Members whose grandfathered Base Plan benefit is greater than the benefit otherwise provided by this plan will receive the applicable cost-of-living adjustment on that basis (2% a year beginning the October three years after retirement) until such time as the benefit from this plan with 2.5% cost-of-living exceeds that comparable grandfathered Base Plan benefit.

For members retired prior to October 1, 2010, benefit increases occur on the first of October each year.

Q. Changes Since Previous Actuarial Valuation

Membership Tiers were:

Tier 1 - Members hired prior to July 14, 2010
Tier 2 - Members hired on or after July 14, 2010 but prior to September 30, 2013
Tier 3 - Members hired on or after September 30, 2013

Pensionable Pay was:

Salary is defined as base pay, longevity pay, overtime, shift differential and extra compensation allowance such as uniform allowance and any pays which are negotiated as pensionable. Effective July 14, 2010, off-duty pay is pensionable for any member who is eligible for overtime and receives off-duty compensation through the City. Effective September 30, 2013, overtime is limited to 300 hours a year.

1. Overtime and Off-Duty pay included in pension computation for Police Officers:

   - Off-Duty and overtime pay not exceeding 300 hours per calendar year is limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at time of retirement.

Outline of Principal Provisions of the Pension Fund

Q. Changes Since Previous Actuarial Valuation (continued)

- The 11% limitation shall not apply to any member who holds the rank of sergeant or lieutenant on September 30, 2013, or any Police Officer promoted to the rank of sergeant prior to the date the 2013 Certified Police Sergeant Promotional Register expired in 2015. For these members, the inclusion of overtime and / or off duty in the member's salary shall be limited in each year to an amount which is equal to 70% of the difference between the member's annualized pay rate at retirement and the highest annualized pay rate for the next higher salary rank.

2. Overtime and Off-Duty pay included in pension computation for Firefighters:

- Off-Duty and overtime pay not exceeding 300 hours per calendar year is limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at time of retirement.

Final Average Monthly Earnings (FAME) were:

Tier 1 and eligible to retire prior to September 30, 2015 - the greater of the average of the 2 highest paid years prior to date of retirement or the 2 last paid years after taking into consideration the overtime limit.

Tier 1 and eligible to retire on or after September 30, 2015 - the greater of the average of the 3 highest paid years prior to date of retirement or the 3 last paid years after taking into consideration the overtime limit.

Tier 2 - the greater of the average of the 3 highest paid years prior to date of retirement or the 3 last paid years after taking into consideration the overtime limit.

Tier 3 - the greater of the average of the 5 highest paid years prior to date of retirement or the 5 last paid years after taking into consideration the overtime limit.

Normal Retirement was:

1. Eligibility:

   Tier 1 and eligible to retire prior to September 30, 2013 - the earlier of attainment of age 50 or Rule of 70

   Tier 1 and eligible to retire on or after September 30, 2013 - the earlier of attainment of age 50 or Rule of 70 (must attain age 47)

   Tier 2 and Tier 3 - the earlier of attainment of age 50 or Rule of 70 (must attain age 48)

Outline of Principal Provisions of the Pension Fund

Q. Changes Since Previous Actuarial Valuation (continued)

2. Benefit:

Tier 1 and eligible to retire prior to September 30, 2013:
3% x FAME x Credited Service up to 15 years plus 4% x Credited Service after 15 years
Benefit shall not exceed 90% of FAME.

Tier 1 and eligible to retire on or after September 30, 2013 but prior to September 30, 2015:
3% x FAME x Credited Service up to 20 years plus 4% x Credited Service after 20 years
Benefit shall not exceed 85% of FAME (exception if exceeded 85% as of September 30, 2013).

Tier 1 and eligible to retire on or after September 30, 2015, Tier 2 and Tier 3:
3% x FAME x Credited Service up to 20 years plus 4% x Credited Service after 20 years
Benefit shall not exceed 85% of FAME.

A member's benefit multiplier for credited service earned before October 1, 2013 shall not be reduced.

Deferred Retirement Option Program (DROP) was:

Police Officers and Firefighters are eligible to participate in a Deferred Retirement Option Program (DROP) upon meeting any one of the following criteria:

- the attainment of age 50 or
- the sum of the member's age and creditable service equal to at least 70 (minimum age may apply)

Operations of the DROP were:

- The member's monthly retirement benefit, based on final average earnings and service, will be calculated as of the date prior to them entering the DROP.
- The member's monthly pension will be deposited into the selected investment vehicles.
- The member will cease to accrue additional pension benefits (with the exception of the COLA under the pension plan).
- The member will no longer be eligible for Disability or Service Connected Death benefits from the Pension Plan.
- Member contributions to the Pension Plan will cease upon entering the DROP.

Outline of Principal Provisions of the Pension Fund

Q. Changes Since Previous Actuarial Valuation (continued)

- Upon entering the DROP, the member will select the length of the DROP period. The maximum period of participation in the DROP is 36 months for members who enter the DROP prior to September 1, 2012 and 60 months for members who enter the DROP on or after September 1, 2012. Notwithstanding the above, participation may not continue beyond the date when the member's combined years of creditable service and time in the DROP equals 352 months for members who enter the DROP prior to September 1, 2012 and 408 months for members who enter the DROP on or after September 1, 2012.

- The member will not have access or be able to borrow against any of the funds accumulated in their DROP account.

- The member may sever employment with the City at any time during the DROP period. Such separation will terminate their participation in the DROP.

- No payment will be made from the DROP account until the member severs employment with the City.

- Following severance of employment, the funds in the DROP will be paid under the options the member selected. The member will also start receiving their monthly pension which was previously being deposited in the DROP.

- A 2.5% COLA (1.5% per year for participants hired on or after July 14, 2010) is paid annually on the anniversary date of the member's retirement. For members who enter the DROP after September 1, 2012 and before September 30, 2013 - no cost of living adjustment for the third and fourth annual anniversary date, if the member participates in the DROP for six months or longer. Any member who exits the DROP within 6 months following the date of DROP entry, shall be eligible for the 2.5% COLA annually on the anniversary date of the member's retirement.

Actuarial Assumptions and Actuarial Cost Methods Used in the Valuation

A. Mortality

For healthy participants, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with Blue Collar Adjustment and projected 15 years from valuation date for pre-retirement mortality and 7 years from valuation date for post-retirement mortality with projection Scale AA.

For disabled participants, RP-2000 Disabled Mortality Tables, separate rates for males and females, without projection for future mortality improvement.

B. Investment Return

7.90%, compounded annually, net of investment expenses.

C. Expenses

Prior year's actual administrative expenses.

D. Employee Withdrawal Rates

Representative values of the assumed annual rates of withdrawal among members in active service are as follows:

Age	Withdrawal Rate	Age	Withdrawal Rate
20	2.00%	35	1.25%
25	1.75%	40	1.00%
30	1.50%	45	0.75%

E. Disability Rates

Representative values of the assumed annual rates of disability among members in active service are as follows:

Age	Disability Rates	Age	Disability Rate
20	0.07%	45	0.58%
25	0.11%	50	0.99%
30	0.16%	55	1.42%
35	0.22%	60	2.00%
40	0.32%	64	2.69%

35% of disabilities are assumed to be non-service incurred - 65% service incurred.

F. Salary Increase Factors

Representative values of the assumed annual rates of future salary increase are as follows:

Age	Merit Salary Increase	Age	Merit Salary Increase
20	3.70%	45	2.70%
25	7.70%	50	2.70%
30	6.70%	55	2.70%
35	3.70%	60	1.70%
40	2.70%	64	0.70%

In addition to the average assumed salary increase rates shown above the expected cost of living increases are as follows:

FYE	COLA Salary Increase
2016	0.50%
2017	1.25%
2018	3.00%
2019	2.79%
2020 and thereafter	2.18%

The cost of living increases shown above are based on a 1% increase as of April 1, 2016, 3% increase as of July 1, 2017 and 3% increase as of July 1, 2018 contained in the collective bargaining agreements and long term expected increases of 2.18% annually each July:

G. Payroll Growth Assumption

The aggregate compensation used to compute the accrued liability contribution rate is assumed to increase at a rate of 3.5% per year - not greater than historical 10-year average (3.3% as of October 1, 2015).

H. Loadings for Contingencies

Pre-Employment Service: A City contribution of 0.275% of annual pensionable payroll is assumed sufficient to provide for the purchase (or *buyback*) of pre-employment military service by the

I. Marital Assumptions

1. 77% of members are assumed married or entitled to benefits for dependents, including registered domestic partners.

2. Male spouses are assumed to be three years older than female spouses.

J. Retirement

All members are assumed to retire at age 50 with 26.25 years of service, but not later than age 65. Retirement is assumed to occur in accordance with the following rates:

Service	Rate of Retirement	
	Meeting Rule of 70	Not Meeting Rule of 70
Less than 20	20%	4%
20	25%	5%
21	30%	10%
22	35%	10%
23	40%	20%
24	50%	60%
25	70%	60%
26	100%	100%
More than 26	100%	100%

K. DROP Assumption

80% of all active participants will participate in the DROP.

Leave DROP	Enter DROP on or before September 30, 2015	Enter the DROP on or after October 1, 2015
Prior to 5 years	0%	0%
After 5 years	5%	5%
After 6 years	N/A	5%
After 7 years	N/A	10%
After 8 years	N/A	100%

This Actuarial Study applies the same retirement rate assumption as the October 1, 2014 Actuarial Valuation Report. However the extension of the DROP may alter the retirement experience of the plan causing a change in the retirement rates assumption in the future.

DROP assumptions will need to be monitored in light of future DROP experience.

L. Smoothed Asset Valuation Method

The method used for determining the smoothed actuarial value of assets phases in the deviation between the expected and actual return on assets at the rate of 20% per year. The smoothed 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 fund assets and whose upper limit is 120% of the fair market value of fund assets.

M. Actuarial Cost Method

Normal Retirement, Termination, Disability, and Death Benefits: 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 age at hire to his assumed retirement age to fund his estimated benefits, assuming the Fund had always been in effect. The normal cost for the Fund is the sum of such amounts for all 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 Fund 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 smoothed actuarial value of assets of the Fund.

N. Changes Since Previous Actuarial Valuation

Salary Increase Factors were:

Representative values of the assumed annual rates of future salary increase were as follows:

Age	Salary Increase	Age	Salary Increase
20	5.88%	45	4.88%
25	9.89%	50	4.88%
30	8.89%	55	4.88%
35	5.88%	60	3.88%
40	4.88%	64	2.88%

The average assumed salary increase rates shown above were reduced by the expected cost of living increase of 2.18% for FYE 2015 and then increased by a 3.00% cost of living increase in FYE 2016 and as shown above thereafter.

DROP Assumption was:

80% of all active participants will participate in the DROP.