Municipal Fire and Police Retirement System of Iowa

Required GASB 68 Reporting Information as of and for the Year Ended June 30, 2018, and Related Independent Auditor's Report

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Independent Auditor's Report

To the Board of Trustees Municipal Fire and Police Retirement System of Iowa Des Moines, Iowa

Report on Schedule of Allocations and Net Pension Amounts by Employer

We have audited the accompanying schedules of net pension liability (NPL) by city (proportionate share, share of NPL as of June 30, 2018, covered payroll, NPL as a percent of covered payroll) as of June 30, 2018, and the schedules of deferred inflows of resources by city (expected and actual experience, changes in assumptions, projected and actual earnings and total deferred inflows), deferred outflow of resources by city (expected and actual experience, changes in assumptions, projected and actual earnings and total deferred outflows), for the Municipal Fire and Police Retirement System of Iowa (the System) as of June 30, 2018 and the related schedule of pension expense by city (collectively the Schedules) for the year then ended, and the related notes to the Schedules.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of the Schedules in accordance with accounting principles generally accepted in the United States of America; this includes design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the Schedules that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these Schedules based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the Schedules are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the Schedules. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the Schedules, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to System's preparation and fair presentation of the Schedules in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of System's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the Schedules.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the Schedules referred to above present fairly, in all material respects, the schedules of NPL by city (proportionate share, share of NPL as of June 30, 2018, covered payroll, NPL as a percent of covered payroll), deferred inflows of resources by city (expected and actual experience, changes in assumptions, projected and actual earnings and total deferred inflows), deferred outflow of resources by city (expected and actual experience, changes in assumptions, projected and actual earnings and total deferred outflows), and pension expense by city for the System as of and for the year ended June 30, 2018, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the System as of and for the year ended June 30, 2018, and our report thereon, dated April 9, 2019, expressed an unmodified opinion on those financial statements.

Restriction on Use

Our report is intended solely for the information and use of the System's management, the System's Board of Trustees, System employers and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

Sally LLP
Boise, Idaho
April 9, 2019

NET PENSION LIABILITY (NPL) BY CITY

						NPL as % of
	Proportionate				Covered	Covered
City	Share (%)		are of NPL		Payroll *	Payroll
Ames	2.719769%	\$	16,193,599	\$	7,905,296	204.8
Ankeny	1.968052%	\$	11,717,850	\$	5,720,351	204.8
Bettendorf	1.961854%	\$	11,680,947	\$	5,702,336	204.8
Boone	0.555855%	\$	3,309,580	\$	1,615,651	204.8
Burlington	1.880797%	\$	11,198,331	\$	5,466,735	204.8
Camanche	0.213589%	\$	1,271,716	\$	620,819	204.8
Carroll	0.294602%	\$	1,754,071	\$	856,292	204.8
Cedar Falls	1.778180%	\$	10,587,346	\$	5,168,468	204.8
Cedar Rapids	9.187972%	\$	54,705,506	\$	26,705,812	204.8
Centerville	0.246957%	\$	1,470,391	\$	717,807	204.8
Charles City	0.324862%	\$	1,934,240	\$	944,246	204.8
Clinton	1.862662%	\$	11,090,354	\$	5,414,024	204.8
Clive	0.604402%	\$	3,598,630	\$	1,756,758	204.8
Council Bluffs	5.816975%	\$	34,634,472	\$	16,907,653	204.8
Creston	0.271937%	\$	1,619,122	\$	790,414	204.8
Davenport	7.752091%	\$	46,156,220	\$	22,532,272	204.8
Decorah	0.295197%	\$	1,757,613	\$	858,021	204.8
Des Moines	18.524275%	\$	110,294,179	\$	53,842,764	204.8
Dewitt	0.222787%	\$	1,326,481	\$	647,554	204.8
Dubuque	4.863891%	\$	28,959,777	\$	14,137,414	204.8
Estherville	0.240536%	\$	1,432,159	\$	699,143	204.8
Evansdale	0.119747%	\$	712,977	\$	348,057	204.8
Fairfield	0.343799%	\$	2,046,991	\$	999,288	204.8
Fort Dodge	1.544099%	\$	9,193,619	\$	4,488,087	204.8
Fort Madison	0.722057%	\$	4,299,153	\$	2,098,735	204.8
Grinnell	0.399172%	\$	2,376,684	\$	1,160,236	204.8
Indianola	0.420900%	\$	2,506,053	\$	1,223,390	204.8
Iowa City	3.706970%	\$	22,071,429	\$	10,774,700	204.8
Keokuk	0.785122%	\$	4,674,644	\$	2,282,040	204.8
Knoxville	0.270709%	\$	1,611,810	\$	786,844	204.8
Lemars	0.318996%	\$	1,899,313	\$	927,196	204.8
Maquoketa	0.208610%	\$	1,242,071	\$	606,347	204.8
Marion	2.033115%	\$	12,105,238	\$	5,909,464	204.8
Marshalltown	1.534724%	\$	9,137,800	\$	4,460,838	204.8
Mason City	2.014773%	\$	11,996,029	\$	5,856,151	204.8
Muscatine	1.788944%	\$	10,651,435	\$	5,199,755	204.8
Newton	1.065134%	\$	6,341,845	\$	3,095,925	204.8
Oelwein	0.202923%	\$	1,208,210	\$	589,817	204.8
Oskaloosa	0.439719%	\$	2,618,102	\$	1,278,090	204.8
Ottumwa	1.363209%	\$	8,116,594	\$	3,962,311	204.8
Pella	0.351496%	\$	2,092,819	\$	1,021,660	204.8
Sioux City	6.278738%	\$	37,383,825	\$	18,249,816	204.8
Spencer	0.490919%	\$	2,922,949	\$	1,426,908	204.8
Storm Lake	0.361872%	\$	2,154,598	\$	1,051,819	204.8
Urbandale	2.098127%	\$	12,492,321	\$	6,098,428	204.8
Waterloo	5.600213%	\$	33,343,863	\$	16,277,611	204.8
Waverly	0.367123%	\$		\$ \$		204.8
Webster City		\$ \$	2,185,863	\$ \$	1,067,082	
West Des Moines	0.292535% 3.289014%	\$ \$	1,741,764 19,582,904	\$ \$	850,284 9,559,867	204.8 204.8
			·			204.0
Total	100.00%	\$	595,403,487	\$	290,660,576	

^{*} Represents reported covered payroll. Amount reported is based on pensionable payroll and not total payroll. Please consult your auditor when presenting covered payroll in your reports.

DEFERRED INFLOWS OF RESOURCES BY CITY

AS OF JUNE 30, 201		Difference				
		Between		Difference		
		Expected		Between Projected	Contributions Made	
	Proportionate	and Actual	Changes in	and Actual	After Measurement	Total Deferred
City	Share (%)	Experience	Assumptions	Earnings	Date	Inflows
Ames	2.719769%	\$ (219,674)	\$ (129,406)	\$ (1,599,945)	TBD	\$ (1,949,025)
Ankeny	1.968052%	(158,958)	(93,640)	(1,157,736)	TBD	(1,410,334)
Bettendorf	1.961854%	(158,458)	(93,345)	(1,154,090)	TBD	(1,405,893)
Boone	0.555855%	(44,896)	(26,448)	(326,990)	TBD	(398,334)
Burlington	1.880797%	(151,911)	(89,488)	(1,106,407)	TBD	(1,347,806)
Camanche	0.213589%	(17,251)	(10,163)	(125,647)	TBD	(153,061)
Carroll	0.294602%	(23,795)	(14,017)	(173,304)	TBD	(211,116)
Cedar Falls	1.778180%	(143,623)	(84,606)	(1,046,041)	TBD	(1,274,270)
Cedar Rapids	9.187972%	(742,108)	(437,163)	(5,404,963)	TBD	(6,584,234)
Centerville	0.246957%	(19,947)	(11,750)	(145,276)	TBD	(176,973)
Charles City	0.324862%	(26,239)	(15,457)	(191,105)	TBD	(232,801)
Clinton	1.862661%	(150,446)	(88,625)	(1,095,739)	TBD	(1,334,810)
Clive	0.604403%	(48,817)	(28,757)	(355,549)	TBD	(433,123)
Council Bluffs	5.816974%	(469,834)	(276,771)	(3,421,923)	TBD	(4,168,528)
Creston	0.271937%	(21,964)	(12,939)	(159,971)	TBD	(194,874)
Davenport	7.752091%	(626,132)	(368,844)	(4,560,284)	TBD	(5,555,260)
Decorah	0.295197%	(23,843)	(14,045)	(173,654)	TBD	(211,542)
Des Moines	18.524274%	(1,496,197)	(881,380)	(10,897,182)	TBD	(13,274,759)
Dewitt	0.222787%	(17,994)	(10,600)	(131,058)	TBD	(159,652)
Dubuque	4.863891%	(392,854)	(231,423)	(2,861,257)	TBD	(3,485,534)
Estherville	0.240536%	(19,428)	(11,445)	(141,499)	TBD	(172,372)
Evansdale	0.119747%	(9,672)	(5,698)	(70,443)	TBD	(85,813)
Fairfield	0.343799%	(27,768)	(16,358)	(202,245)	TBD	(246,371)
Fort Dodge	1.544099%	(124,716)	(73,468)	(908,339)	TBD	(1,106,523)
Fort Madison	0.722057%	(58,320)	(34,355)	(424,761)	TBD	(517,436)
Grinnell	0.399173%	(32,241)	(18,993)	(234,819)	TBD	(286,053)
Indianola	0.420900%	(33,996)	(20,026)	(247,601)	TBD	(301,623)
Iowa City	3.706970%	(299,410)	(176,377)	(2,180,681)	TBD	(2,656,468)
Keokuk	0.785122%	(63,414)	(37,356)	(461,860)	TBD	(562,630)
Knoxville	0.270709%	(21,865)	(12,880)	(159,249)	TBD	(193,994)
Lemars	0.318996%	(25,765)	(15,178)	(187,654)	TBD	(228,597)
Maquoketa	0.208610%	(16,849)	(9,926)	(122,718)	TBD	(149,493)
Marion	2.033115%	(164,214)	(96,735)	(1,196,010)	TBD	(1,456,959)
Marshalltown	1.534724%	(123,959)	(73,022)	(902,824)	TBD	(1,099,805)
Mason City	2.014774%	(162,732)	(95,863)	(1,185,221)	TBD	(1,443,816)
Muscatine	1.788944%	(144,492)	(85,118)	(1,052,373)	TBD	(1,281,983)
Newton	1.065133%	(86,030)	(50,679)	(626,581)	TBD	(763,290)
Oelwein	0.202923%	(16,390)	(9,655)	(119,373)	TBD	(145,418)
Oskaloosa	0.439718%	(35,516)	(20,922)	(258,671)	TBD	(315,109)
Ottumwa	1.363210%	(110,106)	(64,861)	(801,928)	TBD	(976,895)
Pella	0.351495%	(28,390)	(16,724)	(206,773)	TBD	(251,887)
Sioux City	6.278738%	(507,130)	(298,742)	(3,693,562)	TBD	(4,499,434)
Spencer	0.490919%	(39,651)	(23,358)	(288,790)	TBD	(351,799)
Storm Lake	0.361872%	(29,228)	(17,218)	(212,877)	TBD	(259,323)
Urbandale	2.098126%	(169,465)	(99,829)	(1,234,255)	TBD	(1,503,549)
Waterloo	5.600213%	(452,326)	(266,458)	(3,294,410)	TBD	(4,013,194)
Waverly	0.367124%	(29,652)	(17,468)	(215,966)	TBD	(263,086)
Webster City	0.292535%	(23,628)	(13,919)	(172,088)	TBD	(209,635)
West Des Moines	3.289014%	(265,652)	(156,491)	(1,934,812)	TBD	(2,356,955)
Total	100.00%	\$ (8,076,946)	\$ (4,757,989)	\$ (58,826,504)		\$ (71,661,439)

DEFERRED OUTFLOWS OF RESOURCES BY CITY

		Difference		Difference	Contributions	
		Between Expected		Between Projected	Made After	
	Proportionate	and Actual	Changes in	and Actual	Measurement	Total Deferred
City	Share (%)	Experience	Assumptions	Earnings	Date	Outflows
Ames	2.719769%	\$ 434,719	\$ 1,383,098	\$ 2,392,043	TBD	\$ 4,209,860
Ankeny	1.968052%	314,567	1,000,824	1,730,906	TBD	3,046,297
Bettendorf	1.961854%	313,577	997,672	1,725,455	TBD	3,036,704
Boone	0.555855%	88,846	282,672	488,876	TBD	860,394
Burlington	1.880797%	300,621	956,452	1,654,165	TBD	2,911,238
Camanche	0.213589%	34,139	108,618	187,852	TBD	330,609
Carroll	0.294602%	47,088	149,815	259,103	TBD	456,006
Cedar Falls	1.778180%	284,219	904,267	1,563,913	TBD	2,752,399
Cedar Rapids	9.187972%	1,468,576	4,672,407	8,080,841	TBD	14,221,824
Centerville	0.246957%	39,473	125,586	217,199	TBD	382,258
Charles City	0.324862%	51,925	165,204	285,717	TBD	502,846
Clinton	1.862661%	297,722	947,229	1,638,215	TBD	2,883,166
Clive	0.604403%	96,606	307,360	531,573	TBD	935,539
Council Bluffs	5.816974%	929,767	2,958,137	5,116,042	TBD	9,003,946
Creston	0.271937%	43,466	138,290	239,169	TBD	420,925
Davenport	7.752091%	1,239,070	3,942,211	6,817,981	TBD	11,999,262
Decorah	0.295197%	47,183	150,118	259,626	TBD	456,927
Des Moines	18.524274%	2,960,861	9,420,246	16,292,140	TBD	28,673,247
Dewitt	0.222787%	35,610	113,295	195,942	TBD	344,847
Dubuque	4.863891%	777,429	2,473,460	4,277,803	TBD	7,528,692
Estherville	0.240536%	38,447	122,321	211,552	TBD	372,320
Evansdale	0.119747%	19,140	60,896	105,318	TBD	185,354
Fairfield	0.343799%	54,952	174,834	302,372	TBD	532,158
Fort Dodge	1.544099%	246,804	785,229	1,358,038	TBD	2,390,071
Fort Madison	0.722057%	115,411	367,191	635,051	TBD	1,117,653
Grinnell	0.399173%	63,802	202,993	351,073	TBD	617,868
Indianola	0.420900%	67,275	214,042	370,182	TBD	651,499
Iowa City	3.706970%	592,510	1,885,125	3,260,288	TBD	5,737,923
Keokuk	0.785122%	125,491	399,262	690,516	TBD	1,215,269
Knoxville	0.270709%	43,269	137,665	238,089	TBD	419,023
Lemars	0.318996%	50,987	162,221	280,558	TBD	493,766
Maquoketa	0.208610%	33,344	106,086	183,473	TBD	322,903
Marion	2.033115%	324,967	1,033,911	1,788,129	TBD	3,147,007
Marshalltown	1.534724%	245,305	780,461	1,349,793	TBD	2,375,559
Mason City	2.014774%	322,035	1,024,583	1,771,997	TBD	3,118,615
Muscatine	1.788944%	285,939	909,741	1,573,380	TBD	2,769,060
Newton	1.065133%	170,248	541,658	936,788	TBD	1,648,694
Oelwein	0.202923%	32,435	103,193	178,471	TBD	314,099
Oskaloosa	0.439718%	70,283	223,613	386,734	TBD	680,630
Ottumwa	1.363210%	217,891	693,240	1,198,945	TBD	2,110,076
Pella	0.351495%	56,182	178,748	309,141	TBD	544,071
Sioux City	6.278738%	1,003,574	3,192,959	5,522,164	TBD	9,718,697
Spencer	0.490919%	78,467	249,650	431,764	TBD	759,881
Storm Lake	0.361872%	57,840	184,025	318,267	TBD	560,132
Urbandale	2.098126%	335,358	1,066,971	1,845,307	TBD	3,247,636
Waterloo	5.600213%	895,120	2,847,906	4,925,399	TBD	8,668,425
Waverly	0.367124%	58,680	186,695	322,885	TBD	568,260
Webster City	0.292535%	46,758	148,764	257,285	TBD	452,807
West Des Moines	3.289014%	525,706	1,672,579	2,892,695	TBD	5,090,980
Total	100.00%	\$ 15,983,684	\$ 50,853,523	\$ 87,950,215	100	\$ 154,787,422
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PENSION EXPENSE BY CITY

FOR THE YEAR ENDED JUNE 30, 2018

	Proportionate	Share of
City	Share (%)	Pension Expense
Ames	2.719769%	\$ 2,442,353
Ankeny	1.968052%	1,767,311
Bettendorf	1.961854%	1,761,745
Boone	0.555855%	499,158
Burlington	1.880797%	1,688,956
Camanche	0.213589%	191,803
Carroll	0.294602%	264,553
Cedar Falls	1.778180%	1,596,806
Cedar Rapids	9.187972%	8,250,800
Centerville	0.246957%	221,767
Charles City	0.324862%	291,726
Clinton	1.862661%	1,672,671
Clive	0.604403%	542,753
Council Bluffs	5.816974%	5,223,644
Creston	0.271937%	244,199
Davenport	7.752091%	6,961,378
Decorah	0.295197%	265,087
Des Moines	18.524274%	16,634,803
Dewitt	0.222787%	200,063
Dubuque	4.863891%	4,367,775
Estherville	0.240536%	216,001
Evansdale	0.119747%	107,533
Fairfield	0.343799%	308,732
Fort Dodge	1.544099%	1,386,601
Fort Madison	0.722057%	648,407
Grinnell	0.399173%	358,456
Indianola	0.420900%	377,968
Iowa City	3.706970%	3,328,859
Keokuk	0.785122%	705,040
Knoxville	0.270709%	243,097
Lemars	0.318996%	286,458
Maquoketa	0.208610%	187,332
Marion	2.033115%	1,825,737
Marshalltown	1.534724%	1,378,182
Mason City	2.014774%	1,809,266
Muscatine	1.788944%	1,606,472
Newton	1.065133%	956,490
Oelwein	0.202923%	182,225
Oskaloosa	0.439718%	394,868
Ottumwa	1.363210%	1,224,162
Pella	0.351495%	315,643
Sioux City	6.278738%	5,638,307
Spencer	0.490919%	440,845
Storm Lake	0.361872%	324,961
Urbandale	2.098126%	1,884,118
Waterloo	5.600213%	5,028,992
Waverly	0.367124%	329,676
Webster City	0.292535%	262,696
West Des Moines	3.289014%	2,953,535
Total	100.00%	\$ 89,800,010

NOTES TO SCHEDULES AS OF AND FOR THE YEAR ENDED JUNE 30, 2018

Plan Administration

The Municipal Fire and Police Retirement System of Iowa (System) was created by the Iowa General Assembly in 1990 to establish a statewide retirement system for fire and police personnel covered by the provisions of Iowa Code Chapter 411. The programs of the System include the payment of pension benefits for service retirement, ordinary disability retirement, accidental disability retirement, survivors of deceased members and the refund of contributions upon withdrawal by a terminated member.

The System is managed by a Board of Trustees established by Iowa Code Chapter 411. The Board of Trustees represents the police officer and firefighter memberships, Cities, and citizens of Iowa, while the Iowa General Assembly provides the System with direction and oversight.

Basis of Accounting

Contributions for employers and net pension liability are recognized on an accrual basis of accounting.

Use of Estimates in the Preparation of the Schedules

The preparation of the Schedules in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain amounts and disclosures. Actual results could differ from those estimates.

Plan Membership

As of July 1, 2018, System membership consisted of the following:

Inactive members (or beneficiaries) currently receiving benefits	4,107
Inactive members entitled to but not yet receiving benefits	367
Active members	4,003
Total	8,477

Plan Description

The System's membership is mandatory for firefighters and police officers of the Cities. Members of the System are provided with pensions through a cost-sharing multiple employer defined benefit pension plan administered by the System. The System issues a stand-alone financial report which is available to the public by mail at 7155 Lake Drive Suite 201 West Des Moines, IA 50266 or at www.MFPRSI.org.

System benefits are established under Iowa Code chapter 411 and the administrative rules thereunder. Chapter 411 and the administrative rules are the official plan documents. The following brief description is provided for general informational purposes only. Refer to the plan documents for more information.

Pension Benefits

Participating members are entitled to the benefit provisions in effect on the member's date of termination. The following is a summary of System benefit provisions as of June 30, 2018:

Retirement - Members with four or more years of service are entitled to pension benefits beginning at age 55. Full service retirement benefits are granted to members with 22 years of service, while partial benefits are available to those members with 4 to 22 years of service based on the ratio of years completed to years required (22 years). Members with less than four years of service are entitled to a refund of their contribution only, with interest for the period of employment.

Benefits are calculated based upon the member's highest three years of compensation. The average of these 3 years becomes the member's average final compensation. The base benefit is 66 percent of the member's average final compensation. Additional benefits are available to members who perform more than 22 years of service (2 percent for each additional year of service, up to a maximum of eight years). Survivor benefits are available to the beneficiary of a retired member according to the provisions of the benefit option chosen plus an additional benefit for each child. Survivor benefits are subject to a minimum benefit for those members who chose the basic benefit with a 50 percent surviving spouse benefit.

Disability and Death - Disability coverage is broken down into two types, accidental and ordinary. Accidental disability is defined as permanent disability incurred in the line of duty, with benefits equivalent to the greater of 60 percent of the member's average final compensation or the member's service retirement benefit calculation amount. Ordinary disability occurs outside the call of duty and pays benefits equivalent to the greater of 50 percent of the member's average final compensation, for those with 5 or more years of service, or the member's service retirement benefit calculation amount, and 25 percent of average final compensation for those with less than 5 years of service.

Death benefits are similar to disability benefits. Benefits for accidental death are 50 percent of the average final compensation of the member plus an additional amount for each child, or the provisions for ordinary death. Ordinary death benefits consist of a pension equal to 40 percent of the average final compensation of the member plus an additional amount for each child, or a lump-sum distribution to the designated beneficiary equal to 50 percent of the previous year's earnable compensation of the member or equal to the amount of the member's total contributions plus interest.

Benefits are increased (escalated) annually in accordance with Iowa Code Chapter 411.6 which states a standard formula for the increases.

Traumatic Personal Injury - The surviving spouse or dependents of an active member who dies due to a traumatic personal injury incurred in the line of duty receives a \$100,000 lump-sum payment.

Deferred Retirement Option Program (DROP) - Active members, at least 55 years of age, with 22 or more years of service have the option to participate in the DROP Program. The DROP is an arrangement whereby a member who is otherwise eligible to retire and commence benefits opts to continue to work. A member can elect a 3, 4, or 5 year DROP period. By electing to participate in DROP the member is signing a contract indicating the member will retire at the end of the selected DROP period. During the DROP period the member's retirement benefit is frozen and a DROP benefit is credited to a DROP account established for the member. Assuming the member completes the DROP period, the DROP benefit is equal to 52% of the member's retirement benefit at the member's earliest date eligible and 100% if the member delays enrollment for 24 months. At the member's actual date of retirement, the member's DROP account will be distributed to the member in the form of a lump sum or rollover to an eligible plan.

Contributions

Member - Member contribution rates are set by state statute. In accordance with Iowa Code Chapter 411 as modified by act of the 1994 General Assembly, to establish compliance with the Federal Older Workers Benefit Protections Act, the contribution rate was 9.40% of earnable compensation for the year ended June 30, 2018.

Employer - Employer contribution rates are based upon an actuarially determined normal contribution rate and set by state statute. The required actuarially determined contributions are calculated on the basis of the entry age normal method as adopted by the Board of Trustees as permitted under Chapter 411 of the Code of Iowa. The normal contribution rate is provided by state statute to be the actuarial liabilities of the plan less current plan assets, with such total divided by 1 percent of the actuarially determined present value of prospective future compensation of all members, further reduced by member contributions and state appropriations. Under the Code of Iowa the employer's contribution rate cannot be less than 17.00% of earnable compensation. The contribution rate was 25.68% for the year ended June 30, 2018.

State Appropriations - State appropriations are approved by the state legislature and may further reduce the employer's contribution rate, but not below the minimum statutory contribution rate of 17.00% of earnable compensation. The State therefore is considered to be a nonemployer contributing entity.

The allocation amongst all Cities of the contributions to the System for the period ended June 30, 2018 was as follows:

MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

SCHEDULE OF CONTRIBUTIONS BY CITY

FOR THE YEAR ENDED JUNE 30, 2018

Ames Ankeny Bettendorf Boone Burlington Camanche Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive Council Bluffs	Proportionate Share (%) 2.72% 1.97% 1.96% 0.56% 1.88% 0.21% 0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27% 7.75%	Contribution (ADC) \$ 2,030,080 1,468,986 1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136 4,341,885	in Relation to the ADC \$ 2,030,080 1,468,986 1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	Deficiency/ (Excess) \$	\$ Covered Payroll * 7,905,296 5,720,351 5,702,336 1,615,651 5,466,735 620,819 856,292 5,168,468 26,705,812 717,807	Covered Payroll 25.68% 25.68% 25.68% 25.68% 25.68% 25.68% 25.68% 25.68% 25.68%
Ames Ankeny Bettendorf Boone Burlington Camanche Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive	Share (%) 2.72% 1.97% 1.96% 0.56% 1.88% 0.21% 0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	(ADC) \$ 2,030,080 1,468,986 1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	to the ADC \$ 2,030,080 1,468,986 1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321	(Excess)	\$ Payroll * 7,905,296 5,720,351 5,702,336 1,615,651 5,466,735 620,819 856,292 5,168,468 26,705,812	Payroll 25.68% 25.68% 25.68% 25.68% 25.68% 25.68% 25.68% 25.68% 25.68%
Ames Ankeny Bettendorf Boone Burlington Camanche Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive	2.72% 1.97% 1.96% 0.56% 1.88% 0.21% 0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	\$ 2,030,080 1,468,986 1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	\$ 2,030,080 1,468,986 1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321		\$ 7,905,296 5,720,351 5,702,336 1,615,651 5,466,735 620,819 856,292 5,168,468 26,705,812	25.68% 25.68% 25.68% 25.68% 25.68% 25.68% 25.68% 25.68%
Bettendorf Boone Burlington Camanche Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive	1.96% 0.56% 1.88% 0.21% 0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	1,468,986 1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	1,468,986 1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321	- - - - - - - -	5,720,351 5,702,336 1,615,651 5,466,735 620,819 856,292 5,168,468 26,705,812	25.68% 25.68% 25.68% 25.68% 25.68% 25.68%
Bettendorf Boone Burlington Camanche Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive	1.96% 0.56% 1.88% 0.21% 0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	1,464,360 414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321	- - - - - - -	5,702,336 1,615,651 5,466,735 620,819 856,292 5,168,468 26,705,812	25.68% 25.68% 25.68% 25.68% 25.68% 25.68%
Boone Burlington Camanche Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive	1.88% 0.21% 0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	414,899 1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321	- - - - - -	1,615,651 5,466,735 620,819 856,292 5,168,468 26,705,812	25.68% 25.68% 25.68% 25.68% 25.68% 25.68%
Camanche Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive	1.88% 0.21% 0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	1,403,858 159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321	- - - - -	5,466,735 620,819 856,292 5,168,468 26,705,812	25.68% 25.68% 25.68% 25.68% 25.68%
Camanche Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive	0.21% 0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	159,426 219,896 1,327,263 6,858,053 184,333 242,482 1,390,321	- - - - -	620,819 856,292 5,168,468 26,705,812	25.68% 25.68% 25.68% 25.68%
Carroll Cedar Falls Cedar Rapids Centerville Charles City Clinton Clive	0.29% 1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	219,896 1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	1,327,263 6,858,053 184,333 242,482 1,390,321	- - - -	5,168,468 26,705,812	25.68% 25.68% 25.68%
Cedar Rapids Centerville Charles City Clinton Clive	1.78% 9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	1,327,263 6,858,053 184,333 242,482 1,390,321 451,136	1,327,263 6,858,053 184,333 242,482 1,390,321	- - -	5,168,468 26,705,812	25.68% 25.68%
Centerville Charles City Clinton Clive	9.19% 0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	6,858,053 184,333 242,482 1,390,321 451,136	6,858,053 184,333 242,482 1,390,321	- - -	26,705,812	25.68%
Centerville Charles City Clinton Clive	0.25% 0.32% 1.86% 0.60% 5.82% 0.27%	184,333 242,482 1,390,321 451,136	184,333 242,482 1,390,321	-		
Charles City Clinton Clive	0.32% 1.86% 0.60% 5.82% 0.27%	242,482 1,390,321 451,136	242,482 1,390,321	-		2J.U87
Clinton Clive	1.86% 0.60% 5.82% 0.27%	1,390,321 451,136	1,390,321		944,246	25.68%
Clive	0.60% 5.82% 0.27%	451,136		_	5,414,024	25.68%
	5.82% 0.27%			-	1,756,758	25.68%
	0.27%	1,5 11,005	4,341,885	_	16,907,653	25.68%
Creston		202,978	202,978	_	790,414	25.68%
Davenport	, . ,	5,786,288	5,786,288	-	22,532,272	25.68%
Decorah	0.30%	220,340	220,340	_	858,021	25.68%
Des Moines	18.52%	13,826,822	13,826,822	_	53,842,764	25.68%
Dewitt	0.22%	166,292	166,292	_	647,554	25.68%
Dubuque	4.86%	3,630,488	3,630,488	_	14,137,414	25.68%
Estherville	0.24%	179,540	179,540	_	699,143	25.68%
Evansdale	0.12%	89,381	89,381	_	348,057	25.68%
Fairfield	0.34%	256,617	256,617	_	999,288	25.68%
Fort Dodge	1.54%	1,152,541	1,152,541	_	4,488,087	25.68%
Fort Madison	0.72%	538,955	538,955		2,098,735	25.68%
Grinnell	0.40%	297,949	297,949	_	1,160,236	25.68%
Indianola	0.42%	314,167	314,167		1,223,390	25.68%
Iowa City	3.71%	2,766,943	2,766,943	_	10,774,700	25.68%
Keokuk	0.79%	586,028	586,028	_	2,282,040	25.68%
Knoxville	0.27%	202,062	202,062	_	786,844	25.68%
Lemars	0.32%	238,104	238,104	_	927,196	25.68%
Maquoketa	0.21%	155,710	155,710	_	606,347	25.68%
Marion	2.03%	1,517,550	1,517,550	-	5,909,464	25.68%
Marshalltown	1.53%	1,145,543	1,145,543	_	4,460,838	25.68%
Mason City	2.01%	1,503,860	1,503,860	-	5,856,151	25.68%
Muscatine	1.79%			-	, , , , , , , , , , , , , , , , , , ,	25.68%
Newton	1.07%	1,335,297 795,033	1,335,297 795,033	-	5,199,755 3,095,925	25.68%
Oelwein	0.20%	151,465	151,465	-	589,817	25.68%
Oskaloosa	0.44%	328,213	328,213	-	1,278,090	25.68% 25.68%
Ottumwa	1.36%			-		25.68%
Pella	0.35%	1,017,522	1,017,522	-	3,962,311	25.68%
	6.28%	262,362	262,362	-	1,021,660	
Sioux City	0.49%	4,686,553	4,686,553	-	18,249,816	25.68%
Spencer		366,430	366,430	-	1,426,908	25.68%
Storm Lake	0.36%	270,107	270,107	-	1,051,819	25.68%
Urbandale	2.10%	1,566,076	1,566,076	-	6,098,428	25.68%
Waterloo	5.60%	4,180,091	4,180,091	=	16,277,611	25.68%
Walastan Cita	0.37%	274,027	274,027	-	1,067,082	25.68%
Webster City West Des Moines	0.29% 3.29%	218,353	218,353	-	850,284 9,559,867	25.68% 25.68%
		2,454,974	2,454,974		 290,660,576	23.087
Total	100.00%	\$ 74,641,639	\$ 74,641,639	\$ -	\$	

^{*} Represents reported covered payroll. Amount reported is based on pensionable payroll and not total payroll. Please consult your auditor when presenting covered payroll in your reports.

Net Pension Liability

The components of the net pension liability of the System at June 30, 2018, were as follows:

Total Pension Liability Plan Fiduciary Net Position	\$ 3,145,031,474 (2,549,627,987)
Net Pension Liability	\$ 595,403,487
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	81.07%
The following schedule presents the changes in net pension liability for fiscal year ended I	June 30, 2018:
Total Pension Liability - Beginning of Year	\$ 3,023,371,171
Service Cost	56,128,110
Interest	224,678,250
Changes of Benefit Terms	, , , , , , , , , , , , , , , , , , ,
Difference between Expected and Actual Experience	(9,748,387)
Changes of Assumptions	21,266,192
Benefit Payments, Including Refunds	(170,663,862)
Total Pension Liability - End of Year	3,145,031,474
Plan Fiduciary Net Position - Beginning of Year	2,436,896,111
Contributions - Employer and State	74,641,639
Contributions - Member	27,493,680
Net Investment Income	183,182,098
Benefit Payments, Including Refunds	(170,663,862)
Administrative Expenses	(1,781,886)
Other	(139,793)
Plan Fiduciary Net Position - End of Year	2,549,627,987
Net Pension Liability - End of Year	\$ 595,403,487
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	81.07%
Covered Payroll*	\$ 290,660,576
Net Pension Liability as a Percentage of the Covered Payroll	204.84%

^{*}Represents reported covered payroll. Amount reported is based on pensionable payroll and not total payroll. Please consult your auditor when presenting covered payroll in your reports.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability, calculated using the current discount rate of 7.50%, as well as the net pension liability calculated using a discount rate that is 1-percentage point lower (6.50%) or 1-percentage point higher (8.50%) than the current rate:

	1% Decrease 6.50%	Current Discount Rate 7.50%	1% Increase 8.50%
Total Pension Liability	\$3,543,038,383	\$3,145,031,474	\$2,815,495,131
Plan Fiduciary Net Position	(2,549,627,987)	(2,549,627,987)	(2,549,627,987)
Net Pension Liability	\$ 993,410,396	\$ 595,403,487	\$ 265,867,144

The allocation amongst all Cities of the sensitivity in Net Pension Liability of the System at June 30, 2018, was as follows:

MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

SENSITIVITY ANALYSIS OF NET PENSION LIABILITY BY CITY

City	Proportionate Share (%)	1% Decrease 6.50%	Current Discount Rate 7.50%	1% Increase 8.50%
Ames	2.719769%	\$ 27,018,468	\$ 16,193,599	\$ 7,230,9
Ankeny	1.968052%	19,550,833	11,717,850	5,232,40
Bettendorf	1.961854%	19,489,262	11,680,947	5,215,9
Boone	0.555855%	5,521,921	3,309,580	1,477,83
Burlington	1.880797%	18,684,033	11,198,331	5,000,4
Camanche	0.213589%	2,121,815	1,271,716	567,8
Carroll	0.294602%	2,926,607	1,754,071	783,2
Cedar Falls	1.778180%	17,664,625	10,587,346	4,727,5
Cedar Rapids	9.187972%	91,274,269	54,705,506	24,427,7
Centerville	0.246957%	2,453,297	1,470,391	656,5
Charles City	0.324862%	3,227,213	1,934,240	863,7
Clinton	1.862661%	18,503,878	11,090,354	4,952,2
Clive	0.604403%	6,004,192	3,598,630	1,606,9
Council Bluffs	5.816974%	57,786,434	34,634,472	15,465,4
Creston	0.271937%	2,701,450	1,619,122	722,9
Davenport	7.752091%	77,010,078	46,156,220	20,610,2
Decorah	0.295197%	2,932,518	1,757,613	784,8
Des Moines	18.524274%	184,022,066	110,294,179	49,249,9
Dewitt	0.222787%	2,213,189	1,326,481	592,3
Dubuque	4.863891%	48,318,399	28,959,777	12,931,4
Estherville	0.240536%	2,389,510	1,432,159	639,5
Evansdale	0.119747%	1,189,579	712,977	318,3
Fairfield	0.343799%	3,415,335	2,046,991	914,0
Fort Dodge	1.544099%	15,339,240	9,193,619	4,105,2
Fort Madison	0.722057%	7,172,989	4,299,153	1,919,7
Grinnell	0.399173%	3,965,416	2,376,684	1,061,2
Indianola	0.420900%	4,181,264	2,506,053	1,119,0
Iowa City	3.706970%	36,825,425	22,071,429	9,855,6
Keokuk	0.785122%	7,799,484	4,674,644	2,087,3
Knoxville	0.270709%	2,689,251	1,611,810	719,7
Lemars	0.318996%	3,168,939	1,899,313	848,1
Maquoketa	0.208610%	2,072,353	1,242,071	554,6
Marion	2.033115%	20,197,176	12,105,238	5,405,3
Marshalltown	1.534724%	15,246,108	9,137,800	4,080,3
Mason City	2.014774%	20,014,964	11,996,029	5,356,6
Muscatine	1.788944%	17,771,556	10,651,435	4,756,2
Newton	1.065133%	10,581,152	6,341,845	2,831,8
Oelwein	0.202923%	2,015,858	1,208,210	539,5
Oskaloosa	0.439718%	4,368,214	2,618,102	1,169,0
Ottumwa	1.363210%	13,542,260	8,116,594	3,624,3
Pella	0.351495%	3,491,798	2,092,819	934,5
Sioux City	6.278738%	62,373,636	37,383,825	16,693,1
Spencer	0.490919%	4,876,840	2,922,949	1,305,1
Storm Lake	0.361872%	3,594,874	2,154,598	962,0
Urbandale	2.098126%	20,843,012	12,492,321	5,578,2
Waterloo	5.600213%	55,633,098	33,343,863	14,889,1
Waverly	0.367124%	3,647,038	2,185,863	976,0
Webster City	0.292535%	2,906,073	1,741,764	777,7
West Des Moines	3.289014%	32,673,407	19,582,904	8,744,4
Total	100.00%	\$ 993,410,396	\$ 595,403,487	\$ 265,867,

Deferred Inflows and Outflows of Resources

As of June 30, 2018, the deferred inflows and outflows of resources are as follows:

	Deferred Inflows of Resources	Deferred Outflows of Resources
Differences between expected and actual experience Changes of assumptions Net difference between projected and actual earnings	\$ (8,076,946) (4,757,989) (58,826,504)	\$ 15,983,684 50,853,523 87,950,215
Contributions made subsequent to measurement date*	TBD	TBD
Total	\$ (71,661,439)	\$ 154,787,422

^{*}Contributions made subsequent to the measurement date will not be known until after the end of the reporting period.

Other amounts currently reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in future years' pension expense as follows:

Year ending	Annual
June 30,	Recognition
2019	\$ 55,097,863
2020	29,527,890
2021	(7,783,416)
2022	5,430,476
2023	853,170
Thereafter	-

The allocation amongst all Cities of amounts currently reported as Deferred (Inflows)/Outflows of the System to be recognized in Pension Expense was as follows:

MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

FUTURE DEFERRED INFLOWS AND OUTFLOWS OF RESOURCES TO BE RECOGNIZED BY CITY AS OF JUNE 30, 2018

	Proportionate	Year Ending June 30,				
City	Share (%)	2019	2020	2021	2022	2023
Ames	2.719769%	\$ 1,498,535	\$ 803,090	\$ (211,691)	\$ 147,696	\$ 23,204
Ankeny	1.968052%	1,084,355	581,124	(153,182)	106,875	16,791
Bettendorf	1.961854%	1,080,940	579,294	(152,699)	106,538	16,738
Boone	0.555855%	306,264	164,132	(43,265)	30,186	4,742
Burlington	1.880797%	1,036,279	555,360	(146,390)	102,136	16,046
Camanche	0.213589%	117,683	63,068	(16,625)	11,599	1,822
Carroll	0.294602%	162,319	86,990	(22,930)	15,998	2,513
Cedar Falls	1.778180%	979,739	525,059	(138,403)	96,564	15,171
Cedar Rapids	9.187972%	5,062,376	2,713,014	(715,138)	498,951	78,389
Centerville	0.246957%	136,068	72,921	(19,222)	13,411	2,107
Charles City	0.324862%	178,992	95,925	(25,285)	17,642	2,772
Clinton	1.862661%	1,026,287	550,005	(144,979)	101,151	15,892
Clive	0.604403%	333,013	178,467	(47,043)	32,822	5,157
Council Bluffs	5.816974%	3,205,029	1,717,630	(452,759)	315,889	49,629
Creston	0.271937%	149,831	80,297	(21,166)	14,767	2,320
Davenport	7.752091%	4,271,236	2,289,029	(603,377)	420,975	66,139
Decorah	0.295197%	162,647	87,165	(22,976)	16,031	2,519
Des Moines	18.524274%	10,206,479	5,469,828	(1,441,824)	1,005,956	158,043
Dewitt	0.222787%	122,751	65,784	(17,340)	12,098	1,901
Dubuque	4.863891%	2,679,900	1,436,204	(378,577)	264,132	41,497
Estherville	0.240536%	132,530	71,025	(18,722)	13,062	2,052
Evansdale	0.119747%	65,978	35,359	(9,320)	6,503	1,022
Fairfield	0.343799%	189,426	101,517	(26,759)	18,670	2,933
Fort Dodge	1.544099%	850,766	455,940	(120,184)	83,852	13,174
Fort Madison	0.722057%	397,838	213,208	(56,201)	39,211	6,160
Grinnell	0.399173%	219,935	117,867	(31,069)	21,677	3,406
Indianola	0.420900%	231,907	124,283	(32,760)	22,857	3,591
Iowa City	3.706970%	2,042,461	1,094,590	(288,529)	201,306	31,627
Keokuk	0.785122%	432,585	231,830	(61,109)	42,636	6,698
Knoxville	0.270709%	149,155	79,935	(21,070)	14,701	2,310
Lemars	0.318996%	175,760	94,193	(24,829)	17,323	2,722
Maquoketa	0.208610%	114,940	61,598	(16,237)	11,329	1,780
Marion	2.033115%	1,120,203	600,336	(158,246)	110,408	17,346
Marshalltown	1.534724%	845,600	453,172	(119,454)	83,343	13,094
Mason City	2.014774%	1,110,097	594,920	(156,818)	109,412	17,189
Muscatine	1.788944%	985,670	528,237	(139,241)	97,148	15,263
Newton	1.065133%	586,866	314,512	(82,904)	57,842	9,087
Oelwein	0.202923%	111,806	59,919	(15,794)	11,020	1,731
Oskaloosa	0.439718%	242,276	129,840	(34,225)	23,879	3,752
Ottumwa	1.363210%	751,099	402,527	(106,104)	74,029	11,630
Pella	0.351495%	193,667	103,789	(27,358)	19,088	2,999
Sioux City	6.278738%	3,459,450	1,853,979	(488,700)	340,965	53,568
Spencer	0.490919%	270,486	144,958	(38,210)	26,659	4,188
Storm Lake		199,384	106,853	(28,166)	19,651	3,087
Urbandale	0.361872%			· · ·		
Waterloo	2.098126% 5.600213%	1,156,023 3,085,598	619,533 1,653,625	(163,306) (435,888)	113,938 304,118	17,901 47,779
Waverly	0.367124%	202,277	1,033,023	(28,575)	19,937	3,132
Webster City	0.367124%	161,181	86,379	(22,769)	15,886	2,496
West Des Moines	3.289014%	1,812,176	971,176	(255,998)	178,609	28,061
Total	100.00%	\$ 55,097,863	\$ 29,527,890	\$ (7,783,416)	\$ 5,430,476	\$ 853,170

Expected Remaining Service Lives

Gains and losses which are amortized over future years are referred to as deferred inflows or gains, and deferred outflows or losses. Investment gains and losses are recognized over a closed five year period. Economic and demographic gains and losses and changes in the total pension liability due to changes in assumptions are recognized over a closed period equal to the average expected remaining service lives of all covered active and inactive members, determined as of the beginning of the measurement period. The amortization period is calculated as the weighted average of expected remaining service lives assuming zero years for all inactive members.

The amortization period for the June 30, 2017 to June 30, 2018 measurement period was determined as follows:

		Expected Remaining Service
<u>As of June 30, 2017</u>	Members	Lives
Active Members	3,968	11.461
Inactive Members	4,401	0.000
Weighted Average Rounded to the Nearest Tenth		5.400
Pension Expense		June 30, 2018
Service Cost		\$ 56,128,110
Interest on Total Pension Liability		224,678,250
Effect of Plan Changes		-
Administrative Expenses		1,781,886
Other Changes in Fiduciary Net Position		139,793
Member Contributions		(27,493,680)
Expected Investment Return Net of Investment Expenses		(180, 172, 661)
Recognition of Deferred (Inflows)/Outflows of Resources		
Economic/Demographic (Gains)/Losses		4,494,106
Assumption Changes		18,347,209
Investment (Gains)/Losses		(8,103,003)
Pension Expense		\$ 89,800,010

Actuarial Assumptions

The total pension liability in the June 30, 2018 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Rate of Inflation

Salary Increases

3.00 percent

3.75 to 15.11 percent including inflation

Investment Rate of Return

7.50 percent, net of pension plan investment expense, including inflation

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of an actuarial experience study for the period of July 1, 2007 to June 30, 2017. There were no significant changes of benefit terms.

Mortality rates as of June 30, 2018, were based on RP 2014 Blue Collar Healthy Annuitant table with males set-forward zero years, females set forward two years and disabled set-forward three years (male only rates), with generational projection of future mortality improvement with 50% of Scale BB beginning in 2017.

The investment policy and decisions are governed by the Board of Trustees. The long-term expected rate of return on pension plan investments was determined using a building block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2016 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Asset Class	<u>Long-Term Expected Real Rate of Return</u>
Large Cap	5.5%
Small Cap	5.8%
International Large Cap	7.3%
Emerging Markets	9.0%
Emerging Market Debt	6.3%
Private Non-Core Real Estate	8.0%
Master Limited Partnerships	9.0%
Private Equity	9.0%
Core Plus Fixed Income	3.3%
Private Core Real Estate	6.0%
Tactical Asset Allocation	6.4%

Discount rate – The discount rate used to measure the total pension liability was 7.5 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that City contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.