

**CITY OF RICHMOND HEIGHTS POLICEMEN'S AND
FIREMEN'S RETIREMENT FUND**
GASB STATEMENT NO. 68 EMPLOYER REPORTING
ACCOUNTING SCHEDULES
JULY 1, 2015

November 23, 2015

Board of Trustees
City of Richmond Heights
Policemen's and Firemen's Retirement Fund
Richmond Heights, MO

The accounting schedules submitted in this report are required under the Governmental Accounting Standards Board (GASB) Statement No. 68 "Employer Reporting for Pension Plans."

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement No. 68. These calculations have been made on a basis that is consistent with our understanding of this Statement.

This information is intended to assist in preparation of the financial statements of the City of Richmond Heights Policemen's and Firemen's Retirement Fund. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 68. Our calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 68 may produce significantly different results. This report may be provided to parties other than the City of Richmond Heights Policemen's and Firemen's Retirement Fund only in its entirety and only with the permission of the City and the Board.

This report is based upon information, furnished to us by the City, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency but was not otherwise audited. We are not responsible for the accuracy or completeness of the information provided by the City.

This report complements the actuarial valuation report provided to the City of Richmond Heights Policemen's and Firemen's Retirement Fund and should be considered in conjunction with that report. Please see the actuarial valuation report as of July 1, 2015 for additional discussion of the nature of actuarial calculations and for more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the City of Richmond Heights Policemen's and Firemen's Retirement Fund. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

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The signing actuaries are independent of the plan sponsor.

Brad Lee Armstrong and Abra D. Hill are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Brad Lee Armstrong, ASA, EA, FCA, MAAA



Abra D. Hill, ASA, MAAA

BLA/ADH:sc

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SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

AS OF JULY 1, 2015

Actuarial Valuation Date	July 1, 2015
Measurement Date of the Net Pension Liability	July 1, 2015
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2015

Membership

Number of	
- Retirees, Beneficiaries and DROP members	37
- Inactive, Nonretired Members	1
- Active Members (excluding DROP members)	62
- Total	100
Covered Payroll #	\$ 4,195,622

Net Pension Liability

Total Pension Liability	\$ 36,812,833
Plan Fiduciary Net Position	48,876,725
Net Pension Liability	\$ (12,063,892)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	132.77%
Net Pension Liability as a Percentage of Covered Payroll	(287.54)%

Development of the Single Discount Rate

Single Discount Rate	7.00%
Long-Term Expected Rate of Investment Return	7.00%
Long-Term Municipal Bond Rate*	3.80%
Last year ending July 1 in the 2016 to 2115 projection period for which projected benefit payments are fully funded	2115

Total Pension Expense \$ 304,061

Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ -	\$ 1,480,766
Changes in assumptions	209,981	-
Net difference between projected and actual earnings on pension plan investments	1,804,208	-
Total	\$ 2,014,189	\$ 1,480,766

* Source: "State & local bonds" rate from Federal Reserve statistical release (H.15) as of June 25, 2015.

The statistical release describes this rate as "Bond Buyer Index, general obligation, 20 years to maturity, mixed quality." In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

Valuation payroll as of July 1, 2015.

DISCUSSION

Accounting Standard

For state and local government employers (as well as certain non-employers) that contribute to a defined benefit (DB) pension plan administered through a trust or equivalent arrangement, Governmental Accounting Standards Board (GASB) Statement No. 68 establishes standards for pension accounting and financial reporting. Under GASB Statement No. 68, the employer must account for and disclose the Net Pension Liability, Pension Expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information is not included in this report if it is not actuarial in nature, such as the notes to the financial statements regarding accounting policies and investments. As a result, the retirement system and/or plan sponsor is responsible for preparing and disclosing the non-actuarial information needed to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state and local government employers that contribute to DB pension plans to recognize the Net Pension Liability and the Pension Expense on their financial statements, along with the related deferred outflows of resources and deferred inflows of resources. The Net Pension Liability is the difference between the Total Pension Liability and the plan's Fiduciary Net Position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective Net Pension Liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the City of Richmond Heights Policemen's and Firemen's Retirement Fund subsequent to the measurement date of July 1, 2015.

The Pension Expense recognized each fiscal year is equal to the change in the Net Pension Liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the certain changes in the liability and investment experience.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total Pension Expense, the pension plan's liabilities and assets, and deferred outflows of resources and inflows of resources related to pensions.

In addition, GASB Statement No. 68 requires the notes of the financial statements for the employers to include certain additional information, including:

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- the number and classes of employees covered by the benefit terms;
- for the current year, sources of changes in the Net Pension Liability;
- significant assumptions and methods used to calculate the Total Pension Liability;
- inputs to the Single Discount Rate;
- certain information about mortality assumptions and the dates of experience studies;
- the date of the valuation used to determine the Total Pension Liability;
- information about changes of assumptions or other inputs and benefit terms;
- the basis for determining contributions to the plan, including a description of the plan's funding policy, as well as member and employer contribution requirements;
- the Total Pension Liability, Fiduciary Net Position, Net Pension Liability, and the pension plan's Fiduciary Net Position as a percentage of the Total Pension Liability;
- the Net Pension Liability using a discount rate that is 1% higher and 1% lower than used to calculate the Total Pension Liability and Net Pension Liability for financial reporting purposes; and
- a description of the system that administers the pension plan.

Required Supplementary Information

The financial statements of employers also include required supplementary information showing the 10-year fiscal history of:

- sources of changes in the Net Pension Liability;
- information about the components of the Net Pension Liability and related ratios, including the pension plan's Fiduciary Net Position as a percentage of the Total Pension Liability, and the Net Pension Liability as a percent of covered-employee payroll; and
- a comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

While the first two tables may be built prospectively as the information becomes available, sufficient information is currently available for the third table.

Timing of the Valuation

An actuarial valuation to determine the Total Pension Liability is required to be performed at least every two years. For the employer's financial reporting purposes, the Net Pension Liability and Pension Expense should be measured as of the employer's "measurement date" which may not be earlier than the employer's prior fiscal year-end date. If the actuarial valuation used to determine the Total Pension Liability is not calculated as of the measurement date, the Total Pension Liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The Total Pension Liability shown in this report is based on an actuarial valuation performed as of July 1, 2015 and a measurement date of July 1, 2015.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's Fiduciary Net Position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the plan's projected Fiduciary Net Position is not sufficient to pay benefits).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.00%; the municipal bond rate is 3.80% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 7.00%.

Effective Date and Transition

GASB Statement No. 68 is effective for an employer's fiscal years beginning after June 15, 2014; however, earlier application is encouraged by the GASB.

SECTION B

FINANCIAL STATEMENTS

PENSION EXPENSE UNDER GASB STATEMENT NO. 68
FISCAL YEAR ENDED JUNE 30, 2015

A. Expense

1. Service Cost	\$	1,087,127
2. Interest on the Total Pension Liability		2,683,410
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		(129,032)
5. Projected Earnings on Plan Investments (made negative for addition here)		(3,577,947)
6. Pension Plan Administrative Expense		16,304
7. Other Changes in Plan Fiduciary Net Position		-
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		(226,853)
9. Recognition of Outflow (Inflow) of Resources due to Assets		451,052
10. Total Pension Expense	\$	304,061

**STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING
PERIOD
FISCAL YEAR ENDED JUNE 30, 2015**

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (1,745,103)
2. Assumption Changes (gains) or losses	\$ 247,466
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years }	6.6018
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$ (264,337)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 37,485
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	<u>\$ (226,853)</u>
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ (1,480,766)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ 209,981
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	<u>\$ (1,270,784)</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 2,255,260
2. Recognition period for Assets {in years }	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ 451,052
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 1,804,208

**STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR
REPORTING PERIODS
FISCAL YEAR ENDED JUNE 30**

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	<u>Outflows of Resources</u>	<u>Inflows of Resources</u>	<u>Net Outflows of Resources</u>
1. Due to Liabilities	\$ 37,485	\$ 264,337	\$ (226,853)
2. Due to Assets	451,052	-	451,052
3. Total	\$ 488,537	\$ 264,337	\$ 224,199

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	<u>Outflows of Resources</u>	<u>Inflows of Resources</u>	<u>Net Outflows of Resources</u>
1. Differences between expected and actual experience	\$ -	\$ 264,337	\$ (264,337)
2. Assumption Changes	37,485	-	37,485
3. Net Difference between projected and actual earnings on pension plan investments	451,052	-	451,052
4. Total	\$ 488,537	\$ 264,337	\$ 224,199

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>	<u>Net Deferred Outflows of Resources</u>
1. Differences between expected and actual experience	\$ -	\$ 1,480,766	\$ (1,480,766)
2. Assumption Changes	209,981	-	209,981
3. Net Difference between projected and actual earnings on pension plan investments	1,804,208	-	1,804,208
4. Total	\$ 2,014,189	\$ 1,480,766	\$ 533,424

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

<u>Year Ending July 1</u>	<u>Net Deferred Outflows of Resources</u>
2016	\$ 224,199
2017	224,199
2018	224,199
2019	224,199
2020	(226,853)
Thereafter	(136,520)
Total	\$ 533,424

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
CURRENT PERIOD
FISCAL YEAR ENDED JUNE 30, 2015

A. Total pension liability

1. Service Cost	\$	1,087,127
2. Interest on the total pension liability		2,683,410
3. Changes of benefit terms		-
4. Difference between expected and actual experience of the total pension liability		(1,745,103)
5. Changes of assumptions		247,466
6. Benefit payments, including refunds of employee contributions		(1,390,595)
7. Net change in total pension liability	\$	882,305
8. Total pension liability – beginning		35,930,528
9. Total pension liability – ending	\$	36,812,833

B. Plan fiduciary net position

1. Contributions – employer	\$	974,032
2. Contributions – employee		129,032
3. Net investment income		1,322,687
4. Benefit payments, including refunds of employee contributions		(1,390,595)
5. Pension Plan Administrative Expense		(16,304)
6. Other		-
7. Net change in plan fiduciary net position	\$	1,018,852
8. Plan fiduciary net position – beginning		47,857,873
9. Plan fiduciary net position – ending	\$	48,876,725

C. Net pension liability

	\$	(12,063,892)
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**D. Plan fiduciary net position as a percentage
of the total pension liability**

132.77%

E. Covered-employee payroll #

\$	4,195,622
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**F. Net pension liability as a percentage
of covered-employee payroll**

(287.54)%

Valuation payroll as of July 1, 2015.

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
MULTIYEAR
ULTIMATELY 10 FISCAL YEARS WILL BE DISPLAYED

Fiscal year ending June 30,	<u>2015</u>
Total Pension Liability	
Service Cost	\$ 1,087,127
Interest on the Total Pension Liability	2,683,410
Benefit Changes	-
Difference between Expected and Actual Experience	(1,745,103)
Assumption Changes	247,466
Benefit Payments	(1,390,595)
Refunds	-
Net Change in Total Pension Liability	<u>882,305</u>
Total Pension Liability - Beginning	<u>35,930,528</u>
Total Pension Liability - Ending (a)	<u><u>\$ 36,812,833</u></u>
Plan Fiduciary Net Position	
Employer Contributions	\$ 974,032
Employee Contributions	129,032
Pension Plan Net Investment Income	1,322,687
Benefit Payments	(1,390,595)
Refunds	-
Pension Plan Administrative Expense	(16,304)
Other	-
Net Change in Plan Fiduciary Net Position	<u>1,018,852</u>
Plan Fiduciary Net Position - Beginning	<u>47,857,873</u>
Plan Fiduciary Net Position - Ending (b)	<u><u>\$ 48,876,725</u></u>
Net Pension Liability - Ending (a) - (b)	(12,063,892)
Plan Fiduciary Net Position as a Percentage	
of Total Pension Liability	132.77 %
Covered-Employee Payroll #	\$ 4,195,622
Net Pension Liability as a Percentage	
of Covered-Employee Payroll	(287.54)%
Notes to Schedule:	
<i># Valuation payroll as of July 1, 2015.</i>	

SCHEDULE OF CONTRIBUTIONS MULTIYEAR
ULTIMATELY 10 FISCAL YEARS WILL BE DISPLAYED

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll #	Actual Contribution as a % of Covered Payroll
2015	\$ 944,580	\$ 974,032	\$ (29,452)	\$ 4,195,622	23.22%

Valuation payroll as of July 1, 2015.

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date: July 1, 2015
Notes Actuarially determined contribution rates are calculated as of July 1 of odd numbered years, which is 0 months prior to the beginning of the 2016 fiscal year and 12 months prior to the beginning of the 2017 fiscal year, which contributions are reported.

Methods and Assumptions Used to Actuarially Determine Contribution Rates:

Actuarial Cost Method	Individual Entry Age Normal
Amortization Method	Level percentage of payroll, open for positive Unfunded Actuarial Accrued Liability (UAAL), zero if negative.
Remaining Amortization Period	30 years
Asset Valuation Method	4-Year smoothed market; 20% corridor
Inflation	3.00%
Salary Increases	5.00% including inflation
Investment Rate of Return	7.00%
Retirement Age	Age and Service-based table of rates that are specific to the type of eligibility condition.
Mortality	The RP-2014 Blue Collar Health Annuitant Mortality Table projected 2 years after the valuation, with MP-2014 Mortality Improvement Scale. The margin for future mortality improvement is the projection 2 years after the valuation date.

Other Information:

Notes	Assumption Changes are reflected in the TPL as of July 1, 2015.
Cost-of-Living-Adjustments	Participants and beneficiaries in pay status prior to July 1, 1987 are assumed to receive 4.0% cost-of-living increases per year. After July 1, 1987, 5.0% to SS NRA for retirees. Surviving Spouse annual benefit adjustments do not cease.

Regarding the sensitivity of the Net Pension Liability to changes in the Single Discount Rate, the following presents the plan's Net Pension Liability, calculated using a Single Discount Rate of 7.00%, as well as what the plan's Net Pension Liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

1% Decrease	Current Single Discount Rate Assumption	1% Increase
6.00%	7.00%	8.00%
\$(7,251,271)	\$(12,063,892)	\$(16,082,867)

SECTION C

CALCULATION OF THE SINGLE DISCOUNT RATE

CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 68 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the Fiduciary Net Position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.00%; the municipal bond rate is 3.80%; and the resulting Single Discount Rate is 7.00%.

The tables in this section provide background for the development of the Single Discount Rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS ENDING JUNE 30, 2064

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAAL Contributions	Total Contributions
0	\$ 4,195,622					
1	4,280,529	\$ 128,416	\$ 866,907	\$ 20,425	\$ (459,583)	\$ 556,165
2	4,229,802	126,894	858,030	22,095	(548,506)	458,513
3	4,086,972	122,609	832,133	25,545	(647,283)	333,004
4	3,870,142	116,104	793,710	27,597	(638,298)	299,113
5	3,713,000	111,390	763,634	27,840	(657,447)	245,417
6	3,637,282	109,118	747,409	29,111	(677,170)	208,468
7	3,501,555	105,047	720,699	32,357	(697,485)	160,617
8	3,368,826	101,065	692,572	31,907	(692,572)	132,972
9	3,229,114	96,873	663,715	35,345	(663,715)	132,218
10	3,051,240	91,537	629,248	35,912	(629,248)	127,449
11	2,898,586	86,958	600,169	38,537	(600,169)	125,495
12	2,696,535	80,896	563,350	40,790	(563,350)	121,686
13	2,584,355	77,531	542,476	40,278	(542,476)	117,809
14	2,450,120	73,504	513,106	44,238	(513,106)	117,742
15	2,250,629	67,519	466,152	44,630	(466,152)	112,149
16	2,072,191	62,166	423,586	47,580	(423,586)	109,746
17	1,832,088	54,963	368,852	49,758	(368,852)	104,721
18	1,682,903	50,487	334,710	49,480	(334,710)	99,967
19	1,540,787	46,224	305,551	52,632	(305,551)	98,856
20	1,393,051	41,792	274,707	51,558	(274,707)	93,350
21	1,316,829	39,505	258,520	52,655	(258,520)	92,160
22	1,172,533	35,176	229,834	54,156	(229,834)	89,332
23	977,027	29,311	190,864	55,319	(190,864)	84,630
24	817,665	24,530	158,976	54,677	(158,976)	79,207
25	752,386	22,572	145,817	53,735	(145,817)	76,307
26	708,169	21,245	136,683	53,589	(136,683)	74,834
27	599,977	17,999	115,165	54,599	(115,165)	72,598
28	420,171	12,605	80,713	55,789	(80,713)	68,394
29	250,156	7,505	47,830	55,335	(47,830)	62,840
30	171,711	5,151	32,223	53,728	(32,223)	58,879
31	148,314	4,449	27,752	52,756	(27,752)	57,205
32	121,136	3,634	22,410	51,823	(22,410)	55,457
33	98,464	2,954	18,116	50,509	(18,116)	53,463
34	77,020	2,311	14,139	49,319	(14,139)	51,630
35	49,348	1,480	8,846	47,923	(8,846)	49,403
36	33,699	1,011	5,857	46,011	(5,857)	47,022
37	21,315	639	3,593	44,642	(3,593)	45,281
38	9,598	288	1,455	42,590	(1,455)	42,878
39	8,505	255	1,294	40,687	(1,294)	40,942
40	5,453	164	805	38,839	(805)	39,003
41	2,850	85	387	36,850	(387)	36,935
42	1,381	41	188	34,961	(188)	35,002
43	-	-	-	32,968	-	32,968
44	-	-	-	31,013	-	31,013
45	-	-	-	29,081	-	29,081
46	-	-	-	27,178	-	27,178
47	-	-	-	25,312	-	25,312
48	-	-	-	23,491	-	23,491
49	-	-	-	21,723	-	21,723
50	-	-	-	20,015	-	20,015

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING JUNE 30, 2064

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 48,876,725	\$ 556,165	\$ 1,742,043	\$ 20,425	\$ 3,379,864	\$ 51,050,286
2	51,050,286	458,513	1,884,501	22,095	3,523,694	53,125,897
3	53,125,897	333,004	2,178,810	25,545	3,654,423	54,908,969
4	54,908,969	299,113	2,353,809	27,597	3,771,980	56,598,656
5	56,598,656	245,417	2,374,547	27,840	3,887,689	58,329,374
6	58,329,374	208,468	2,482,922	29,111	4,003,795	60,029,605
7	60,029,605	160,617	2,759,748	32,357	4,111,528	61,509,645
8	61,509,645	132,972	2,721,440	31,907	4,215,513	63,104,783
9	63,104,783	132,218	3,014,670	35,345	4,316,939	64,503,925
10	64,503,925	127,449	3,062,971	35,912	4,413,034	65,945,525
11	65,945,525	125,495	3,286,884	38,537	4,506,084	67,251,682
12	67,251,682	121,686	3,479,061	40,790	4,590,693	68,444,210
13	68,444,210	117,809	3,435,358	40,278	4,675,558	69,761,940
14	69,761,940	117,742	3,773,105	44,238	4,756,040	70,818,379
15	70,818,379	112,149	3,806,574	44,630	4,828,633	71,907,957
16	71,907,957	109,746	4,058,196	47,580	4,896,061	72,807,988
17	72,807,988	104,721	4,243,958	49,758	4,952,424	73,571,416
18	73,571,416	99,967	4,220,205	49,480	5,006,527	74,408,226
19	74,408,226	98,856	4,489,086	52,632	5,055,706	75,021,070
20	75,021,070	93,350	4,397,487	51,558	5,101,604	75,766,979
21	75,766,979	92,160	4,491,071	52,655	5,150,519	76,465,932
22	76,465,932	89,332	4,619,047	54,156	5,194,893	77,076,954
23	77,076,954	84,630	4,718,214	55,319	5,234,051	77,622,101
24	77,622,101	79,207	4,663,516	54,677	5,273,929	78,257,044
25	78,257,044	76,307	4,583,104	53,735	5,321,074	79,017,585
26	79,017,585	74,834	4,570,718	53,589	5,374,693	79,842,805
27	79,842,805	72,598	4,656,796	54,599	5,429,384	80,633,392
28	80,633,392	68,394	4,758,351	55,789	5,481,046	81,368,691
29	81,368,691	62,840	4,719,610	55,335	5,533,674	82,190,260
30	82,190,260	58,879	4,582,542	53,728	5,595,819	83,208,688
31	83,208,688	57,205	4,499,613	52,756	5,669,938	84,383,463
32	84,383,463	55,457	4,420,080	51,823	5,754,881	85,721,898
33	85,721,898	53,463	4,307,958	50,509	5,852,406	87,269,300
34	87,269,300	51,630	4,206,522	49,319	5,964,192	89,029,281
35	89,029,281	49,403	4,087,426	47,923	6,091,460	91,034,795
36	91,034,795	47,022	3,924,346	46,011	6,237,441	93,348,902
37	93,348,902	45,281	3,807,578	44,642	6,403,434	95,945,397
38	95,945,397	42,878	3,632,530	42,590	6,591,199	98,904,354
39	98,904,354	40,942	3,470,298	40,687	6,803,907	102,238,218
40	102,238,218	39,003	3,312,676	38,839	7,042,698	105,968,404
41	105,968,404	36,935	3,142,999	36,850	7,309,647	110,135,137
42	110,135,137	35,002	2,981,859	34,961	7,606,861	114,760,180
43	114,760,180	32,968	2,811,861	32,968	7,936,462	119,884,781
44	119,884,781	31,013	2,645,175	31,013	8,300,919	125,540,526
45	125,540,526	29,081	2,480,386	29,081	8,702,492	131,762,631
46	131,762,631	27,178	2,318,080	27,178	9,143,624	138,588,175
47	138,588,175	25,312	2,158,910	25,312	9,626,888	146,056,153
48	146,056,153	23,491	2,003,570	23,491	10,154,992	154,207,575
49	154,207,575	21,723	1,852,765	21,723	10,730,780	163,085,591
50	163,085,591	20,015	1,707,141	20,015	11,357,252	172,735,701

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS ENDING JUNE 30, 2114

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (v _r)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{(a)-.5}	(g)=(e)*v ^{r(a)-.5}	(h)=(c)/(1+sdr) ^{(a)-.5}
1	\$ 48,876,725	\$ 1,742,043	\$ 1,742,043	\$ -	\$ 1,684,097	\$ -	\$ 1,684,097
2	51,050,286	1,884,501	1,884,501	-	1,702,631	-	1,702,631
3	53,125,897	2,178,810	2,178,810	-	1,839,755	-	1,839,755
4	54,908,969	2,353,809	2,353,809	-	1,857,496	-	1,857,496
5	56,598,656	2,374,547	2,374,547	-	1,751,273	-	1,751,273
6	58,329,374	2,482,922	2,482,922	-	1,711,403	-	1,711,403
7	60,029,605	2,759,748	2,759,748	-	1,777,767	-	1,777,767
8	61,509,645	2,721,440	2,721,440	-	1,638,402	-	1,638,402
9	63,104,783	3,014,670	3,014,670	-	1,696,202	-	1,696,202
10	64,503,925	3,062,971	3,062,971	-	1,610,635	-	1,610,635
11	65,945,525	3,286,884	3,286,884	-	1,615,306	-	1,615,306
12	67,251,682	3,479,061	3,479,061	-	1,597,896	-	1,597,896
13	68,444,210	3,435,358	3,435,358	-	1,474,602	-	1,474,602
14	69,761,940	3,773,105	3,773,105	-	1,513,624	-	1,513,624
15	70,818,379	3,806,574	3,806,574	-	1,427,150	-	1,427,150
16	71,907,957	4,058,196	4,058,196	-	1,421,950	-	1,421,950
17	72,807,988	4,243,958	4,243,958	-	1,389,757	-	1,389,757
18	73,571,416	4,220,205	4,220,205	-	1,291,568	-	1,291,568
19	74,408,226	4,489,086	4,489,086	-	1,283,979	-	1,283,979
20	75,021,070	4,397,487	4,397,487	-	1,175,495	-	1,175,495
21	75,766,979	4,491,071	4,491,071	-	1,121,973	-	1,121,973
22	76,465,932	4,619,047	4,619,047	-	1,078,453	-	1,078,453
23	77,076,954	4,718,214	4,718,214	-	1,029,539	-	1,029,539
24	77,622,101	4,663,516	4,663,516	-	951,031	-	951,031
25	78,257,044	4,583,104	4,583,104	-	873,488	-	873,488
26	79,017,585	4,570,718	4,570,718	-	814,138	-	814,138
27	79,842,805	4,656,796	4,656,796	-	775,206	-	775,206
28	80,633,392	4,758,351	4,758,351	-	740,291	-	740,291
29	81,368,691	4,719,610	4,719,610	-	686,228	-	686,228
30	82,190,260	4,582,542	4,582,542	-	622,709	-	622,709
31	83,208,688	4,499,613	4,499,613	-	571,439	-	571,439
32	84,383,463	4,420,080	4,420,080	-	524,616	-	524,616
33	85,721,898	4,307,958	4,307,958	-	477,858	-	477,858
34	87,269,300	4,206,522	4,206,522	-	436,080	-	436,080
35	89,029,281	4,087,426	4,087,426	-	396,013	-	396,013
36	91,034,795	3,924,346	3,924,346	-	355,339	-	355,339
37	93,348,902	3,807,578	3,807,578	-	322,211	-	322,211
38	95,945,397	3,632,530	3,632,530	-	287,288	-	287,288
39	98,904,354	3,470,298	3,470,298	-	256,502	-	256,502
40	102,238,218	3,312,676	3,312,676	-	228,834	-	228,834
41	105,968,404	3,142,999	3,142,999	-	202,909	-	202,909
42	110,135,137	2,981,859	2,981,859	-	179,912	-	179,912
43	114,760,180	2,811,861	2,811,861	-	158,556	-	158,556
44	119,884,781	2,645,175	2,645,175	-	139,399	-	139,399
45	125,540,526	2,480,386	2,480,386	-	122,163	-	122,163
46	131,762,631	2,318,080	2,318,080	-	106,701	-	106,701
47	138,588,175	2,158,910	2,158,910	-	92,873	-	92,873
48	146,056,153	2,003,570	2,003,570	-	80,552	-	80,552
49	154,207,575	1,852,765	1,852,765	-	69,616	-	69,616
50	163,085,591	1,707,141	1,707,141	-	59,948	-	59,948

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS ENDING JUNE 30, 2114 (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/(1+sdr) ^a ((a)-.5)
51	\$ 172,735,701	\$ 1,567,217	\$ 1,567,217	\$ -	\$ 51,434	\$ -	\$ 51,434
52	183,206,058	1,433,377	1,433,377	-	43,964	-	43,964
53	194,547,786	1,305,861	1,305,861	-	37,432	-	37,432
54	206,815,338	1,184,784	1,184,784	-	31,740	-	31,740
55	220,066,861	1,070,175	1,070,175	-	26,794	-	26,794
56	234,364,543	962,019	962,019	-	22,510	-	22,510
57	249,774,942	860,273	860,273	-	18,813	-	18,813
58	266,369,314	764,885	764,885	-	15,633	-	15,633
59	284,223,963	675,801	675,801	-	12,908	-	12,908
60	303,420,587	592,984	592,984	-	10,585	-	10,585
61	324,046,641	516,409	516,409	-	8,615	-	8,615
62	346,195,728	446,053	446,053	-	6,955	-	6,955
63	369,968,028	381,886	381,886	-	5,565	-	5,565
64	395,470,764	323,850	323,850	-	4,410	-	4,410
65	422,818,725	271,847	271,847	-	3,460	-	3,460
66	452,134,834	225,723	225,723	-	2,685	-	2,685
67	483,550,783	185,271	185,271	-	2,060	-	2,060
68	517,207,692	150,227	150,227	-	1,561	-	1,561
69	553,256,835	120,271	120,271	-	1,168	-	1,168
70	591,860,404	95,027	95,027	-	862	-	862
71	633,192,336	74,069	74,069	-	628	-	628
72	677,439,182	56,932	56,932	-	451	-	451
73	724,801,034	43,141	43,141	-	320	-	320
74	775,492,480	32,221	32,221	-	223	-	223
75	829,743,625	23,714	23,714	-	153	-	153
76	887,801,148	17,195	17,195	-	104	-	104
77	949,929,442	12,281	12,281	-	69	-	69
78	1,016,411,799	8,633	8,633	-	46	-	46
79	1,087,551,695	5,970	5,970	-	29	-	29
80	1,163,674,138	4,057	4,057	-	19	-	19
81	1,245,127,131	2,708	2,708	-	12	-	12
82	1,332,283,229	1,773	1,773	-	7	-	7
83	1,425,541,221	1,138	1,138	-	4	-	4
84	1,525,327,929	716	716	-	3	-	3
85	1,632,100,144	441	441	-	1	-	1
86	1,746,346,698	265	265	-	1	-	1
87	1,868,590,693	156	156	-	0	-	0
88	1,999,391,880	89	89	-	0	-	0
89	2,139,349,220	50	50	-	0	-	0
90	2,289,103,613	27	27	-	0	-	0
91	2,449,340,838	15	15	-	0	-	0
92	2,620,794,682	8	8	-	0	-	0
93	2,804,250,302	4	4	-	0	-	0
94	3,000,547,819	2	2	-	0	-	0
95	3,210,586,164	1	1	-	0	-	0
96	3,435,327,195	0	0	-	0	-	0
97	3,675,800,098	0	0	-	0	-	0
98	3,933,106,104	0	0	-	0	-	0
99	4,208,423,532	0	0	-	0	-	0
100	4,503,013,179	0	0	-	0	-	0
Totals					\$ 45,534,080	\$ -	\$ 45,534,080

SECTION D

GLOSSARY OF TERMS

GLOSSARY OF TERMS

<i>Actuarial Accrued Liability (AAL)</i>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<i>Actuarial Assumptions</i>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<i>Accrued Service</i>	Service credited under the system which was rendered before the date of the actuarial valuation.
<i>Actuarial Equivalent</i>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<i>Actuarial Cost Method</i>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<i>Actuarial Gain (Loss)</i>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<i>Actuarial Present Value (APV)</i>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<i>Actuarial Valuation</i>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions.
<i>Actuarial Valuation Date</i>	The date as of which an actuarial valuation is performed.
<i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

GLOSSARY OF TERMS

<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Amortization Method</i>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year).
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<i>Covered-Employee Payroll</i>	The payroll of employees that are provided with pensions through the pension plan.
<i>Deferred Retirement Option Program (DROP)</i>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<i>Deferred Inflows and Outflows</i>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual Pension Expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in Pension Expense should be included in the deferred inflows or outflows of resources.
<i>Discount Rate</i>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"> 1. The benefit payments to be made while the pension plans' Fiduciary Net Position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

GLOSSARY OF TERMS

<i>Entry Age Actuarial Cost Method (EAN)</i>	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Fiduciary Net Position</i>	The Fiduciary Net Position is the market value of the assets of the trust dedicated to the defined benefit provisions.
<i>Long-Term Expected Rate of Return</i>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<i>Money-Weighted Rate of Return</i>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contributing Entities</i>	Non-employer contributing entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.
<i>Normal Cost</i>	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

GLOSSARY OF TERMS

<i>Other Postemployment Benefits (OPEB)</i>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	The total Pension Expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none"> 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.