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March 27, 2020

City of Richmond Heights Policemen's
and Firemen's Retirement Fund
1330 S. Big Bend Boulevard
Richmond Heights, MO 63117

Attention: Retirement Board and Mayor

Re: City of Richmond Heights Policemen's and Firemen's Retirement Fund

Dear Retirement Board and Mayor:

Enclosed are supplemental actuarial valuations to measure the financial effect of proposed changes for the City of Richmond Heights Policemen's and Firemen's Retirement Fund.

If you have any questions or comments, please contact us.

Sincerely,

Brad Lee Armstrong, ASA, EA, FCA, MAAA

BLA:bd
Enclosure

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

City of Richmond Heights
Policemen's and Firemen's Retirement Fund
Supplemental Actuarial Valuation
as of July 1, 2019

Requested By: Retirement Board and Mayor
Communicated to GRS by Sara J. Fox, Finance Director

Date: March 27, 2020

Submitted By: Brad Lee Armstrong, ASA, EA, FCA, MAAA and Derek Henning, ASA, EA, MAAA
Gabriel, Roeder, Smith & Company

This report contains the results of supplemental actuarial valuations for the City of Richmond Heights Policemen's and Firemen's Retirement Fund to measure the financial effect of allowing active employees to retire at 28 years of service with 70% of their three-year average salary and to calculate the projected funded status of the Fund if the Pension's residential property tax rate were reduced by 5 cents. Brad Lee Armstrong and Derek Henning are independent of the plan sponsor, 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.

The date of this valuation was July 1, 2019. Supplemental valuations do not predict the result of future actuarial valuations. (Future activities can affect future valuation results in an unpredictable manner.) Rather, supplemental valuations give an indication of the probable effect of **only the benefit or funding changes** on future valuations without comment on the complete end result of the future valuations.

The valuation was based on actuarial data submitted for the July 1, 2019 annual actuarial valuation and actuarial methods as of July 1, 2019. Unless otherwise noted, valuation assumptions are based on the July 1, 2019 valuation. In particular:

- The assumed rate of interest of 6.00%.
- The assumed rate of wage inflation was 2.50%.
- The valuation method was the entry age actuarial cost method.
- Expected annual tax revenue of $991,515.

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Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report should not be relied on for any purpose other than the purpose described above. This report is intended for use by the City and may be provided to parties other than the Board only in its entirety and only with permission of the City. GRS is not responsible for unauthorized use of this report.

A brief summary of the member data provided by the City, as of July 1, 2019, used in this valuation is presented below:

		Averages		
Status	**Count**	**Age**	**Service**	**Annual Pay/ Monthly Benefit**
Active	61	43.2	12.8	$73,941
Retirees	28	69.5	28.4	4,566
Disabled	7	61.6	18.8	4,475
Beneficiaries	6	73.9	N/A	1,731
Terminated Vested	0	N/A	N/A	N/A

Proposed Funding Policy

When the now obsolete GASB 25 statement was in effect, it dictated the amortization of the unfunded liability or prepaid asset to be amortized over a period of no more than 30 years when calculating the annual required contribution (ARC). Since GASB no longer stipulates a required contribution and the fund does not currently have a written funding policy, the actuarial determined contribution (ADC) calculated in our valuation report (issued on January 21, 2020) is equal to the normal cost contribution with no offsetting credit attributable to the Fund's overfunded status. The ADC calculated in this report differs in that it amortizes the overfunded amount over an open 30-year period. We believe this better illustrates the impact of the proposals.

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Proposal 1 – Normal Retirement Eligibility Change

Present Provisions

Normal Retirement Benefit

Eligibility:	(1)	Attained age 60, or
	(2)	30 years of service.
Form:		Life annuity, payable monthly for single participants and 25% Joint and Survivor for married participants.
Amount:	(1)	70% of Retirement Base Pay, but reduced proportionately if less than 30 years of service.
	(2)	Plus a refund of employee contributions, without interest, with the initial monthly payment only.

Proposed Provisions

Normal Retirement Benefit

Eligibility:	(1)	Attained age 60, or
	(2)	**28 years of service.**
Form:		Life annuity, payable monthly for single participants and 25% Joint and Survivor for married participants, but reduced proportionately if less than 28 years of service.
Amount:	(1)	70% of Retirement Base Pay.
	(2)	Plus a refund of employee contributions, without interest, with the initial monthly payment only.

Actuarial Statement

	Present	Proposed	Impact
(1) Total Actuarial Accrued Liability	$ 47,762,588	$ 49,870,151	$ 2,107,563
(2) Actuarial Value of Assets (smoothed market value)	57,875,685	57,875,685	0
(3) Unfunded Actuarial Accrued Liability (UAAL): (2)-(1)	(10,113,097)	(8,005,534)	2,107,563
(4) 30-year open level percent-of-payroll amortization factor	18.6757	18.6757	
(5) UAAL Amortization Payment (Credit): (3)/(4)	(541,510)	(428,659)	112,851
(6) City Normal Cost	1,126,456	1,219,890	93,434
(7) Annual Required Contribution (ARC): (5)+(6)	**$ 584,946**	**$ 791,231**	**$ 206,285**
(8) Expected Tax Revenue	**$ 991,515**	**$ 991,515**	
(9) Funded Ratio	121.2%	116.1%	(5.1)%

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Proposal 2 – Funding Source Reductions

The Board has requested a supplemental valuation be prepared calculating the funded status of the Fund if the Pension's residential tax rate were reduced by 5 cents (or 18.115%). Changes to the funding source of the Fund would not immediately impact the funded status of the plan. The financial impact would occur incrementally over time. To illustrate this we performed two sets of projections described as follows:

- **Appendix 1** shows a 10-year projection of the **impact of Proposal 1** (Normal Retirement Eligibility Change).
  - Under the **Present** Normal Retirement Eligibility:
    - The funded ratio is expected to remain stable at 121-122%.
    - The Funding Source of $991,515 is expected to exceed the Actuarially Determined Contribution by approximately $350-$400 thousand.
  - Under the **Proposed** Normal Retirement Eligibility:
    - The funded ratio is expected to decrease from 116% to 114% by 2028.
    - The Funding Source of $991,515 is expected to be deficient compared to the Actuarially Determined Contribution by 2028.
- **Appendix 2** shows a 10-year projection of the **impact of Proposal 1 and Proposal 2** (Funding Source Reductions).
  - Under the **Present** Normal Retirement Eligibility (same as Appendix 1):
    - The funded ratio is expected to remain stable at 121-122%.
    - The Funding Source of $991,515 is expected to exceed the Actuarially Determined Contribution by approximately $350-$400 thousand.
  - Under the **Proposed** Normal Retirement Eligibility and the **Proposed** Funding Reductions:
    - The funded ratio is expected to decrease from 116% to 112% by 2028.
    - The Funding Source of $891,575 is expected to be deficient compared to the Actuarially Determined Contribution by 2023.

Currently, the Expected Tax Revenue exceeds the Actuarially Determined Contributions and acts as a **Provision against Adverse Deviation**. Adverse Deviation is any experience (mortality, rate of investment return, withdrawals, et cetera) that deviates from the actuarial assumptions and has a negative financial impact on the Fund.

For example, if investment experience returns less than the assumed rate of return of 6.00%, the Actuarially Determined Contribution will trend upwards. Reducing the Expected Tax Revenue would diminish the mitigating effects that a higher contribution rate has against Adverse Deviation (experience losses) and the UAAL Amortization Credit would be less sustainable as the Provision against Adverse Deviation is reduced.

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Appendix 1 - Impact of Proposal 1 (No Funding Change)

Present

					Employer Contributions		
Year	Payroll	Actuarial Accrued Liability	Actuarial Value of Assets	Funded Ratio	Budgeted Contribution	Actuarially Determined Contribution	Excess/ (Deficiency)
2019	$4,515,635	$47,762,588	$57,875,685	121.2%	$991,515	$584,946	$406,569
2020	4,628,526	49,660,879	60,245,821	121.3%	991,515	587,842	403,673
2021	4,744,239	51,612,920	62,669,856	121.4%	991,515	591,435	400,080
2022	4,862,845	53,556,143	65,084,528	121.5%	991,515	595,778	395,737
2023	4,984,416	55,558,879	67,557,411	121.6%	991,515	600,931	390,584
2024	5,109,026	57,517,606	69,984,169	121.7%	991,515	606,955	384,560
2025	5,236,752	59,522,435	72,454,025	121.7%	991,515	613,917	377,598
2026	5,367,671	61,450,055	74,842,713	121.8%	991,515	621,887	369,628
2027	5,501,863	63,294,843	77,143,573	121.9%	991,515	630,941	360,574
2028	5,639,410	65,315,644	79,614,334	121.9%	991,515	641,160	350,355

Proposed

					Employer Contributions			Impact from Present	
Year	Payroll	Actuarial Accrued Liability	Actuarial Value of Assets	Funded Ratio	Budgeted Contribution	Actuarially Determined Contribution	Excess/ (Deficiency)	Funded Ratio	Actuarially Determined Contribution
2019	$4,515,635	$49,870,151	$57,875,685	116.1%	$991,515	$791,231	$200,284	(5.1)%	$206,285
2020	4,628,526	51,860,629	60,118,120	115.9%	991,515	808,236	183,279	(5.4)%	220,394
2021	4,744,239	54,011,804	62,505,873	115.7%	991,515	826,829	164,686	(5.7)%	235,394
2022	4,862,845	56,083,341	64,796,922	115.5%	991,515	847,116	144,399	(6.0)%	251,338
2023	4,984,416	58,246,295	67,160,517	115.3%	991,515	869,215	122,300	(6.3)%	268,285
2024	5,109,026	60,226,192	69,320,253	115.1%	991,515	893,249	98,266	(6.6)%	286,294
2025	5,236,752	62,129,199	71,380,225	114.9%	991,515	919,348	72,167	(6.8)%	305,432
2026	5,367,671	64,193,462	73,576,366	114.6%	991,515	947,655	43,860	(7.2)%	325,768
2027	5,501,863	66,269,926	75,757,253	114.3%	991,515	978,315	13,200	(7.6)%	347,373
2028	5,639,410	68,401,959	77,963,723	114.0%	991,515	1,011,487	(19,972)	(7.9)%	370,327

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Appendix 2 - Impact of Proposal 2 (Funding Source Reduction)

Present

					Employer Contributions		
Year	Payroll	Actuarial Accrued Liability	Actuarial Value of Assets	Funded Ratio	Budgeted Contribution	Actuarially Determined Contribution	Excess/ (Deficiency)
2019	$4,515,635	$47,762,588	$57,875,685	121.2%	$991,515	$584,946	$406,569
2020	4,628,526	49,660,879	60,245,821	121.3%	991,515	587,842	403,673
2021	4,744,239	51,612,920	62,669,856	121.4%	991,515	591,435	400,080
2022	4,862,845	53,556,143	65,084,528	121.5%	991,515	595,778	395,737
2023	4,984,416	55,558,879	67,557,411	121.6%	991,515	600,931	390,584
2024	5,109,026	57,517,606	69,984,169	121.7%	991,515	606,955	384,560
2025	5,236,752	59,522,435	72,454,025	121.7%	991,515	613,917	377,598
2026	5,367,671	61,450,055	74,842,713	121.8%	991,515	621,887	369,628
2027	5,501,863	63,294,843	77,143,573	121.9%	991,515	630,941	360,574
2028	5,639,410	65,315,644	79,614,334	121.9%	991,515	641,160	350,355

Proposed

					Employer Contributions			Impact from Present	
Year	Payroll	Actuarial Accrued Liability	Actuarial Value of Assets	Funded Ratio	Budgeted Contribution	Actuarially Determined Contribution	Excess/ (Deficiency)	Funded Ratio	Actuarially Determined Contribution
2019	$4,515,635	$49,870,151	$57,875,685	116.1%	$891,575	$791,231	$100,344	(5.1)%	$206,285
2020	4,628,526	51,860,629	60,018,180	115.7%	891,575	813,588	77,986	(5.6)%	225,746
2021	4,744,239	54,011,804	62,299,995	115.3%	891,575	837,853	53,722	(6.1)%	246,418
2022	4,862,845	56,083,341	64,478,752	115.0%	891,575	864,152	27,422	(6.6)%	268,374
2023	4,984,416	58,246,295	66,723,316	114.6%	891,575	892,625	(1,051)	(7.0)%	291,695
2024	5,109,026	60,226,192	68,756,879	114.2%	891,575	923,415	(31,840)	(7.5)%	316,460
2025	5,236,752	62,129,199	70,683,108	113.8%	891,575	956,676	(65,102)	(8.0)%	342,760
2026	5,367,671	64,193,462	72,737,482	113.3%	891,575	992,573	(100,998)	(8.5)%	370,686
2027	5,501,863	66,269,926	74,768,096	112.8%	891,575	1,031,280	(139,705)	(9.1)%	400,338
2028	5,639,410	68,401,959	76,815,276	112.3%	891,575	1,072,981	(181,407)	(9.6)%	431,821

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Comments

Comment 1 — Decreasing the Normal Retirement Eligibility condition will create new staffing decisions for management and will increase the number of retirees over time since career positions will be vacated more frequently.

Comment 2 — Under Proposal 1, it was assumed Termination Benefits would commence at the earlier of age 60 or the date the participant would have accrued 28 years of service. Similarly, it was assumed that Termination Benefits, Duty Disability Retirement Benefits, and Non-Duty Disability Retirement Benefits would be reduced proportionately for service less than 28 years.

Comment 3 — Under Proposal 1, rates of retirement used are as follows:

Present
A rate of 75% upon reaching 30 years of service or age 60 with 15 years of service; rates of 10% per year for each year after 30 years to age 61; a rate of 25% at age 62 (40% with 30 years of service), 10% at age 63, 15% at age 64 (20% with 30 years of service), and a rate of 100% for age 65 and over.

Proposed
A rate of 75% upon reaching 28 years of service or age 60 with 15 years of service; rates of 10% per year for each year after 28 years to age 61; a rate of 25% at age 62 (40% with 25 years of service), 10% at age 63, 15% at age 64 (20% with 28 years of service), and a rate of 100% for age 65 and over.

Comment 4 — If you have reason to believe that the information provided in this report 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 authors of the report prior to making such decision.

Comment 5 — If some combination of Proposal 1 and Proposal 2 is considered, we encourage all stakeholders to consider the public policy issues it could create prior to reaching a final decision to make changes. However, no statement in this report is intended to be interpreted as a recommendation in favor of the changes, or in opposition to them.

Comment 6 — This report is intended to describe the financial effect of the changes to the Retirement Fund. Except as otherwise noted, potential effects on other benefit plans were not considered.

Comment 7 — The reader of this report should keep in mind that actuarial calculations are mathematical estimates based on current data and assumptions about future events (which may or may not materialize). Please note that actuarial calculations can and do vary from one valuation year to the next, sometimes significantly if the group valued is small. As a result, the cost impact of a benefit change may fluctuate over time, as the demographics of the group changes.