



October 7, 2022 E-Mail

Mr. Jeff Pabst
Education and Outreach Coordinator
Missouri Local Government
Employees Retirement System
P.O. Box 1665
Jefferson City, Missouri 65102

Re: The City of Creve Coeur (#9103) – Local Defined Benefit Plan Joining LAGERS

Dear Mr. Pabst:

As you requested, we have determined the computed employer contribution rate for the City of Creve Coeur General and Police departments as of February 28, 2022 assuming members of the local defined benefit plan are allowed to join LAGERS. It was assumed that all members would join LAGERS and that prior service would be granted for **benefit and eligibility purposes**. For purposes of this study, service as of February 28, 2022 was used. However, actual service at time of membership would be included if the proposed members were allowed to join LAGERS. The results are shown based on current benefit provisions and benefit changes being considered by the subdivision (LT-8(65), L-12, LT-14(65) and L-6, 5 year FAC, 4% member contribution rate, and regular retirement).

The results to add new members are based upon a 15-year amortization of the increase in the unfunded actuarial accrued liability (UAAL). The change in benefit provisions are based upon a 20-year amortization of the increase in the unfunded actuarial accrued liability (UAAL). A summary of the active member data used for the initial valuation is shown below:

Active Members as of February 28, 2022

<u>Division</u>	<u>Number</u>	<u>Payroll</u>	<u>Avg. Payroll</u>	<u>Avg. Age</u>	<u>Average Service</u>	
					<u>Benefit</u>	<u>Eligibility</u>
General	33	\$2,049,465	\$62,105	44.2 years	4.0 years	7.6 years
Police	27	1,917,624	71,023	33.2 years	4.6 years	6.0 years

Active Members as of February 28, 2022

Including New Prospective Members with Prior Service for Benefits and Eligibility

<u>Division</u>	<u>Number</u>	<u>Payroll</u>	<u>Avg. Payroll</u>	<u>Avg. Age</u>	<u>Average Service</u>	
					<u>Benefit</u>	<u>Eligibility</u>
General	43	\$2,894,940	\$67,324	47.5 years	9.1 years	11.9 years
Police	42	3,382,261	80,530	39.1 years	10.7 years	11.6 years

The cost to the employer if the proposed **General** members were allowed to join LAGERS with service used for benefit and eligibility purposes is shown below:

As of February 28, 2022	Current Data	New Data
	Current Provisions	Current Provisions
	General	General
Normal Cost Rate	6.2%	5.9%
Casualty Rate	0.3	0.3
Prior Service Cost Rate	<u>0.9</u>	<u>12.0</u>
Total Employer Contribution Rate	7.4%	18.2%
Change in Employer Contribution Rate as a Percent of Payroll		10.8%
Increase in Unfunded Actuarial Accrued Liability		\$3,635,841

Below are projections needed to comply with Missouri State disclosure requirements (Section 105.665 of the RSMo) regarding the adoption of LAGERS benefits by a political subdivision. The first projection is based on current benefit provisions and members reported as of February 28, 2022. The second projection reflects the addition of the proposed active members as of February 28, 2022.

Valuation Date	Estimated Projected Payroll	Current Data - Current Provisions		
		Estimated Employer Contribution		Estimated Difference Between AAL and AVA
		As a % of Payroll	Annual Dollars	
Feb. 28/29				
2022	\$2,049,465	7.4%	\$151,660	\$279,479
2023	2,105,825	7.4	155,831	278,981
2024	2,163,735	7.4	160,116	277,895
2025	2,223,238	7.4	164,520	276,167
2026	2,284,377	7.4	169,044	273,736
2027	2,347,197	7.4	173,693	270,536
2028	2,411,745	7.4	178,469	266,498
2029	2,478,068	7.4	183,377	261,544
2030	2,546,215	7.4	188,420	255,594
2031	2,616,236	7.4	193,601	248,562

Valuation Date	Estimated Projected Payroll	New Data - Current Provisions		
		Estimated Employer Contribution		Estimated Difference Between AAL and AVA
		As a % of Payroll	Annual Dollars	
Feb. 28/29				
2022	\$2,894,940	18.2%	\$526,879	\$3,915,320
2023	2,974,551	18.2	541,368	3,830,117
2024	3,056,351	18.2	556,256	3,729,069
2025	3,140,401	18.2	571,553	3,610,797
2026	3,226,762	18.2	587,271	3,473,815
2027	3,315,498	18.2	603,421	3,316,526
2028	3,406,674	18.2	620,015	3,137,215
2029	3,500,358	18.2	637,065	2,934,035
2030	3,596,618	18.2	654,584	2,705,007
2031	3,695,525	18.2	672,586	2,448,001



The cost to the employer if the proposed **Police** members were allowed to join LAGERS with service used for benefit and eligibility purposes is shown below:

	Current Data	New Data
	Current Provisions	Current Provisions
As of February 28, 2022	Police	Police
Normal Cost Rate	6.2%	6.1%
Casualty Rate	0.6	0.6
Prior Service Cost Rate	<u>0.1</u>	<u>15.6</u>
Total Employer Contribution Rate	6.9%	22.3%
Change in Employer Contribution Rate as a Percent of Payroll		15.4%
Increase in Unfunded Actuarial Accrued Liability		\$5,819,962

Below are projections needed to comply with Missouri State disclosure requirements (Section 105.665 of the RSMo) regarding the adoption of LAGERS benefits by a political subdivision. The first projection is based on current benefit provisions and members reported as of February 28, 2022. The second projection reflects the addition of the proposed active members as of February 28, 2022.

Valuation Date	Estimated Projected Payroll	Current Data - Current Provisions		
		Estimated Employer Contribution		Estimated Difference Between AAL and AVA
		As a % of Payroll	Annual Dollars	
Feb. 28/29				
2022	\$1,917,624	6.9%	\$132,316	\$135,480
2023	1,970,359	6.9	135,955	143,597
2024	2,024,544	6.9	139,694	152,245
2025	2,080,219	6.9	143,535	161,460
2026	2,137,425	6.9	147,482	171,280
2027	2,196,204	6.9	151,538	181,747
2028	2,256,600	6.9	155,705	192,903
2029	2,318,656	6.9	159,987	204,799
2030	2,382,419	6.9	164,387	217,482
2031	2,447,936	6.9	168,908	231,008

Valuation Date	Estimated Projected Payroll	New Data - Current Provisions		
		Estimated Employer Contribution		Estimated Difference Between AAL and AVA
		As a % of Payroll	Annual Dollars	
Feb. 28/29				
2022	\$3,382,261	22.3%	\$754,244	\$5,955,442
2023	3,475,273	22.3	774,986	5,827,971
2024	3,570,843	22.3	796,298	5,676,607
2025	3,669,041	22.3	818,196	5,499,267
2026	3,769,940	22.3	840,697	5,293,708
2027	3,873,613	22.3	863,816	5,057,522
2028	3,980,137	22.3	887,571	4,788,116
2029	4,089,591	22.3	911,979	4,482,708
2030	4,202,055	22.3	937,058	4,138,305
2031	4,317,612	22.3	962,827	3,751,694



Below are results for the General department under the alternate benefit provisions being considered. All of the results are shown assuming the proposed members are allowed to join LAGERS. A separate supplemental dated October 7, 2022 was completed for members currently participating in LAGERS as of February 28, 2022.

As of February 28, 2022	New Data Current Provisions	New Data L-12 Benefit*	New Data LT-14(65) Benefit	New Data L-6 Benefit
	General	General	General	General
Normal Cost Rate	5.9%	7.0%	7.1%	8.4%
Casualty Rate	0.3	0.4	0.4	0.5
Prior Service Cost Rate	<u>12.0</u>	<u>13.9</u>	<u>13.9</u>	<u>15.9</u>
Total Employer Contribution Rate	18.2%	21.3%	21.4%	24.8%
Change in Employer Contribution Rate as a Percent of Payroll		3.1%	3.2%	6.6%
Increase in Unfunded Actuarial Accrued Liability		\$743,510	\$755,487	\$1,510,797

* It was assumed that all service credited prior to the date of adoption would continue to be covered under the 2.00% benefit multiplier up to age 65 (i.e., LT-8(65) benefit program).

Below are projections needed to comply with Missouri State disclosure requirements (Section 105.665 of the RSMo) regarding the adoption of LAGERS benefits by a political subdivision.

General Division:

L-12 Benefit Program, 4% Member Contribution Rate, 5 year FAS, Normal Retirement

Valuation Date	Estimated Projected Payroll	New Data - Current Provisions			New Data - Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference
		As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA
2022	\$2,894,940	18.2%	\$526,879	\$3,915,320	21.3%	\$616,622	\$4,658,830	3.1%	\$89,743	\$743,510
2023	2,974,551	18.2	541,368	3,830,117	21.3	633,579	4,568,780	3.1	92,211	738,662
2024	3,056,351	18.2	556,256	3,729,069	21.3	651,003	4,460,980	3.1	94,747	731,910
2025	3,140,401	18.2	571,553	3,610,797	21.3	668,905	4,333,875	3.1	97,352	723,078
2026	3,226,762	18.2	587,271	3,473,815	21.3	687,300	4,185,791	3.1	100,029	711,976
2027	3,315,498	18.2	603,421	3,316,526	21.3	706,201	4,014,925	3.1	102,780	698,400
2028	3,406,674	18.2	620,015	3,137,215	21.3	725,622	3,819,344	3.1	105,607	682,129
2029	3,500,358	18.2	637,065	2,934,035	21.3	745,576	3,596,963	3.1	108,511	662,928
2030	3,596,618	18.2	654,584	2,705,007	21.3	766,080	3,345,548	3.1	111,496	640,541
2031	3,695,525	18.2	672,586	2,448,001	21.3	787,147	3,062,697	3.1	114,561	614,695



General Division:

LT-14(65) Benefit Program, 4% Member Contribution Rate, 5 year FAS, Normal Retirement

Valuation Date Feb. 28/29	Estimated Projected Payroll	New Data - Current Provisions			New Data - Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference
		As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA
2022	\$2,894,940	18.2%	\$526,879	\$3,915,320	21.4%	\$619,517	\$4,670,807	3.2%	\$92,638	\$755,487
2023	2,974,551	18.2	541,368	3,830,117	21.4	636,554	4,580,678	3.2	95,186	750,561
2024	3,056,351	18.2	556,256	3,729,069	21.4	654,059	4,472,770	3.2	97,803	743,700
2025	3,140,401	18.2	571,553	3,610,797	21.4	672,046	4,345,523	3.2	100,493	734,726
2026	3,226,762	18.2	587,271	3,473,815	21.4	690,527	4,197,260	3.2	103,256	723,445
2027	3,315,498	18.2	603,421	3,316,526	21.4	709,517	4,026,176	3.2	106,096	709,650
2028	3,406,674	18.2	620,015	3,137,215	21.4	729,028	3,830,332	3.2	109,013	693,117
2029	3,500,358	18.2	637,065	2,934,035	21.4	749,077	3,607,642	3.2	112,012	673,607
2030	3,596,618	18.2	654,584	2,705,007	21.4	769,676	3,355,866	3.2	115,092	650,859
2031	3,695,525	18.2	672,586	2,448,001	21.4	790,842	3,072,599	3.2	118,256	624,597

General Division:

L-6 Benefit Program, 4% Member Contribution Rate, 5 year FAS, Normal Retirement

Valuation Date Feb. 28/29	Estimated Projected Payroll	New Data - Current Provisions			New Data - Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference
		As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA
2022	\$2,894,940	18.2%	\$526,879	\$3,915,320	24.8%	\$717,945	\$5,426,117	6.6%	\$191,066	\$1,510,797
2023	2,974,551	18.2	541,368	3,830,117	24.8	737,689	5,331,064	6.6	196,321	1,500,946
2024	3,056,351	18.2	556,256	3,729,069	24.8	757,975	5,216,296	6.6	201,719	1,487,227
2025	3,140,401	18.2	571,553	3,610,797	24.8	778,819	5,080,077	6.6	207,266	1,469,280
2026	3,226,762	18.2	587,271	3,473,815	24.8	800,237	4,920,536	6.6	212,966	1,446,721
2027	3,315,498	18.2	603,421	3,316,526	24.8	822,244	4,735,660	6.6	218,823	1,419,134
2028	3,406,674	18.2	620,015	3,137,215	24.8	844,855	4,523,287	6.6	224,840	1,386,072
2029	3,500,358	18.2	637,065	2,934,035	24.8	868,089	4,281,091	6.6	231,024	1,347,055
2030	3,596,618	18.2	654,584	2,705,007	24.8	891,961	4,006,573	6.6	237,377	1,301,566
2031	3,695,525	18.2	672,586	2,448,001	24.8	916,490	3,697,049	6.6	243,904	1,249,048



Below are results for the Police department under the alternate benefit provisions being considered. All of the results are shown assuming the proposed members are allowed to join LAGERS. A separate supplemental dated October 7, 2022 was completed for members currently participating in LAGERS as of February 28, 2022.

As of February 28, 2022	New Data Current Provisions	New Data L-12 Benefit*	New Data LT-14(65) Benefit	New Data L-6 Benefit
	Police	Police	Police	Police
Normal Cost Rate	6.1%	6.9%	7.2%	8.3%
Casualty Rate	0.6	0.7	0.7	0.8
Prior Service Cost Rate	<u>15.6</u>	<u>17.2</u>	<u>17.3</u>	<u>19.1</u>
Total Employer Contribution Rate	22.3%	24.8%	25.2%	28.2%
Change in Employer Contribution Rate as a Percent of Payroll		2.5%	2.9%	5.9%
Increase in Unfunded Actuarial Accrued Liability		\$740,645	\$802,951	\$1,605,449

* It was assumed that all service credited prior to the date of adoption would continue to be covered under the 2.00% benefit multiplier up to age 65 (i.e., LT-8(65) benefit program).

Below are projections needed to comply with Missouri State disclosure requirements (Section 105.665 of the RSMo) regarding the adoption of LAGERS benefits by a political subdivision.

Police Division:

L-12 Benefit Program, 4% Member Contribution Rate, 5 year FAS, Normal Retirement

Valuation Date	Estimated Projected Payroll	New Data - Current Provisions			New Data - Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference
		As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA
2022	\$3,382,261	22.3%	\$754,244	\$5,955,442	24.8%	\$838,801	\$6,696,087	2.5%	\$84,557	\$740,645
2023	3,475,273	22.3	774,986	5,827,971	24.8	861,868	6,563,787	2.5	86,882	735,816
2024	3,570,843	22.3	796,298	5,676,607	24.8	885,569	6,405,697	2.5	89,271	729,090
2025	3,669,041	22.3	818,196	5,499,267	24.8	909,922	6,219,559	2.5	91,726	720,292
2026	3,769,940	22.3	840,697	5,293,708	24.8	934,945	6,002,941	2.5	94,248	709,233
2027	3,873,613	22.3	863,816	5,057,522	24.8	960,656	5,753,231	2.5	96,840	695,709
2028	3,980,137	22.3	887,571	4,788,116	24.8	987,074	5,467,616	2.5	99,503	679,501
2029	4,089,591	22.3	911,979	4,482,708	24.8	1,014,219	5,143,081	2.5	102,240	660,373
2030	4,202,055	22.3	937,058	4,138,305	24.8	1,042,110	4,776,377	2.5	105,052	638,073
2031	4,317,612	22.3	962,827	3,751,694	24.8	1,070,768	4,364,020	2.5	107,941	612,327



Police Division:

LT-14(65) Benefit Program, 4% Member Contribution Rate, 5 year FAS, Normal Retirement

Valuation Date Feb. 28/29	Estimated Projected Payroll	New Data - Current Provisions			New Data - Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference
		As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA
2022	\$3,382,261	22.3%	\$754,244	\$5,955,442	25.2%	\$852,330	\$6,758,393	2.9%	\$98,086	\$802,951
2023	3,475,273	22.3	774,986	5,827,971	25.2	875,769	6,625,686	2.9	100,783	797,716
2024	3,570,843	22.3	796,298	5,676,607	25.2	899,852	6,467,031	2.9	103,554	790,424
2025	3,669,041	22.3	818,196	5,499,267	25.2	924,598	6,280,153	2.9	106,402	780,886
2026	3,769,940	22.3	840,697	5,293,708	25.2	950,025	6,062,605	2.9	109,328	768,896
2027	3,873,613	22.3	863,816	5,057,522	25.2	976,150	5,811,757	2.9	112,334	754,234
2028	3,980,137	22.3	887,571	4,788,116	25.2	1,002,995	5,524,778	2.9	115,424	736,663
2029	4,089,591	22.3	911,979	4,482,708	25.2	1,030,577	5,198,634	2.9	118,598	715,926
2030	4,202,055	22.3	937,058	4,138,305	25.2	1,058,918	4,830,055	2.9	121,860	691,750
2031	4,317,612	22.3	962,827	3,751,694	25.2	1,088,038	4,415,532	2.9	125,211	663,838

Police Division:

L-6 Benefit Program, 4% Member Contribution Rate, 5 year FAS, Normal Retirement

Valuation Date Feb. 28/29	Estimated Projected Payroll	New Data - Current Provisions			New Data - Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference
		As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA
2022	\$3,382,261	22.3%	\$754,244	\$5,955,442	28.2%	\$953,798	\$7,560,891	5.9%	\$199,554	\$1,605,449
2023	3,475,273	22.3	774,986	5,827,971	28.2	980,027	7,422,952	5.9	205,041	1,594,981
2024	3,570,843	22.3	796,298	5,676,607	28.2	1,006,978	7,257,009	5.9	210,680	1,580,402
2025	3,669,041	22.3	818,196	5,499,267	28.2	1,034,670	7,060,598	5.9	216,474	1,561,331
2026	3,769,940	22.3	840,697	5,293,708	28.2	1,063,123	6,831,067	5.9	222,426	1,537,359
2027	3,873,613	22.3	863,816	5,057,522	28.2	1,092,359	6,565,566	5.9	228,543	1,508,043
2028	3,980,137	22.3	887,571	4,788,116	28.2	1,122,399	6,261,026	5.9	234,828	1,472,910
2029	4,089,591	22.3	911,979	4,482,708	28.2	1,153,265	5,914,157	5.9	241,286	1,431,449
2030	4,202,055	22.3	937,058	4,138,305	28.2	1,184,980	5,521,414	5.9	247,922	1,383,109
2031	4,317,612	22.3	962,827	3,751,694	28.2	1,217,567	5,078,995	5.9	254,740	1,327,301



The long term cost (C) of providing retirement benefits depends only on the benefits (B) that are paid to participants, the expenses (E) of administering the plan, and the investment return (I) generated on invested assets: $C = B + E - I$. For a given level of benefits, the cost of providing those benefits is lowered if administrative expenses are lowered or investment income is increased.

The long term costs are financed by a series of employer and member contributions. The series of contributions is flexible. If more is contributed in early years, less has to be contributed in later years, and vice-versa. Over time the series of contributions has to have the same value as benefits and expenses. The actuary determines each year's contribution based on a funding method and a set of actuarial assumptions. The chosen funding method and assumptions do not affect the long term cost of providing retirement benefits, but have a strong impact on the series of contributions made to fund the benefits.

The methods and assumptions used were the same as those used in the annual actuarial valuations as of February 28, 2022. In particular, the assumed rate of investment return was 7.00% and the assumed rate of payroll growth was 2.75%.

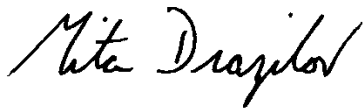
If future experience follows the LAGERS assumptions, the contribution rates calculated in this report will remain approximately level. If future experience is worse than the LAGERS assumptions, the contribution rates will gradually increase over time.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Mita D. Drazilov is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the Academy of Actuaries to render the actuarial opinions contained herein.

Please call if you have any questions.

Sincerely,
Gabriel, Roeder, Smith & Company



Mita D. Drazilov, ASA, FCA, MAAA

MDD:sc

