

City of Sioux Falls Employee's Retirement System  
Annual Actuarial Valuation Report  
December 31, 2022



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March 3, 2023

Board of Trustees  
City of Sioux Falls Employee's Retirement System  
Sioux Falls, South Dakota

Ladies and Gentlemen:

The results of the December 31, 2022 actuarial valuation of the City of Sioux Falls Employee's Retirement System are presented in this report. The purpose of the valuation was to measure the System's funding progress, and to determine the employer contribution for the 2024 fiscal year. This report should not be relied upon for any other purpose. This report may be distributed to parties other than the Retirement Board only in its entirety and only with the permission of the Board. Gabriel, Roeder, Smith & Company is not responsible for unauthorized use of this report.

The valuation was based upon the assumptions and methods adopted by the Board, information furnished by the System concerning Retirement System benefits, financial transactions, individual members, terminated members, retirees and beneficiaries. Data was checked for internal and year to year consistency, but was not audited by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the data provided.

Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. This valuation was based on the assumption that the plan sponsor will continue to be able to make any contributions necessary to fund this plan in the future. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The fiscal year 2024 contributions shown in this report were determined using the actuarial assumptions and methods disclosed in Section C of this report. This report includes risk metrics on page D-1 but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. This additional assessment of risk was beyond the scope of this assignment. We encourage a review and assessment of investment and other significant risks which may have a material impact on the System's financial position.

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 and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

To the best of our knowledge, this report is complete and accurate and the valuation was made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards Board and in compliance with the applicable state statutes. Louise M. Gates and Mark Buis are independent of the plan sponsor and are Members of the American Academy of Actuaries (MAAA) who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the actuarial assumptions used for the valuation produce results which are reasonable.

Respectfully submitted,  
Gabriel, Roeder, Smith & Company



Louise M. Gates, ASA, FCA, MAAA



Mark Buis, FSA, EA, FCA, MAAA

LMG/JDA



## SECTION A

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### VALUATION RESULTS

## Financial Objective

The financial objective of the Retirement System is to establish and receive contributions which will accumulate reserves during members' working lifetimes which will be sufficient to pay promised benefits throughout retirement.

## Contributions

The Retirement System is supported by member contributions, City contributions and investment income from Retirement System assets.

Contributions which satisfy the financial objective are determined by an annual actuarial valuation and are sufficient to:

- (1) cover the actuarial present value of benefits assigned to the current year by the actuarial cost methods described in Section C (the normal cost); and
- (2) amortize over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (unfunded actuarial accrued liability).

Pension contribution requirements for the year beginning January 1, 2024 are shown on page A-2.

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.00% on the actuarial value of assets), then the following outcomes are expected:

1. The employer normal cost is expected to decrease over time due to the closure of the plan to new City employees.
2. The unfunded liability is expected to be paid off by the year 2038.
3. The funded status of the plan is expected to gradually trend toward a 100% funded ratio by the year 2038.

## Computed Contributions to Meet the Financial Objective of the Retirement System for the Fiscal Year Beginning January 1, 2024

Contributions for	Contribution Dollars	
	General/Management	Police
Total Normal Cost	\$3,484,222	\$2,937,617
Employee Portion	1,295,250	1,163,413
City Portion	2,188,972	1,774,204
Unfunded Actuarial Accrued Liabilities (UAAL) Contribution	\$3,914,505	\$2,295,146
Total Computed City Contribution	\$6,103,477	\$4,069,350

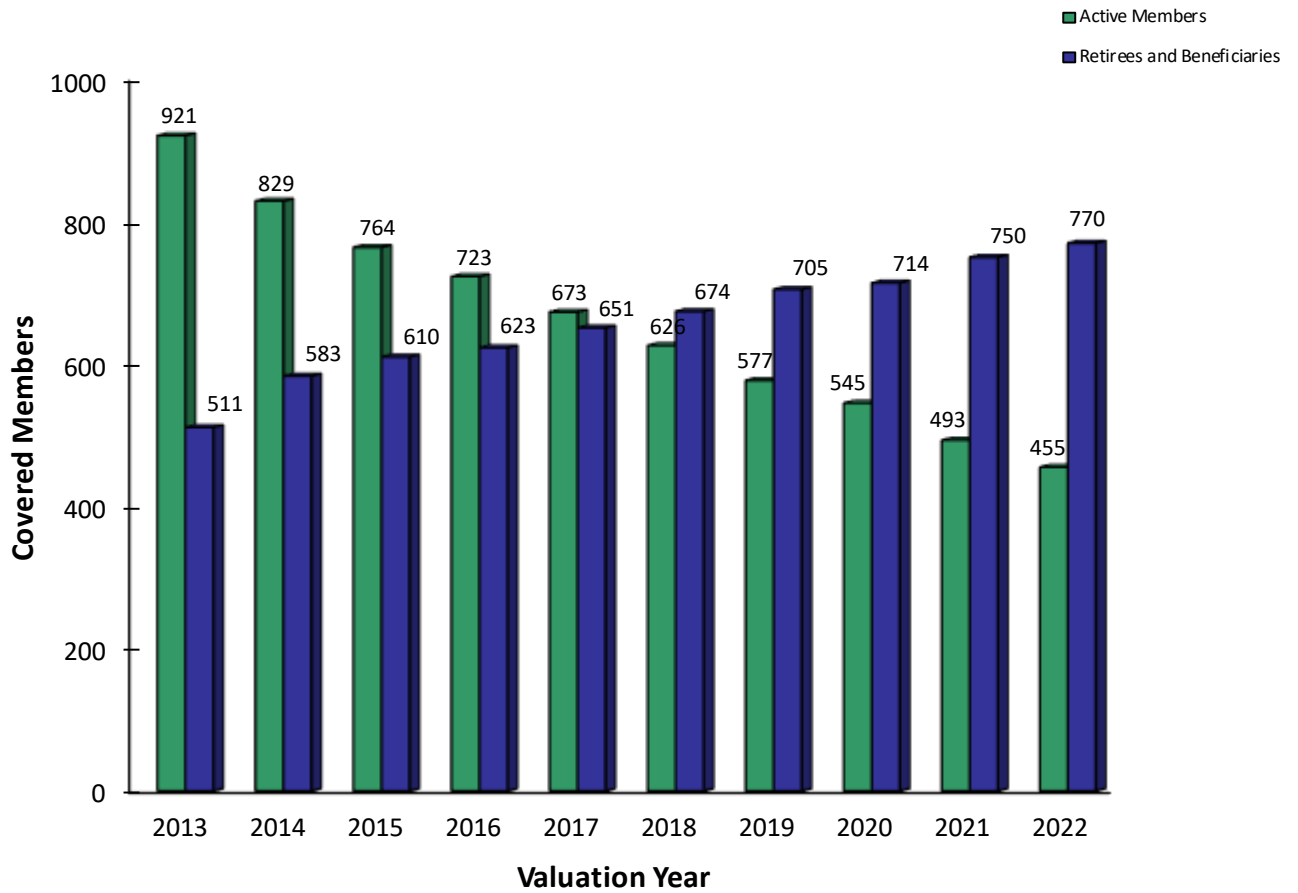
City General, Management and Police employees hired on or after July 1, 2013 become members of the South Dakota Retirement System (SDRS) instead of joining this Retirement System. Contributions are expressed in terms of dollars in this report instead of as percentages of payroll. This is due to the use of the level dollar amortization method (appropriate for systems closed to new hires) to finance the Retirement System's unfunded actuarial accrued liabilities (UAAL).

The Retirement System's UAAL was amortized as a level dollar amount over a period of 15 years.

The Police employee contribution to the Retirement System shown above was based on an employee contribution rate of 10.0% and plan member payroll projected to 2024. General and Management members are required to contribute 5.0% of pay during the year 2024.

The employer contributions shown above include contributions for the stipend benefit which became effective January 1, 2014.

## Active and Retired Pension Plan Members General, Management and Police Combined



The chart above shows current and future pension benefit recipients on each valuation date during the last 10 years.



## Computed Pension Contributions Comparative Statement

Fiscal Year	Valuation Date	% of Payroll Contributions		Weighted Average	Level Dollar Contributions		
	December 31	General	Police		General	Police	Total
2010	2008	10.93 %	17.66 %	12.73 %			
2011	2009	13.17	20.78	15.15			
2012	2010	12.86	20.72	14.91			
2013	2011 @	12.56	18.94	14.25			
2014	2012 @#				\$7,702,379	\$3,860,628	\$11,563,007
2015	2013 @				7,535,363	3,861,898	11,397,261
2016	2014 @				7,549,458	3,868,415	11,417,873
2017	2015 @				7,237,216	4,373,752	11,610,968
2018	2016				6,534,138	4,089,622	10,623,760
2019	2017 @				6,081,203	3,930,360	10,011,563
2020	2018 @				6,082,035	3,963,593	10,045,628
2021	2019				6,620,581	4,091,676	10,712,257
2022	2020				5,947,153	4,050,693	9,997,846
2023	2021 @				5,636,841	3,713,881	9,350,722
2024	2022 @				6,103,477	4,069,350	10,172,827

@ After changes in actuarial assumptions and/or methods.

# After changes in benefit provisions.



# Actuarial Balance Sheet - December 31, 2022

## Present Pension Resources and Expected Future Pension Resources

	General	Police	Total
A. Valuation assets	\$302,585,035	\$201,379,103	\$503,964,138
B. Actuarial present value of expected future employer contributions			
1. For normal costs	16,553,172	12,385,497	28,938,669
2. For unfunded actuarial accrued liabilities	37,734,057	22,037,571	59,771,628
3. Total	54,287,229	34,423,068	88,710,297
C. Actuarial present value of expected future member contributions	10,400,015	8,128,856	18,528,871
D. Total actuarial present value of present and expected future resources	\$367,272,279	\$243,931,027	\$611,203,306

## Actuarial Present Value of Expected Future Pension Benefit Payments and Reserves

A. To retirees and beneficiaries	\$215,609,317	\$ 146,755,045	\$362,364,362
B. To vested terminated members	8,030,017	768,072	8,798,089
C. To present active members			
1. Allocated to service rendered prior to valuation date	116,679,758	75,893,557	192,573,315
2. Allocated to service likely to be rendered after valuation date	26,953,187	20,514,353	47,467,540
3. Total	143,632,945	96,407,910	240,040,855
D. Total actuarial present value of expected future benefit payments	\$367,272,279	\$243,931,027	\$611,203,306



## Derivation of Actuarial Gain (Loss) Year Ended December 31, 2022

The actuarial gains or losses realized in the operation of the Retirement System's Pension Plan provide an experience test. Gains and losses are expected to cancel each other over a period of years but sizable year-to-year fluctuations are common. Details of the derivation of the actuarial gain (loss) are shown below:

	<u>General</u>	<u>Police</u>
(1) UAAL at start of year	\$33,622,251	\$19,164,845
(2) Normal cost	3,689,469	2,923,545
(3) Contributions	7,697,778	5,271,361
(4) Interest accrual	2,213,267	1,259,366
(5) Expected UAAL before changes	31,827,209	18,076,395
(6) Change from benefit changes	0	0
(7) Change from revised actuarial assumptions	(1,064,431)	(678,201)
(8) Expected UAAL after changes	30,762,778	17,398,194
(9) Actual UAAL at end of year	37,734,057	22,037,571
(10) Gain (loss): (8) - (9)	(6,971,279)	(4,639,377)
(11) Gain (loss) as percent of AAL at start of year	(2.10)%	(2.18)%

## Comments

**Comment A:** There were no benefit changes reported to the actuary in connection with this valuation of the Retirement System. This valuation of the System reflects a minor assumption change. Specifically, there is no longer a load on active liabilities to account for subsidized optional forms of payment. The factors used to determine optional forms have been updated.

**Comment B:** Retirement System experience was overall, unfavorable during the 2022 plan year. The investment return on System assets was lower than long term expectations. The market smoothing techniques used in this valuation of the System recognize both current and prior year investment income by phasing it in over a 5-year period. As a result, the recognized net rate of return on pension assets was 2.18%. In addition, there were fewer retiree deaths than projected during the year and more police retirements than projected by actuarial assumptions. This unfavorable experience was partially offset by more terminations and deaths (with refunds) among employees during the year than projected by actuarial assumptions

**Comment C:** As directed by the System, \$17,000,000 was transferred from the Unallocated Income Reserve to the Pension reserve effective with this valuation of the System. Page B-4 includes additional information about the transfer and reserve balance.

**Comment D:** As of the valuation date, the System's funding percent based on the total value of System assets is 110.8%. As of December 31, 2021, the funding percent was 115.6% when measured on the same basis. If the market value of pension assets was used to determine the funding percent, the result would be 94.3% as of the valuation date.

Unless otherwise indicated, the funding status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets (including assets held in the unallocated income reserve). With regard to the funding status measurement presented in this report, it is important to note the following:

- The measurement is inappropriate for assessing the sufficiency of pension plan assets to cover the estimated cost of settling the plan's benefit obligations.
- The measurement is inappropriate for assessing the need for or the amount of future employer contributions.
- The measurement will produce a different result if the market value of assets is used instead of the actuarial value of assets, unless the actuarial value of assets equals the market value of assets.

## Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the actuarial liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the actuarial liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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 System's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the actuarial liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future actuarial liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future actuarial liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.



## SECTION B

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### SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

# **Benefit Provisions Evaluated and/or Considered (December 31, 2022)**

## **Retirement System Eligibility:**

New City employees (General, Management and Police) hired on or before June 30, 2013 will become members of this Retirement System. Individuals hired or rehired after June 30, 2013 will become members of the South Dakota Retirement System.

## **Regular Unreduced Retirement:**

*Eligibility* - General members: age 55 with 30 or more years of service, or age 60 with 5 years of service.

Police: age 50 with 25 years of service, or age 60 with 15 years of service.

*Mandatory Retirement Age* - Police: age 60 (age 65 with employer consent).

*Annual Amount* - General members: 1.8% of final average pay times years of service.

Police: final average pay times the sum of a) 2.5% times the first 25 years of service, plus b) 1.5% times service in excess of 25 years.

*Type of Final Average Pay* - Highest 3 consecutive years out of last 10. Some lump sums are included.

## **Early Reduced Retirement:**

*Eligibility* - 20 or more years of service.

*Annual Amount* - Same as regular retirement except that the benefit is actuarially reduced.

## **Deferred Retirement (vested benefit):**

*Eligibility* - General Members: 5 years of service. Benefit commences at deferred retirement age.

Police: 15 years of service. Benefit commences at deferred retirement age.

*Annual Amount* - Computed as a regular retirement benefit based on service and final average pay at termination.

## **Duty Disability Retirement:**

*Eligibility* - No age or service requirement.

*Annual Amount* - Computed as a regular retirement benefit. If disabled before eligible for regular retirement, additional service is credited for the period between disability and the time member would have been eligible for regular retirement if he had not been disabled. Minimum benefit is 12.5% of final average pay for general members and 20% of final average pay for police. Worker's Compensation payments are offset.



## Benefit Provisions Evaluated and/or Considered (December 31, 2022)

### Non-Duty Disability Retirement:

*Eligibility* - 10 years of service.

*Annual Amount* - Computed as a regular retirement benefit based on service and final average pay at time of disability. Worker's Compensation payments are offset.

### Duty Death Before Retirement:

*Eligibility* - No age or service requirement. Worker's Compensation must be payable.

*Annual Amount* - Refund of accumulated contributions. Spouse receives pension of 1/3 of final average pay until death. Unmarried children under age 18 or an eligible handicapped child each receive an equal share of 1/6 of final average pay (if no spouse each child receives 1/4 to a maximum of 1/2). If no spouse or eligible children, dependent parents each receive 1/6 of final average pay (each parent's pension limited to \$600 annually). Worker's Compensation payments are offset.

### Non-Duty Death Before Retirement:

*Eligibility* - 10 years of service.

*Annual Amount* - Spouse (or some other dependent if an Option B election was in force) receives a benefit computed as regular retirement benefit but actuarially reduced in accordance with a 100% joint and survivor election. Minimum benefit is \$360 annually. If no Option B election is in force, each unmarried child under age 18 or an eligible handicapped child receives \$2,400 annually. If no Option B election is in force and there is no eligible spouse, member contributions are refunded.

### Post-Retirement Cost-of-Living Adjustments:

Annual increase equal to 100% of the June CPI change each year (with a cap of 3%) applied to the member's current pension benefit. The first increase will be granted after 36 months of retirement.

### Employee Contributions:

Division	On or Before December 31, 2013	As of January 6, 2014	As of January 5, 2015
General/Management	3% of Compensation	4% of Compensation	5% of Compensation
Police	8% of Compensation	9% of Compensation	10% of Compensation





## **Benefit Provisions Evaluated and/or Considered (December 31, 2022)**

### **Stipend Benefit:**

*Eligibility* – Members who retire from City employment (regular, early reduced or disability retirement) after December 31, 2013 are eligible to receive a monthly stipend benefit payable from the Retirement System until age 65 (or Medicare eligibility) in lieu of retiree health plan benefits.

*Annual Amount* - \$40 per month times years of service at retirement. Benefit is payable to the member only until he/she becomes eligible for Medicare or dies (if earlier). No benefit is payable to a surviving spouse or child of a deceased Retirement System Member. This benefit increases by 3% each year beginning in January 2015.

## Derivation of Valuation Assets

	Pension	Unallocated Income Reserve	Grand Total
A. Funding Value, 12/31/21	\$492,459,560		
B. Market Value, Beginning of Year	498,067,118	\$137,865,095	\$635,932,213
C. Audit Adjustment			
D. Non-Investment Net Cash Flow	(16,223,693)		
E1. Investment Income (Market total)	(88,032,406)		
E2. UI Reserve Transfer	17,000,000	(17,000,000)	
E3. Net Investment Income [(E1) + (E2)]	(71,032,406)		
F. Market Value, End of Year	410,811,019	120,865,095	531,676,114
G. Phase-in Factor	20%		
H. Expected Income	33,904,340		
I. Market Value Gain (Loss): [(E1) - (H)]	(121,936,746)		
J. Recognition of Gain/(Loss)			
J1. Year One	(24,387,349)		
J2. Year Two	(6,760,269)		
J3. Year Three	6,659,938		
J4. Year Four	11,357,212		
J5. Year Five	(10,045,601)		
J6. Total	(23,176,069)		
K1. Funding Value, 12/31/22 [(A) + (C) + (D) + (E2) + (H) + (J6)]	503,964,138	120,865,095	624,829,233
K2. Upper Corridor Limit: 120% X (F)			638,011,337
K3. Lower Corridor Limit: 80% X (F)			425,340,891
K4. Adjustment to Funding Value			0
K5. Funding Value End of Year	503,964,138	\$120,865,095	\$624,829,233
L. Net Funding Value Rate of Return	2.18%		

Pension assets for the General/Management and Police divisions are shown on page A-5.



## Market Value of Assets Reported for Valuation Comparative Statement

Year Ended Dec. 31	Assets Beginning of Year	Revenues			Expenses			Assets Year-End
		Employee Contrib.	Employer Contrib.	Investment Income *	Retirement Benefits	Contrib. Refunds	Misc. Expenses	
2008	\$ 260,388,129	\$2,065,615	\$7,710,786	\$ (71,138,091)	\$10,005,006	\$ 275,474	\$ 1,429,420	\$ 187,316,539
2009	187,316,539	2,272,170	8,433,917	46,453,891	10,471,659	90,776	1,292,212	232,621,870
2010	232,621,871	2,241,213	9,554,056	32,715,573	11,150,501	197,614	938,610	264,845,988
2011	264,845,988	2,252,998	10,599,328	5,091,133	12,037,530	115,034	1,102,784	269,534,099
2012	269,534,099	2,335,451	11,346,909	39,210,054	12,972,156	300,274	1,130,962	308,023,121
2013	308,023,121	2,428,547	11,778,953	61,515,708	13,508,748	264,954	1,037,143	368,935,484
2014	368,935,484	2,966,452	10,670,106	25,331,700	16,145,874	237,783	930,500	390,589,585
2015	390,589,585	3,331,128	11,417,873	(922,260)	18,173,306	267,342	811,363	385,164,315
2016	385,164,315	3,237,031	11,417,873	32,146,551	19,652,211	181,455	778,795	411,353,309
2017	411,353,309	3,112,561	11,623,730	68,397,702	20,797,339	125,183	4,162,773	469,402,007
2018	469,402,007	3,026,164	11,166,523	(19,794,244)	22,222,589	200,644	202,788	441,174,429
2019	441,174,429	2,943,200	10,213,721	87,784,028	24,197,114	205,046	214,322	517,498,896
2020	517,498,896	2,923,284	10,045,628	65,402,442	25,597,320	325,410	190,827	569,756,693
2021	569,756,693	2,724,232	10,712,257	80,215,700	26,990,496	259,105	227,068	635,932,213
2022	635,932,213	2,655,920	10,313,219	(87,826,493)	28,833,782	359,050	205,913	531,676,114

*\*Net of investment expenses*

*Note: Up to and including the year 2017, the assets shown above include retiree health plan (the IRC 401(h) account) assets*

*Note: Pension and retiree health assets combined for years before 2017*

The net market value rate of return on total System assets held in trust was -14.02% during calendar year 2022.



## Additions to and Removals from Retired/Survivor Membership Comparative Statement

Year Ended Dec. 31	Additions **		Removals		End of Year		Average	Present	Expected Removals
	No.	Annual Benefits*	No.	Annual Benefits	No.	Annual Benefits	Annual Benefits	Value of Benefits	
2008	21	\$ 707,365	15	\$ 251,647	436	\$ 10,135,605	\$ 23,247	\$ 124,265,687	13.0
2009	16	715,776	10	155,652	442	10,695,729	24,198	130,284,387	13.5
2010	39	1,183,836	16	258,781	465	11,620,784	24,991	140,993,607	14.3
2011	37	1,069,943	15	295,874	487	12,394,854	25,451	150,800,949	15.1
2012	26	978,426	8	141,390	505	13,231,890	26,202	168,103,297	15.6
2013	21	670,763	15	335,453	511	13,567,200	26,550	174,649,168	13.8
2014	83	3,078,647	11	224,445	583	16,421,402	28,167	221,871,914	13.3
2015	54	1,943,715	27	527,439	610	17,837,678	29,242	246,953,829	14.6
2016	33	1,093,273	20	372,359	623	18,558,592	29,789	258,762,265	14.2
2017	47	1,448,890	19	476,442	651	19,531,040	30,002	269,779,654	14.0
2018	38	1,505,893	15	350,507	674	20,686,426	30,692	283,701,843	14.9
2019	46	2,386,760	15	452,246	705	22,620,940	32,086	309,349,006	16.2
2020	41	1,648,232	32	732,293	714	23,536,879	32,965	318,622,879	17.1
2021	52	2,015,944	16	552,887	750	24,999,936	33,333	343,245,743	17.5
2022	35	2,006,881	15	510,547	770	26,496,270	34,411	362,364,362	18.1

\* Includes post-retirement cost-of-living adjustments

\*\* Includes survivor beneficiaries



**Retirees and Beneficiaries as of  
December 31, 2022  
Tabulated by Type of Benefits Being Paid**

<u>Type of Benefits Being Paid</u>	<u>Annual Benefits</u>			
	<u>No.</u>	<u>Pension</u>	<u>No.</u>	<u>Stipend</u>
Age and Service Retirement Benefits	653	\$ 23,558,186	167	\$ 2,771,102
Disability Retirement Benefits*	18	447,698	2	16,062
Survivor Retirement Benefits	99	2,490,386	0	0
Total Retirement Benefits Being Paid	770	\$ 26,496,270	169	\$ 2,787,164

\* Includes survivors of disabled retirees.

## Retirees and Beneficiaries by Age as of December 31, 2022

Age	No.	Annual Pension Benefits
40 - 44	2	\$ 60,425
45 - 49	1	46,324
50 - 54	27	1,440,457
55 - 59	60	2,834,146
60 - 64	133	4,867,937
65 - 69	170	5,878,256
70 - 74	148	4,830,211
75 - 79	107	3,286,261
80 - 84	68	2,052,702
85 - 89	31	640,803
90 & Over	23	558,748
<b>Totals</b>	<b>770</b>	<b>\$26,496,270</b>

## Vested Former Members as of December 31, 2022

There were 88 inactive members reported as of December 31, 2022 with deferred estimated pension benefits totaling 1,306,059. An inactive member is a person who has left City employment with an entitlement to retirement benefits upon meeting the conditions for deferred retirement. The schedule below shows the inactive members by attained age.

Age	No.	Annual Benefits
Under 40	9	111,654
40 - 44	28	423,302
45 - 49	17	245,376
50 - 54	20	338,187
55 - 59	14	187,540
<b>Totals</b>	<b>88</b>	<b>\$ 1,306,059</b>

## Active Members as of December 31, 2022 Tabulated by Valuation Group

Valuation Groups	No.	Annual Payroll	Average		
			Age	Service	Pay
General/Management Members	340	\$27,108,519	50.2 yrs.	18.2 yrs.	\$79,731
Police Members	<u>115</u>	<u>11,460,388</u>	45.3	17.9	99,656
<b>Total Active Members</b>	<b>455</b>	<b>\$38,568,907</b>	<b>49.0</b>	<b>18.1</b>	<b>\$84,767</b>



## Active Members Included in Valuation Comparative Schedule

Valuation Date	Active Members			Valuation Payroll	Average			
	General	Police	Totals		Age	Service	Pay	% Incr.
2008	676	223	899	\$46,433,304	43.8	12.2	\$51,650	2.5 %
2009	698	219	917	51,510,466	44.1	12.5	56,173	8.8
2010	687	223	910	49,893,917	44.1	12.6	54,828	(2.4)
2011	690	227	917	50,604,786	44.1	12.5	55,185	0.7
2012	696	228	924	52,015,637	44.2	12.7	56,294	2.0
2013	694	227	921	54,261,035	44.6	13.2	58,915	4.7
2014	630	199	829	51,346,952	44.6	13.1	61,938	5.1
2015	582	182	764	49,317,710	45.0	13.7	64,552	4.2
2016	552	171	723	48,754,814	45.8	14.4	67,434	4.5
2017	506	167	673	46,305,597	46.2	14.9	68,805	2.0
2018	466	160	626	44,453,666	47.0	15.8	71,012	3.2
2019	431	146	577	42,823,157	47.4	16.3	74,217	4.5
2020	408	137	545	43,388,949	48.0	17.0	79,613	7.3
2021	368	125	493	38,898,965	48.4	17.6	78,903	(0.9)
2022	340	115	455	38,568,907	49.0	18.1	84,767	7.4

## Additions to and Removals from Active Membership Actual and Expected Numbers

Year Ended Dec. 31	Number Added During Year		Retirement		Disability Retirement		Died-in- Service		Other Terminations		Active Members End of Year
	A	E	A	E	A	E	A	E	A	E	
	2013	39	0	12	27.1	2	1.3	0	1.2	28	
2014	0	0	72	33.0	0	1.4	0	1.2	20	28.2	829
2015	0	0	41	22.2	0	1.3	0	1.0	24	23.7	764
2016	0	0	26	19.2	0	1.4	0	1.0	15	19.9	723
2017	0	0	31	21.2	1	1.4	0	1.0	18	16.2	673
2018	0	0	24	20.6	0	1.4	0	1.0	23	13.6	626
2019	0	0	34	22.1	2	1.2	0	1.0	13*	11.4	577
2020	2*	0	23	20.4	0	1.2	0	1.0	11	9.8	545
2021	0	0	36	22.2	1	1.0	1	1.0	14	8.5	493
2022	0	0	27	19.5	0	1.0	3	0.6	8	11.4	455
5-Year Totals	2	0	144	104.8	3	5.8	4	4.6	69	54.7	

\* Includes transfers.

A Represents actual number.

E Represents expected number based on assumptions outlined in Section C.



## General/Management Active Members - December 31, 2022 by Age and Years of Service

Age	Years of Service on Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34		2	6					8	\$ 528,434
35-39		4	25	5				34	2,430,487
40-44		3	20	27	6			56	4,493,272
45-49			25	20	25	3		73	6,041,819
50-54		2	8	15	14	8	1	48	4,058,101
55-59		1	10	23	12	11	6	63	5,365,633
60			1	2	4	2	2	11	919,817
61				1	3	1	3	8	634,440
62			3	3	6			12	833,899
63			1	2	3	1		7	456,860
64			1	1	1	1	1	5	379,467
65			3	1	2		1	7	434,405
66			3	1		1		5	340,535
67			1			1		2	124,785
69							1	1	66,565
<b>Totals</b>	<b>0</b>	<b>12</b>	<b>107</b>	<b>101</b>	<b>76</b>	<b>29</b>	<b>15</b>	<b>340</b>	<b>\$27,108,519</b>

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 50.2 years  
Service: 18.2 years  
Annual Pay: \$79,731

## Police Active Members - December 31, 2022 by Age and Years of Service

Age	Years of Service on Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34			4					4	\$ 396,964
35-39			15					15	1,426,405
40-44			10	18	3			31	3,164,645
45-49		1	4	13	14			32	3,240,237
50-54				10	15	3		28	2,773,832
55-59				1	4			5	458,305
<b>Totals</b>	<b>0</b>	<b>1</b>	<b>33</b>	<b>42</b>	<b>36</b>	<b>3</b>	<b>0</b>	<b>115</b>	<b>\$11,460,388</b>

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 45.3 years  
Service: 17.9 years  
Annual Pay: \$99,656

## **SECTION C**

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### **ACTUARIAL METHODS, ASSUMPTIONS AND DEFINITIONS OF TECHNICAL TERMS**

# Actuarial Methods Used for the Valuation

## Actuarial Cost Method

The normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

- (i) the annual normal costs for each individual active member, payable from the member's actual date of employment to projected date of retirement, are sufficient to accumulate the actuarial present value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

## Amortization of Unfunded Actuarial Accrued Liabilities

The Pension Plan unfunded actuarial accrued liability (UAAL) was determined using the funding value of assets and actuarial accrued liability calculated as of the valuation date. The UAAL amortization payment (one component of the contribution requirement), was developed using a level dollar amortization method that fully amortizes the UAAL over a 15 year period. This UAAL payment reflects payments expected to be made between the valuation date and the date contributions determined by this report are scheduled to begin.

## Asset Valuation Method

The funding value of assets used in the pension plan valuation recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased in over a 5-year period. During periods when investment performance exceeds the assumed rate, the funding value of assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, the funding value of assets will tend to be greater than market value. This is the result of phasing in differences between actual investment income (market value basis) and expected investment income (funding value basis). Transfers to or from the UIR may be implemented based on budget needs. The total value of assets is not permitted to deviate from the market value of assets by more than 20%.

## Unallocated Income Reserve (UIR)

The UIR is a reserve fund within the pension trust. The purpose of the UIR is to stabilize City contributions due to actuarial gains and losses and changes in actuarial assumptions/methods.

## Actuarial Assumptions Used for the Valuation

The actuarial assumptions used in this valuation of the System were based on the results of a study of Retirement System experience covering the period January 1, 2016 through December 31, 2020. A report dated July 27, 2021 presented the results of the study.

**Investment Return** (net of investment and administrative expenses): 7.00% per year, compounded annually was used in this valuation of the System. This rate consists of a net real rate of return of 3.50% a year plus a long-term rate of wage inflation of 3.50% a year. This assumption is used to equate the value of payments due at different points in time and was first used for the December 31, 2021 valuation.

Net market value rates of investment return during the last 5 plan years are shown below:

	For the Year Ending December 31st				
	2022	2021	2020	2019	2018
Rate of Investment Return	(14.02)%	14.21%	12.76%	20.11%	(4.30)%

**Pay Projections:** These assumptions are used to project current pays to those upon which benefits will be based. The base wage inflation assumption was first used for the December 31, 2021 valuation of the System.

Sample Ages	Annual Rate of Pay Increase for Sample Ages		
	Base	Management	
	(Economic)	Merit and Longevity	Totals
20	3.50 %	2.00 %	5.50 %
25	3.50	2.00	5.50
30	3.50	1.00	4.50
35	3.50	1.00	4.50
40	3.50	0.50	4.00
45	3.50	0.50	4.00
50	3.50	0.20	3.70
55	3.50	0.20	3.70
60	3.50	0.10	3.60
65	3.50	0.00	3.50

## Actuarial Assumptions Used for the Valuation

Years of Service	Annual Rate of Pay Increase for Indicated Years of Service				
	Base (Economic)	General		Police	
		Merit and Longevity	Total	Merit and Longevity	Total
1	3.50 %	3.50 %	7.00 %	5.00 %	8.50 %
2	3.50	3.50	7.00	5.00	8.50
3	3.50	3.50	7.00	4.70	8.20
4	3.50	3.00	6.50	4.50	8.00
5	3.50	2.50	6.00	2.20	5.70
6	3.50	2.00	5.50	2.20	5.70
7	3.50	2.00	5.50	2.10	5.60
8	3.50	2.00	5.50	2.10	5.60
9	3.50	2.00	5.50	2.00	5.50
10	3.50	2.00	5.50	2.00	5.50
11	3.50	2.00	5.50	2.00	5.50
12	3.50	2.00	5.50	2.00	5.50
13	3.50	2.00	5.50	1.00	4.50
14	3.50	1.00	4.50	0.00	3.50
15	3.50	0.00	3.50	0.00	3.50

The base economic assumptions were first used in the December 31, 2021 valuation. The merit and longevity assumptions were first used for the December 31, 2012 valuation.

The assumed rate of price inflation used in the pension plan valuation is 2.50% per year.

## Actuarial Assumptions Used for the Valuation

*The rates of mortality* used for individual members are based upon the sex distinct Pub-2010 tables, as published by the Society of Actuaries, and include a margin for future mortality improvement. These tables were first used for the 2021 valuation of the System and are described below.

### General and Management

- **Healthy Pre-Retirement:** The Pub-2010, Amount-Weighted, General, Employee, Male and Female tables, with future mortality improvements projected to 2030 using scale MP-2020.
- **Healthy Post-Retirement:** The Pub-2010, Amount-Weighted, General, Healthy Retiree, Male and Female tables, with future mortality improvements projected to 2030 using scale MP-2020.
- **Disability Retirement:** The Pub-2010, Amount-Weighted, General, Disabled Retiree, Male and Female, with future mortality improvements projected to 2030 using scale MP-2020.

General and Management						
Sample Ages	Healthy Pre-Retirement		Healthy Post-Retirement		Disabled Retirement	
	Future Life Expectancy (Years)		Future Life Expectancy (Years)		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
50	37.80	39.93	33.95	36.84	24.86	27.53
55	33.06	35.08	29.43	32.21	21.73	24.36
60	28.41	30.30	25.04	27.66	18.87	21.41
65	23.88	25.60	20.82	23.21	16.18	18.41
70	19.43	20.96	16.78	18.90	13.55	15.25
75	15.05	16.42	13.01	14.82	10.91	12.11
80	10.74	11.98	9.63	11.11	8.42	9.28

### Police

- **Healthy Pre-Retirement:** The Pub-2010, Headcount-Weighted, Safety, Employee, Male and Female tables, with future mortality improvements projected to 2030 using scale MP-2020.
- **Healthy Post-Retirement:** The Pub-2010, Headcount-Weighted, Safety, Healthy Retiree, Male and Female tables, with future mortality improvements projected to 2030 using scale MP-2020.
- **Disability Retirement:** The Pub-2010, Headcount-Weighted, Safety, Disabled Retiree, Male and Female, with future mortality improvements projected to 2030 using scale MP-2020.

Police						
Sample Ages	Healthy Pre-Retirement		Healthy Post-Retirement		Disabled Retirement	
	Future Life Expectancy (Years)		Future Life Expectancy (Years)		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
50	36.37	39.10	32.92	35.43	31.24	32.89
55	31.60	34.29	28.33	30.75	26.90	28.40
60	26.90	29.54	23.85	26.26	22.74	24.24
65	22.32	24.83	19.66	21.99	18.84	20.32
70	17.88	20.17	15.67	17.92	15.17	16.49
75	13.64	15.67	11.99	14.09	11.75	12.89
80	9.64	11.43	8.76	10.65	8.71	9.83





## Actuarial Assumptions Used for the Valuation

**Rates of separation from active membership:** The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

Sample Ages	Years of Service	Percent Separating within Next Year	
		General/Management	Police
ALL	0	11.00 %	7.00 %
	1	10.00	5.00
	2	8.00	3.50
	3	8.00	3.50
	4	7.00	3.00
25	5 & Over	8.75	3.50
30		8.75	3.00
35		7.88	2.50
40		6.13	2.00
45		4.38	1.00
50		2.63	1.00
55		1.75	0.50
60	0.88	0.50	

The years of service rates were first used for the December 31, 2012 valuation. The age based rates were first used for the December 31, 2021 valuation.

**Rates of Disability:** These assumptions represent the probabilities of active members becoming disabled.

Sample Ages	Percent Becoming Disabled within Next Year
20	0.08 %
25	0.08
30	0.08
35	0.08
40	0.20
45	0.27
50	0.49
55	0.89

## Actuarial Assumptions Used for the Valuation

**Rates of Retirement:** These rates are used to measure the probabilities of an eligible member retiring under the Regular and Early Reduced retirement provisions during the next year.

Retirement Ages	Regular Retirement Rates		Early Retirement Rates		
	General/ Management	Police	Years of Service	General/ Management	Police
50		50%	20	2%	2%
51		50	21	2	2
52		50	22	2	2
53		45	23	2	2
54		45	24	2	2
55	25%	30	25	2	2
56	25	30	26	2	2
57	25	30	27	2	2
58	25	30	28	2	2
59	25	30	29	2	2
60	30	100	30	2	2
61	25	100	31		2
62	30	100	32		2
63	20	100	33		2
64	20	100	34		2
65	20	100	35		2
66	20	100			
67	20	100			
68	20	100			
69	20	100			
70	100	100			

General and Management members were assumed to be eligible for regular retirement after attaining age 55 with 30 years of service, or age 60 with 5 years of service. These members were assumed to be eligible for early reduced retirement after completing 20 years of service.

A Police member was assumed eligible for retirement after attaining age 50 with 25 years of service, or, after attaining age 60 with 15 or more years of service. Police members were assumed to be eligible for early reduced retirement after completing 20 years of service.

The early retirement rates were first used for the December 31, 2004 valuation. The regular retirement rates were first used for the December 31, 2021 valuation.



## Miscellaneous and Technical Assumptions

<b>Marriage Assumption:</b>	80% of participants are assumed to be married for purposes of death-in-service benefits. In each case the male was assumed to be 3 years older than the female.
<b>Pay Increase Timing:</b>	Beginning of year.
<b>Decrement Timing:</b>	Decrements of all types are assumed to occur mid-year.
<b>Eligibility Testing:</b>	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
<b>Benefit Service:</b>	Exact fractional service is used to determine the amount of benefit payable.
<b>Other:</b>	Disability and turnover decrements do not operate during retirement eligibility.
<b>Miscellaneous:</b>	The active accrued liabilities were increased by 8% for General/Management and 9% for Police to account for the inclusion of unused sick leave and vacation time in the calculation of Final Average Compensation.
<b>Death/Disability:</b>	Fifty percent of disabilities and deaths for Police were assumed to be duty related. Fifty percent were assumed to be unrelated to duty. Twenty-five percent of disabilities for General/Management were assumed to be duty related. Seventy-five percent were assumed to be unrelated to duty. The recovery rate from disability was assumed to be 0 (i.e., no disabled individual was assumed to recover and return to work).
<b>Forfeiture Assumption:</b>	All vested terminated members were assumed to elect a deferred retirement benefit.

## Definitions of Technical Terms

**Accrued Service** - Service credited under the system which was rendered before the date of the actuarial valuation.

**Actuarial Accrued Liability** - The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as “past service liability.”

**Actuarial Assumptions** - Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

**Actuarial Cost Method** - A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future benefit” between future normal costs and actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

**Actuarial Equivalent** - One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

**Actuarial Gain (Loss)** - The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

**Actuarial Present Value** - The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

**Amortization** - Paying off an interest-discounted amount with periodic payments of interest and (generally) principal -- as opposed to paying it off with a lump sum payment.

**Normal Cost** - The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as “current service cost.”

**Unfunded Actuarial Accrued Liabilities** - The difference between actuarial accrued liabilities and valuation assets. Sometimes referred to as “unfunded past service liability” or “unfunded supplemental present value.”

Most retirement systems have unfunded actuarial accrued liabilities. They arise each time new benefits are added and each time an actuarial loss occurs. The existence of unfunded actuarial accrued liabilities is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liabilities do not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liabilities and the trend in their amount (after due allowance for devaluation of the dollar).



## **SECTION D**

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### **ADDITIONAL DISCLOSURES**

## Supplementary Information

### Schedule of Pension Funding Progress (Police & General Combined)

Actuarial Valuation Date	Actuarial Value of Assets *	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
Date	(a)	(b)	(b-a)	(a/b)	(c)	((b-a)/c)
2013	\$ 311,444,880	\$ 373,386,564	\$ 61,941,684	83.4 %	\$54,261,035	114.2 %
2014	339,286,725	402,856,926	63,570,201	84.2	51,346,952	123.8
2015	363,204,298	430,695,376	67,491,078	84.3	49,317,710	136.8
2016	391,086,781	448,252,930	57,166,149	87.2	48,754,814	117.3
2017	477,703,264	466,915,452	(10,787,812)	102.3	46,305,597	-23.3
2018	485,281,499	478,543,350	(6,738,149)	101.4	44,453,666	-15.2
2019	501,591,649	502,132,510	540,861	99.9	42,823,157	1.3
2020	529,123,239	522,115,520	(7,007,719)	101.3	43,388,949	0.0
2021	630,324,655	545,246,656	(85,077,999)	115.6	38,898,965	0.0
2022	624,829,233	563,735,766	(61,093,467)	110.8	38,568,907	0.0

\* Includes assets (if any) held in the Unallocated Income Reserve.

### Schedule of Employer Contributions

Valuation Year Ended Dec. 31	Fiscal Year Ended Dec. 31	Computed Dollar Contributions	Actual Contributions	Percent Contributed
2013 <sup>^</sup>	2015	\$11,397,261	\$11,417,873	100 %
2014 <sup>^</sup>	2016	11,417,873	11,417,873	100
2015 <sup>^</sup>	2017	11,610,968	11,623,730	100
2016	2018	10,623,760	11,166,523	100
2017 <sup>^</sup>	2019	10,011,563	10,213,721	100
2018 <sup>^</sup>	2020	10,045,628	10,045,628	100
2019	2021	10,712,257	10,712,257	100
2020	2022	9,997,846	10,313,219	100
2021 <sup>^</sup>	2023	9,350,722		
2021 <sup>^</sup>	2024	10,172,827		

<sup>^</sup> New methods and/or assumptions





March 3, 2023

Ms. Angie Uthe  
City of Sioux Falls Employee's  
Retirement System  
City Hall - 224 West 9th Street  
Sioux Falls, South Dakota 57104-6407

Dear Angie:

Enclosed is one copy of the report of the annual actuarial valuation of the City of Sioux Falls Employee's Retirement System.

Sincerely,  
Gabriel, Roeder, Smith & Company

A handwritten signature in black ink that reads "Louise Gates". The signature is written in a cursive, flowing style.

Louise M. Gates, ASA, FCA, MAAA

Enclosure