ANNUAL REPORT OF THE FUNDED STATUS OF THE SOUTH DAKOTA RETIREMENT SYSTEM TO THE GOVERNOR AND LEGISLATURE OF THE STATE OF SOUTH DAKOTA

JANUARY 2018

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South Dakota Retirement System

January 8, 2018

To the Governor and the Legislature of the State of South Dakota

We are pleased to present the Annual Report of the Funded Status of the South Dakota Retirement System (SDRS) for the fiscal year ended June 30, 2017. The information in this report focuses on the funded status and financial condition of SDRS – the consolidated retirement system in South Dakota for most public employees.

As of June 30, 2017, SDRS is 100.1 percent funded based on the Fair Value of Assets, and all the Board's funding objectives have been met. This marks the twenty-second time since 1986 that SDRS has been at least 100 percent funded on a Fair Value basis. On an accounting basis, SDRS and its participating employers will report a small Net Pension Asset and the total impact on employers' balance sheets will remain an asset.

For fiscal year 2017, the SDRS Trust Fund, under the management of the South Dakota Investment Council, produced a net investment return of 13.8 percent. This was significantly greater than both the Council's investment benchmark and the SDRS long-term investment return assumption.

SDRS' fully funded status is a rare accomplishment. The SDRS 100.1 percent Funded Ratio compares to a projected average of 73 percent for all statewide plans. This is even more impressive considering that the SDRS investment return and mortality assumptions are among the most conservative used by statewide plans.

The success of SDRS has been achieved through the conservative oversight of the Board of Trustees, the outstanding long-term success of the South Dakota Investment Council, and the ongoing support of the Executive and Legislative branches of state government and the SDRS membership. SDRS continues to be one of the most financially sound public employee retirement systems in the nation and is well-positioned to confront the challenges of the future.

The last several years have been historically challenging for public retirement systems like SDRS for several reasons:

- Extremely volatile capital markets
- The lowest investment return expectations in decades
- Significant mortality improvements resulting in longer life expectancies
- New accounting standards that allocate retirement system assets/liabilities to participating employers' balance sheets
- Maturing retirement plans and a demographic and workforce shift as the baby boomer generation transitions into retirement

SDRS has met these challenges by adopting actuarial assumptions that reflect the reality of today's environment and expanding SDRS' hybrid and variable benefit features, which together result in SDRS remaining fully funded based on the fixed, statutory contributions. These changes have strengthened the sustainability of SDRS.

The SDRS Board of Trustees will continue to analyze risks and evaluate SDRS sustainability under all economic conditions. SDRS remains fully committed to the SDRS hybrid defined benefit plan model that is fiscally responsible, efficient, and provides appropriate retirement income to our members within our resources.

We welcome your comments and questions.

Sincerely,

Robert A. Wylie
Executive Director

SDRS MISSION STATEMENT

To plan, implement, manage, and efficiently administer financially sustainable retirement income programs within the fixed resources available.

SDRS CORE VALUES

Provide members and their families the opportunity to achieve financial security at retirement, death, or disability by delivering appropriate and equitable benefits, and promote, encourage, and facilitate additional member savings for retirement.

SDRS LONG-TERM INCOME REPLACEMENT GOALS

Provide lifetime income replacement of at least 55 percent of final average compensation for career employees in each membership class.

Promote total lifetime income replacement of at least 85 percent of final average compensation, including income from SDRS, Social Security, and personal retirement savings of at least one time annual compensation at retirement.

FUNDING POLICY OBJECTIVES

The SDRS Board's Funding Policy includes the following Funding Objectives:

- Fair Value Funded Ratio[1] of 100 percent or greater.
- A fully funded System with no Unfunded Liabilities.
- Actuarially determined benefits that are variable and can be supported by fixed, statutory contributions that are equal to or greater than the minimum actuarial requirement to support benefits of Normal Cost and expenses plus the payment of Unfunded Liabilities over a period not to exceed 20 years.

[1] The Fair Value Funded Ratio compares the System assets at Fair Value to the liabilities of the System for all benefits earned to date. A value of 100 percent or greater means all liabilities have been funded to date and no Unfunded Liabilities exist.

CURRENT SDRS FUNDED STATUS

MEETING THE BOARD'S FUNDING OBJECTIVES

The 2017 actuarial valuation of SDRS confirms that all three of the Board's funding objectives have been met based on the current restricted maximum COLA as follows:

- ✓ Fair Value Funded Ratio = 100.1 percent
- ✓ Fully funded System with no Unfunded Liabilities
- ✓ Statutory contributions exceed the minimum actuarial requirement to support benefits

FISCAL YEAR 2017 SDRS EXPERIENCE

The SDRS money-weighted investment return based on the Fair Value of Assets was 13.84 percent after investment expense. This return was greater than the assumed annual rate of return of 7.25 percent, resulting in an actuarial investment gain of $680M.

Actual Investment Return	$1,432M
Less Expected Return	(752M)
Actuarial Investment Gain/(Loss)	$ 680M

However, the SDRS liabilities were 0.7 percent higher ($98M) than expected as of June 30, 2017. The increase in liabilities was due primarily to the significant increases in teachers' salaries that were the result of legislation enacted in 2016 and first effective in fiscal year 2017. This change in teachers' pay is expected to have only this one-time impact on SDRS liabilities.

FUNDED RATIO COMPARISONS

The long-term experience of SDRS has been very favorable, resulting in a funded status that exceeds virtually all other statewide public retirement systems.

	June 30, 2017		June 30, 2016	
	SDRS	Average(1)	SDRS	Average(1)
Funded Ratio (Actuarial Value of Assets)	100%	72%	100%	69%
Funded Ratio (Fair Value of Assets)	100%	73%	97%	69%

(1) 2016 averages from 2017 Wilshire Associates State Retirement Plan Funding Report for statewide public systems. 2017 averages estimated based on 2016 data from the 2017 Wilshire report.

SDRS currently has no Unfunded Liability. To put this into perspective, if SDRS was funded like the national average, the System would have an Unfunded Liability of approximately $3.1 billion.

HISTORY OF SDRS FUNDED RATIOS

The SDRS Funded Ratios since consolidation in 1974 are shown below. The SDRS Actuarial Value of Assets is now equal to the Fair Value of Assets. Prior to 2017, separate asset values and Funded Ratios were maintained.

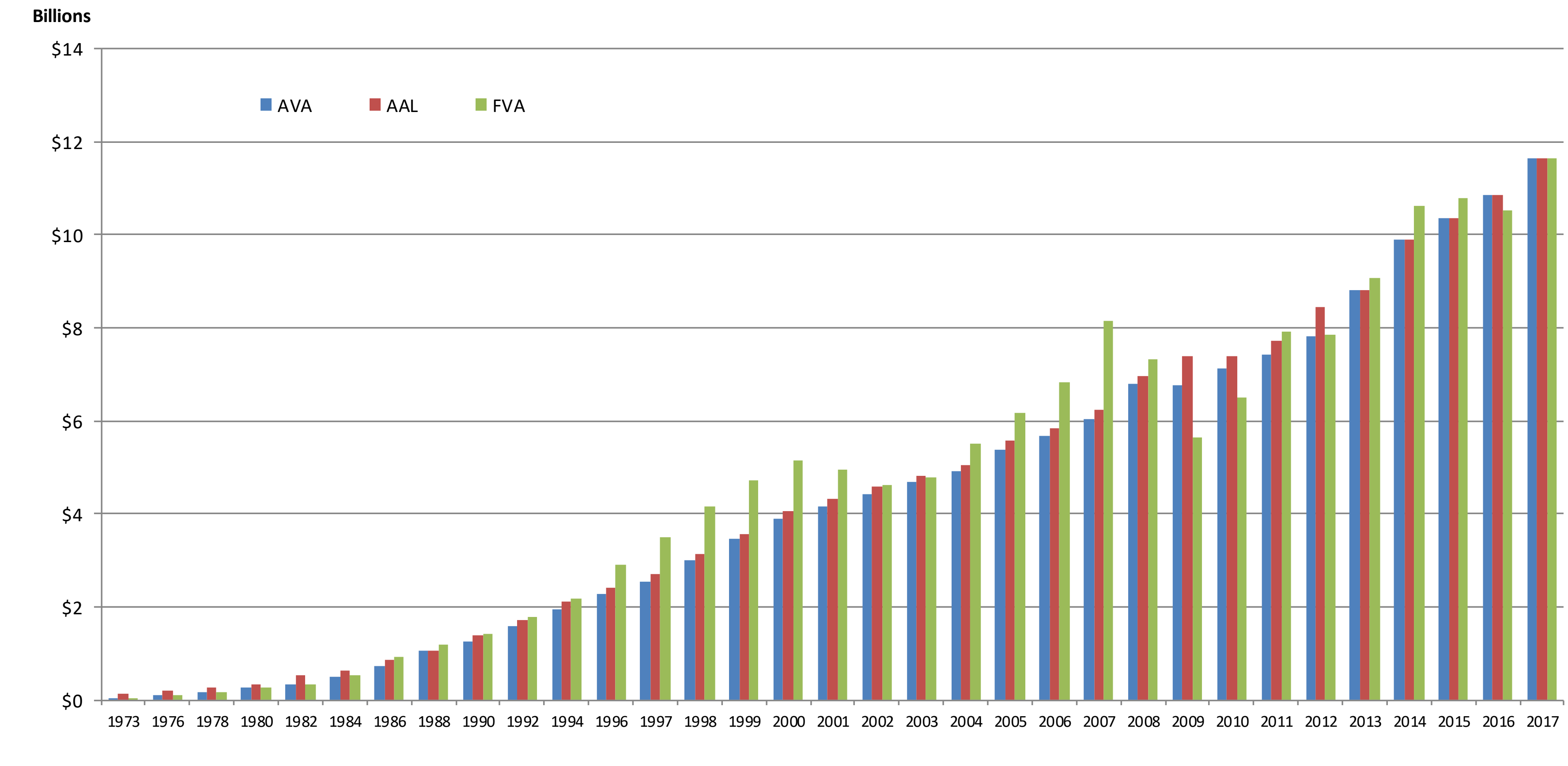
The SDRS Fair Value Funded Ratio:

- Was 40 percent in 1973.
- Has been over 75 percent each year since 1984.
- Has been over 100 percent in 22 of the last 27 actuarial valuations.
- Decreased to 76 percent in 2009 as a result of the significant asset losses suffered in 2008 and 2009 due to the Great Recession.
- Increased to 107 percent in 2014 as a result of corrective actions in 2010 and subsequent asset gains, despite significant increases in liabilities as a result of strengthened actuarial assumptions.
- Decreased to 97 percent in 2016 due to lower than assumed investment performance in fiscal years 2015 and 2016.
- Increased to 100 percent in 2017 reflecting actuarial assumption, actuarial method and SDRS COLA changes effective June 30, 2017, and significant asset gains during fiscal year 2017.

It is anticipated that the SDRS Funded Ratio will remain at 100 percent or better in the future under most economic conditions.

SDRS Funded Status Report

History of Funded Ratios



	1973	1976	1978	1980	1982	1984	1986	1988	1990	1992	1994	1996	1997	1998	1999	2000	2001
Fair Value Funded	40%	57%	68%	76%	63%	81%	106%	111%	101%	104%	103%	120%	130%	133%	132%	126%	114%
Actuarial Value	40%	57%	68%	76%	67%	75%	85%	97%	91%	94%	92%	94%	95%	96%	97%	95%	96%
Funding Period (years)	41	19	19	9	28	18	37	6	46	16	38	30	23	22	21	20	20
% of Actuarially Required Contributions Made	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fair Value Funded	101%	99%	109%	111%	117%	131%	105%	76%	88%	103%	93%	103%	107%	104%	97%	100%
Actuarial Value	97%	97%	98%	97%	97%	97%	97%	92%	96%	96%	93%	100%	100%	100%	100%	100%
Funding Period (years)	20	20	20	20	20	20	20	N/A[1]	30	30	29	N/A[2]	N/A[2]	N/A[2]	N/A[2]	N/A[2]
% of Actuarially Required Contributions Made	100%	100%	100%	100%	100%	100%	100%	91%[1]	100%	100%	100%	100%	100%	100%	100%	100%

[1] Fixed, statutory Member and Employer contributions were not sufficient to fund the Frozen Unfunded Actuarial Accrued Liability as of June 30, 2009.

[2] SDRS was fully funded with no Unfunded Actuarial Accrued Liability (based on the Actuarial Value of Assets) as of June 30, 2013 through June 30, 2017.

SDRS

2017 ACTUARIAL ASSUMPTION CHANGES

The Board of Trustees manages SDRS benefits based on fixed, statutory member and employer contributions, actual past experience of the System, and anticipated future experience. This requires long-term cost projections using actuarial assumptions about future unknown events, including:

- The rate of investment return earned on SDRS assets,
- Inflation,
- Wage growth, and
- Retirements, terminations, and mortality.

Based on an experience analysis and the recommendations of the Actuary, the Board adopted significant changes to the actuarial assumptions, first effective for the 2017 actuarial valuation including:

- Annual price inflation assumption of 2.25 percent (was 3.25 percent)
- Annual investment return assumption of 6.50 percent (was 7.25 percent through June 30, 2017 and 7.50 percent thereafter)
- Annual wage growth assumption of 3.00 percent (was 3.75 percent)
- Updated generational mortality assumptions
- Updated retirement, termination, and disability assumptions.

While changes in actuarial assumptions do not change the actual costs of SDRS, they do change the estimate of the future costs. These changes are intended to provide the most realistic estimate of the cost of SDRS benefits, which is essential for future planning.

2017 LEGISLATIVE CHANGES

Legislation enacted in 2017 made changes to the COLA and final average compensation (FAC) to offset the effect of the revised actuarial assumptions, including lower investment returns. These changes brought the System back into actuarial balance.

SDRS COLA

The COLA objective is to partially protect retirees from a loss of purchasing power due to inflation after retirement. The 2017 legislation tied the COLA directly to the annual inflation rate and the available resources to pay for it.

- Baseline liabilities are calculated assuming future COLAs are equal to the assumed long-term rate of inflation of 2.25 percent
- If SDRS assets meet or exceed the baseline liabilities (baseline FVFR is at least 100 percent), the COLA will equal inflation (CPI-W):
    - Minimum: 0.5 percent
    - Maximum: 3.5 percent
- If SDRS assets are less than the baseline liabilities (baseline FVFR is less than 100 percent), the COLA will equal inflation (CPI-W):
    - Minimum: 0.5 percent
    - Restricted Maximum: the actuarially calculated percentage that, if assumed for future COLAs, brings SDRS' FVFR back to 100 percent

The COLA will be less than inflation only when it is not affordable or inflation is extraordinarily high. However, it is anticipated that the SDRS COLA will approximate the rate of inflation over time.

COMPENSATION AND FINAL AVERAGE COMPENSATION

The incidence of large, late-career pay increases has grown over the past several years, resulting in a cost issue for SDRS and an equity issue for members. Some increases are the result of systematic attempts to maximize SDRS benefits that are contrary to statutory provisions.

Legislation in 2017:

- Tightened the definition of compensation for SDRS purposes and made the reporting of compensation that is inconsistent with the law a Class 1 misdemeanor,
- Enacted a phase-in of a longer FAC calculation period for Foundation members, and
- Extended the application of the current 105 percent compensation cap. Member and employer contributions on compensation excluded from FAC will be paid, with actual investment earnings, to the member at retirement.

2017 ACTUARIAL METHODOLOGY CHANGES

The Actuarial Asset Valuation Method was changed to equal the Fair Value of Assets. In addition, the Actuarial Funding Method was changed from the Frozen Entry Age Actuarial Cost Method to the Entry Age Actuarial Cost Method, which was already in use for GASB Statement Nos. 67 and 68 purposes.

NET IMPACT OF 2017 CHANGES

The impact of the changes was as follows:

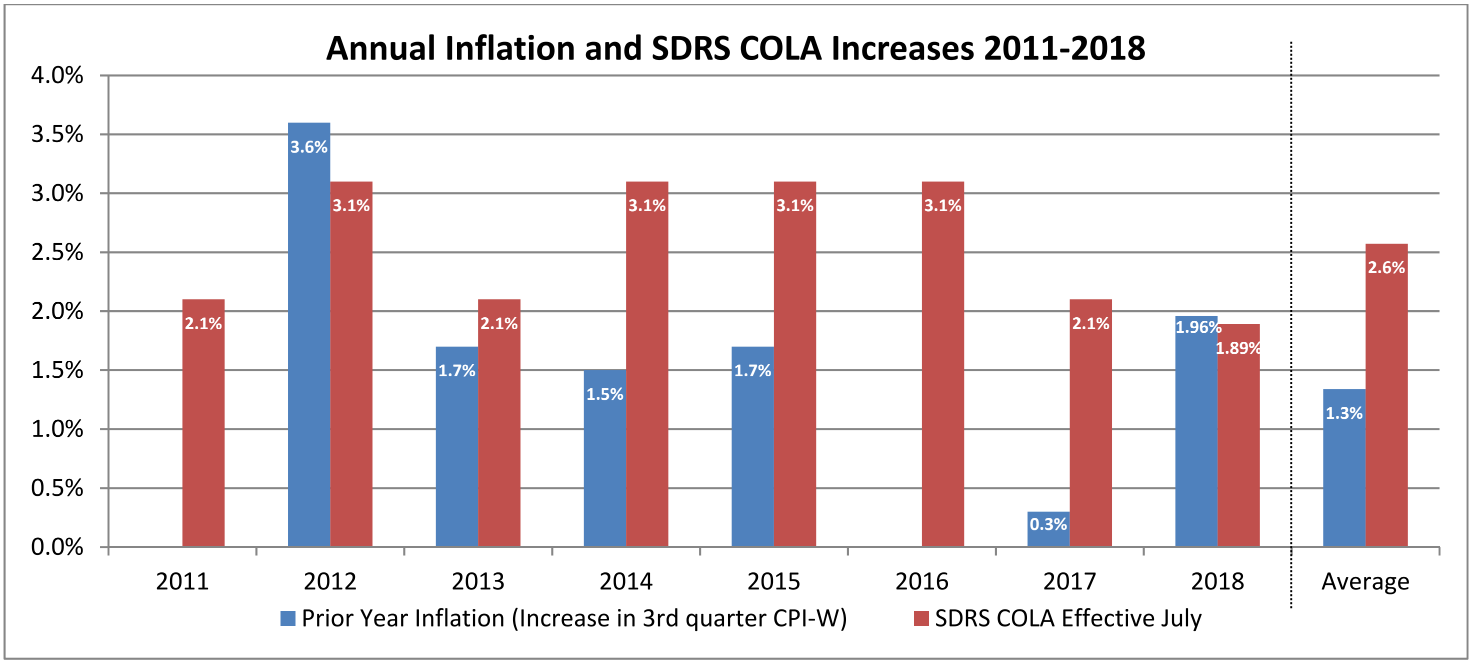
- The revised actuarial assumptions increased the Actuarial Accrued Liability by $1,265 million.
- The legislative changes, prior to determining the effective COLA for 2018, reduced the Actuarial Accrued Liability by $567 million.
- The COLA process established by the 2017 legislation resulted in a July 2018 SDRS COLA of 1.89 percent, slightly below the 1.96 percent increase in the CPI-W. Assuming future SDRS COLAs will remain at the 1.89 percent restricted maximum COLA reduced the Actuarial Accrued Liability by an additional $445 million.

The resulting June 30, 2017 SDRS Fair Value Funded Ratio is 100.1 percent. The significantly more conservative estimate of future experience, as well as the legislative modifications to SDRS provisions, will enable SDRS to weather variable and severe future economic conditions.

SDRS COLA HISTORY

The SDRS COLA was initially a 2 percent simple increase and has been modified numerous times in the past.

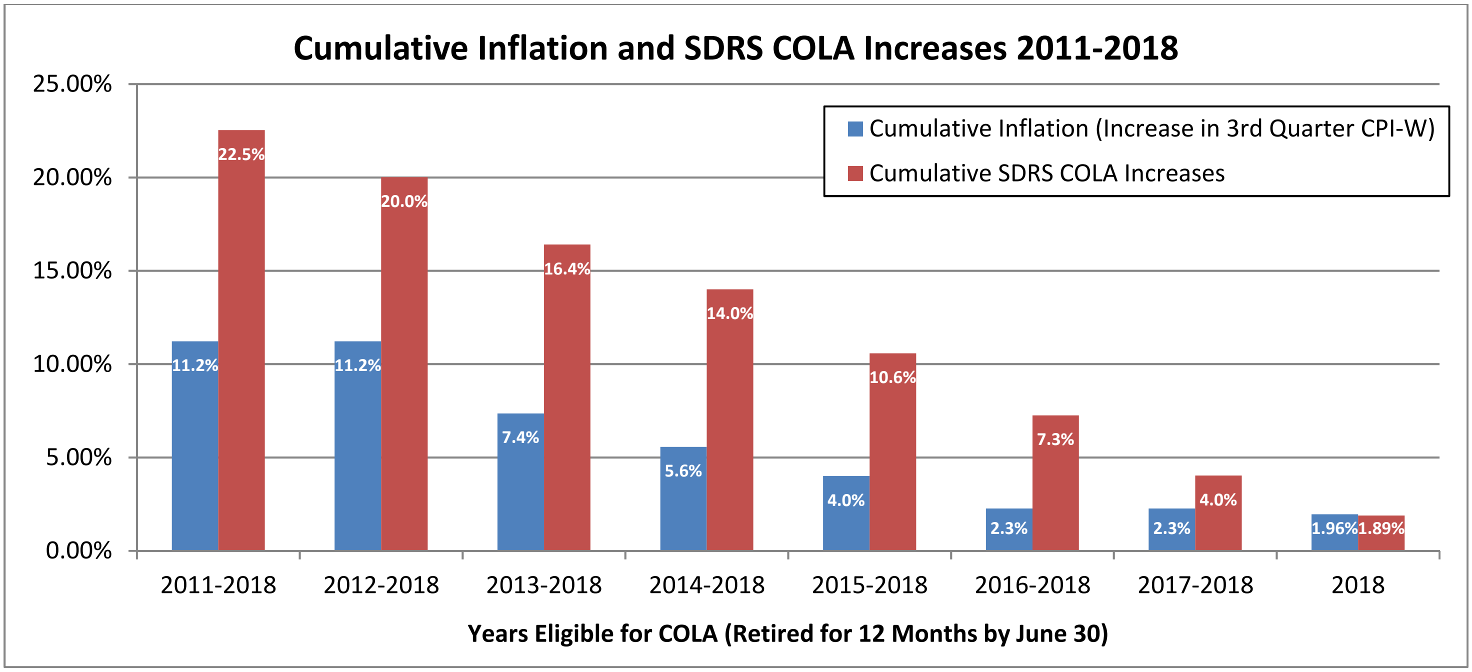
COLAs have exceeded inflation during recent years as shown below.



Since the 2010 COLA legislation, the average annual SDRS COLA has been 2.6 percent while the average annual rate of inflation has been 1.3 percent.

As noted above, the 2018 SDRS COLA will be 1.89 percent, slightly less than the increase in the rate of inflation of 1.96 percent.

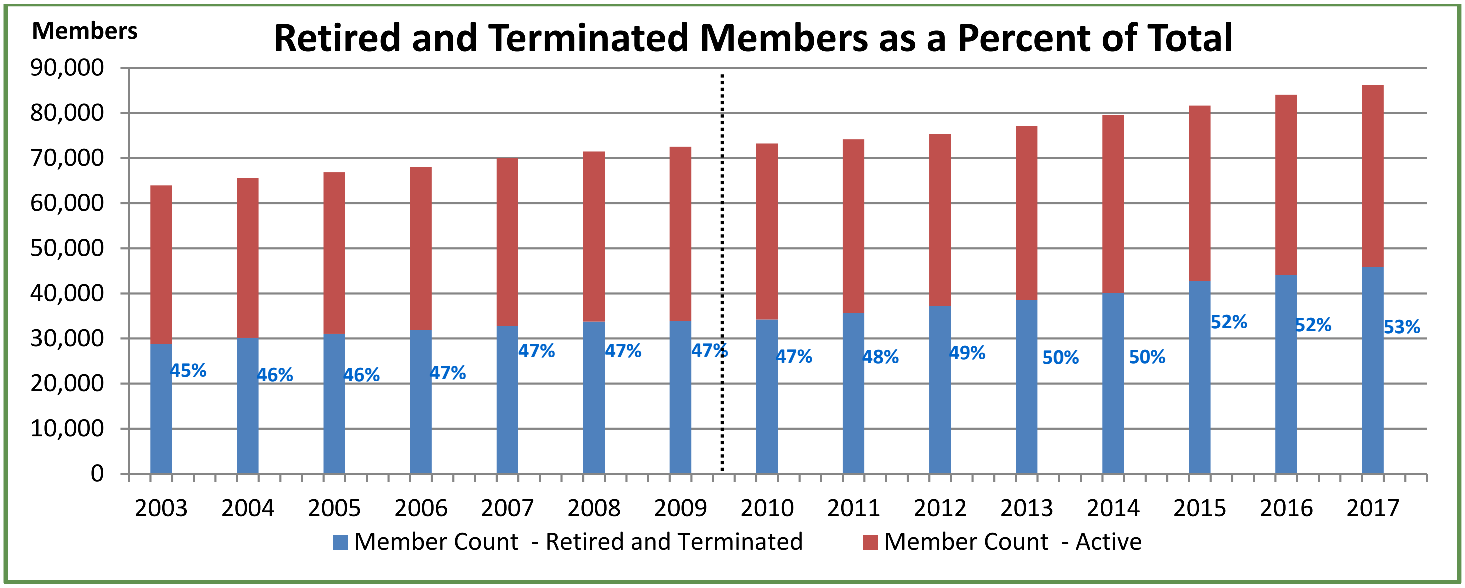
Since 2011, the SDRS COLA has increased benefits by 22.5 percent, more than twice the rate of inflation. Similarly, the SDRS benefits of most recent retirees have increased significantly more than inflation. Paying a COLA significantly greater than the rate of inflation exceeds the COLA objective is very costly and not sustainable.



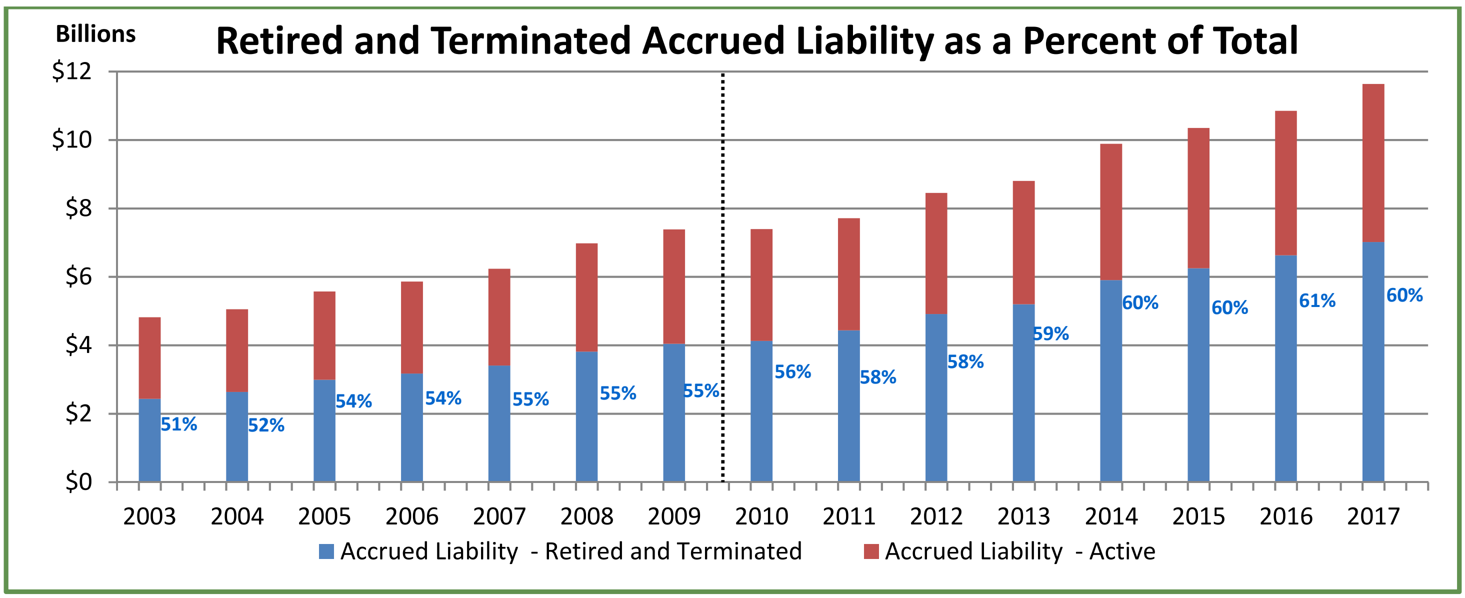
The 2017 legislation provides a COLA much more closely linked to inflation and also limited to the amount supported by SDRS resources.

SDRS MATURITY

As retirement systems mature, the percent of retired members and the percent of their liability increases. This impact has been magnified in recent years by the aging of the baby boomer portion of the membership.

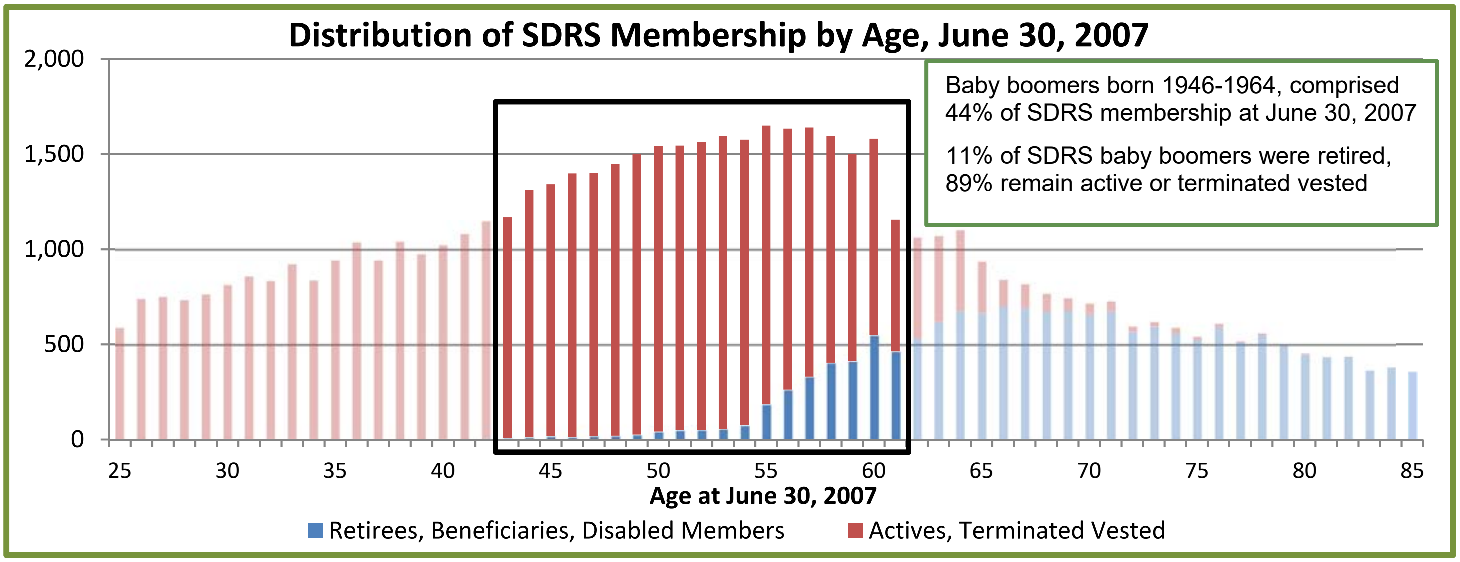


Since 2003, the percentage of total members who are retired or terminated has increased from 45 percent to 53 percent.

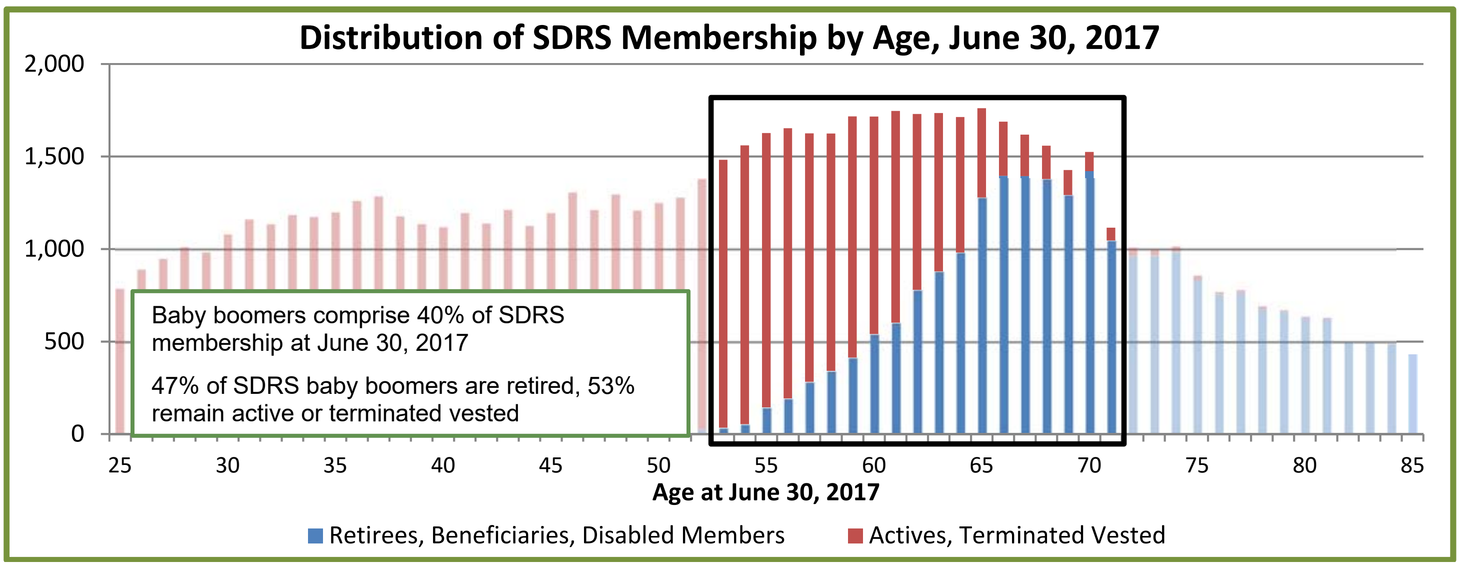


During the same period, the portion of the total Actuarial Accrued Liability (AAL) due to retired or terminated members has increased from 51 percent to 60 percent. However, the rate of increase in the portion of AAL attributable to retired or terminated members slowed after the 2010 legislative changes to the COLA.

The movement of the baby boomer generation through SDRS has impacted plan maturity. In 2007 the baby boomer generation comprised 44 percent of SDRS membership and only 11 percent of SDRS baby boomers had retired.



By 2017, the baby boomer generation comprised 40 percent of SDRS membership and 47 percent of SDRS baby boomers had retired, increasing the plan maturity.

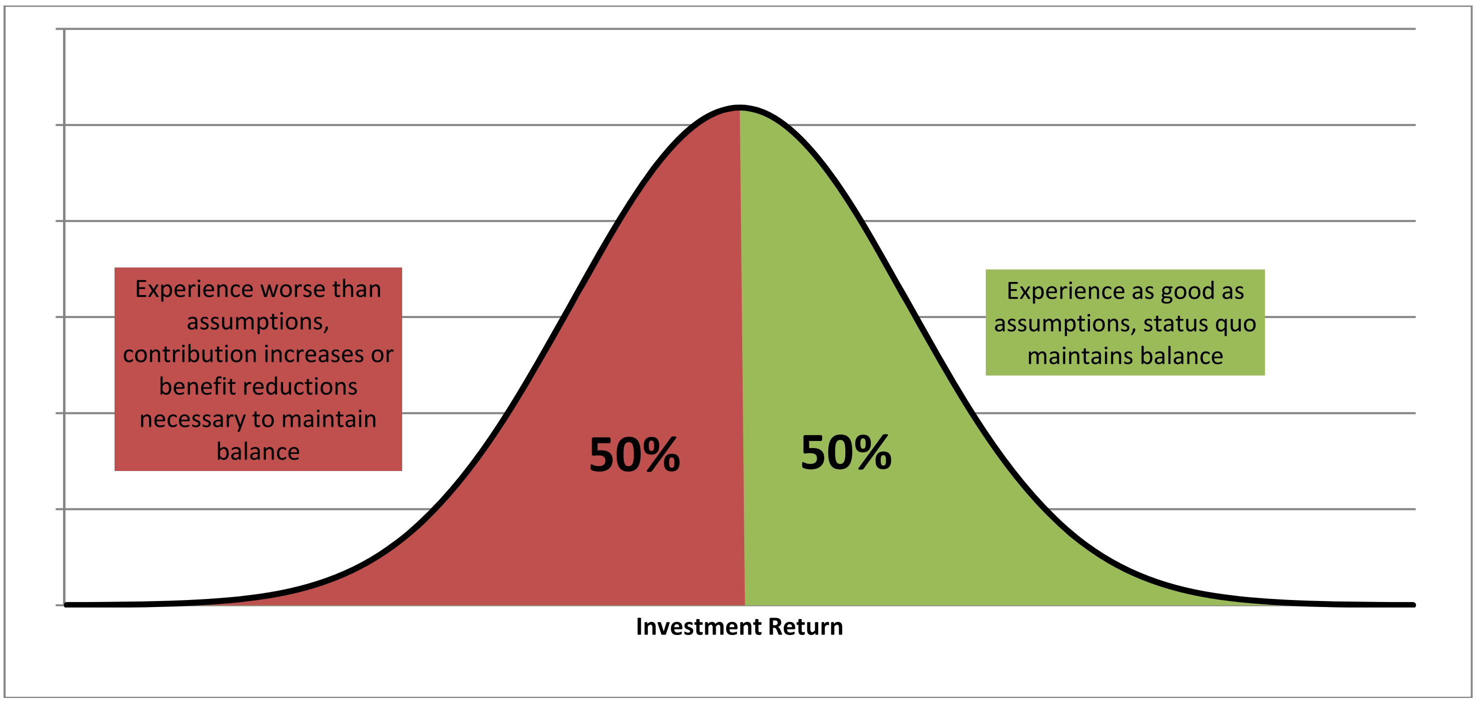


The number of SDRS retirements was higher in fiscal year 2015 than any other year in SDRS history, but fewer members retired in 2016 and 2017. SDRS expects a new peak in retirements in fiscal years 2019-2021 based on the teacher salary increases enacted in 2016 and other factors but decreases in the number of retirements in subsequent years. South Dakota public employers have been and will continue to be faced with replacing a significant portion of the workforce as baby boomers retire.

As retirement systems mature, systems that vary contribution rates will struggle to fill funding gaps through contribution increases alone. For fixed-rate contribution systems like SDRS, the growing plan maturity may cause future unfavorable experience to require quicker and more significant benefit and design changes.

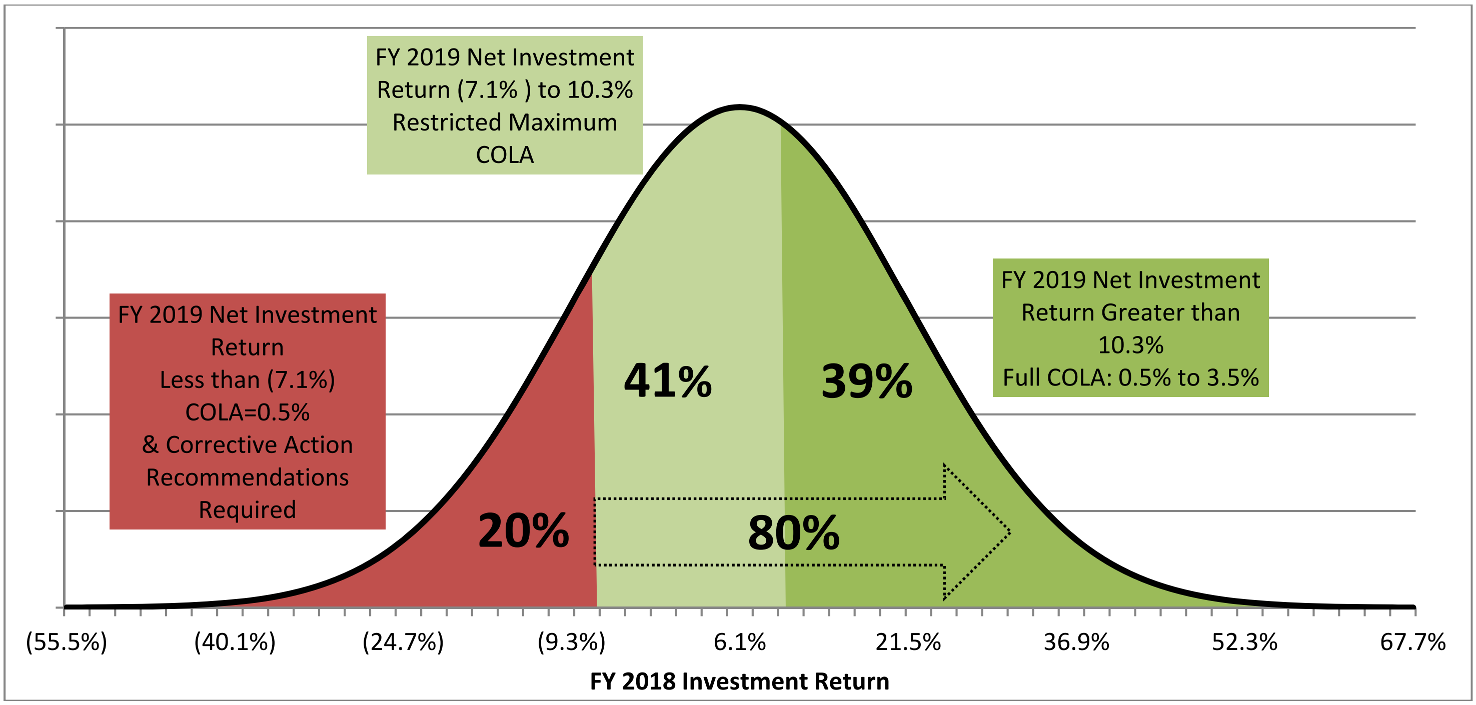
RISK MEASURES

Retirement systems balance contributions and benefits based on actuarial assumptions regarding future events. The typical retirement system is not fully funded, has a fixed benefit structure, and requires an actuarially determined contribution sufficient to cover normal costs and expenses and amortize unfunded liabilities (typically over 20 to 30 years). That single actuarial determined contribution rate is designed to fund the median of the potential outcomes. In short, there is a fifty-fifty chance that the plan will maintain its funded status from one year to the next if the full actuarially determined contribution is made. For most plans, if plan experience is worse than assumed, the contribution rate will increase. If the full actuarially determined contribution is not made, the likelihood is greater than fifty percent that contributions will need to be increased in the following year.



A flexible benefit design that automatically adjusts certain benefits, like the SDRS design, will make the plan more sustainable to volatile markets and negative experience. However, even plans with the most flexible benefit structure may have to take corrective action in the most severe situations.

SDRS operates with fixed, statutory contributions, flexible benefits, and statutory constraints that require recommendations for corrective actions at specified funding thresholds. With the 2017 legislative changes, SDRS liabilities will automatically adjust to most (but not all) economic circumstances as shown below.



The above chart illustrates the potential range of investment returns for fiscal year 2018, their likelihoods, and the possibility that the SDRS variable benefit structure will not be sufficient to avoid additional corrective actions. For example, a one-year net investment return of -7.1 percent would require a corrective action and has a 20 percent likelihood of happening. (Likelihoods are based on South Dakota Investment Council's June 2017 investment portfolio statistics for the benchmark asset allocation, including a mean expected return of 6.10 percent and a one-year standard deviation of 15.4 percent.)

Although the hybrid and flexible benefit features of SDRS have been greatly expanded and the actuarial assumptions modified, the increasing plan maturity and asset volatility result in a continuing possibility of the need for future corrective actions.

The SDRS Board of Trustees will continue to be diligent in monitoring future risks, minimizing the risks when possible, and planning for necessary adjustments during adverse economic conditions.

SDRS 2018 LEGISLATION

The SDRS Board of Trustees will submit the following bills for consideration during the 2018 Legislative Session:

- SB 35: An Act to revise the classification of Juvenile Corrections Agents in the South Dakota Retirement System and to revise certain terminology regarding correctional staff.

- SB 36: An Act to revise certain provisions regarding the South Dakota Retirement System.

- SB 37: An Act to revise the automatic enrollment provisions of the deferred compensation plan of the South Dakota Retirement System.

- SB 38: An Act to revise the process for establishing the compensation of the executive director of the South Dakota Retirement System

None of these bills will have a material impact on the benefits and liabilities of SDRS.

Appendix A: Key SDRS Metrics

Membership		
Valuation Date	**June 30, 2017**	**June 30, 2016**
Active Members	40,452	39,940
Benefit Recipients	27,341	26,554
Vested Terminated Members	9,621	9,382
Non-Vested Terminated Members	8,837	8,172
Total System Members	86,251	84,048

Cash Flow		
Year Ended	**June 30, 2017**	**June 30, 2016**
Contributions	$ 244M	$ 229M
Benefit Payments and Expenses	$ (545M)	$ (514M)
Net Investment Income	$1,432M	$ 23M

Funded Status		
Valuation Date	**June 30, 2017**	**June 30, 2016**
Fair Value of Assets	$ 11.6B	$ 10.5B
Actuarial Value of Assets	$ 11.6B	$ 10.9B
Actuarial Accrued Liability	$ 11.6B	$ 10.9B
Actuarial Value Funded Ratio	100.1%	100.0%
Fair Value Funded Ratio	100.1%	96.9%

Statutory Determinations		
Valuation Date	**June 30, 2017**	**June 30, 2016**
SDRS COLA		
Minimum Statutory COLA	0.50%	2.10%
Maximum Statutory COLA	3.50%	3.10%
Restricted Maximum COLA	1.89%	N/A
Increase in 3rd Calendar Quarter CPI-W	1.96%	0.35%
SDRS COLA Next July	1.89%	2.10%
SDCL 3-12-122 Conditions*		
Fair Value Funded Ratio	100.1%	96.9%
SDCL 3-12-122 (1) Condition Satisfied?	Yes	Yes
Minimum SDCL 3-12-122 (2) Contribution Rate	11.641%	10.744%
Statutory Contribution Rate	12.472%	12.489%
SDCL 3-12-122 (2) Condition Satisfied?	Yes	Yes
Corrective Action Recommendation Required	No	No

* SDCL 3-12-122, as amended in 2017, requires the SDRS Board of Trustees to recommend Corrective Actions to the Retirement Laws Committee if either of two conditions is not satisfied. The two conditions are a Fair Value Funded Ratio of at least 100 percent and fixed, statutory contributions sufficient to fund the minimum SDCL 3-12-122 requirements. Both of these conditions are satisfied as of June 30, 2017 and no Corrective Action recommendation is required.

Appendix B: SDRS Benefits Payable by County

The following exhibit presents a schedule of the annualized benefits payable as of July 1, 2017, by SDRS on a county-by-county basis.

County	Annual Benefits	County	Annual Benefits	County	Annual Benefits
Aurora	$ 1,888,760	Fall River	$ 3,933,720	McPherson	$ 869,251
Beadle	$ 8,753,459	Faulk	$ 1,406,371	Meade	$ 11,391,593
Bennett	$ 672,780	Grant	$ 3,292,902	Mellette	$ 581,859
Bon Homme	$ 4,727,969	Gregory	$ 2,479,168	Miner	$ 1,201,390
Brookings	$ 34,433,778	Haakon	$ 854,581	Minnehaha	$ 78,024,409
Brown	$ 22,920,316	Hamlin	$ 2,882,558	Moody	$ 2,875,866
Brule	$ 2,597,351	Hand	$ 1,447,513	Oglala Lakota	$ 317,956
Buffalo	$ 48,771	Hanson	$ 808,709	Pennington	$ 67,856,968
Butte	$ 4,446,159	Harding	$ 321,193	Perkins	$ 1,324,449
Campbell	$ 849,411	Hughes	$ 33,365,351	Potter	$ 1,780,695
Charles Mix	$ 3,852,735	Hutchinson	$ 4,112,454	Roberts	$ 4,092,247
Clark	$ 1,656,827	Hyde	$ 753,089	Sanborn	$ 1,099,624
Clay	$ 15,289,082	Jackson	$ 904,693	Spink	$ 6,124,721
Codington	$ 16,565,486	Jerauld	$ 918,824	Stanley	$ 4,450,853
Corson	$ 688,803	Jones	$ 705,102	Sully	$ 757,283
Custer	$ 5,995,496	Kingsbury	$ 2,911,869	Todd	$ 1,114,747
Davison	$ 10,647,064	Lake	$ 7,992,336	Tripp	$ 2,962,102
Day	$ 3,262,757	Lawrence	$ 18,205,656	Turner	$ 3,378,681
Deuel	$ 1,712,676	Lincoln	$ 6,336,837	Union	$ 5,729,036
Dewey	$ 1,210,688	Lyman	$ 1,544,416	Walworth	$ 3,649,877
Douglas	$ 1,500,759	Marshall	$ 2,868,712	Yankton	$ 15,679,432
Edmunds	$ 1,790,952	McCook	$ 2,546,781	Ziebach	$ 339,164

Total SDRS Benefits Paid in South Dakota	**$ 461,707,117**
Total SDRS Benefits Paid Outside of South Dakota	**$ 64,190,085**
Total SDRS Benefits	**$ 525,897,202**
Total Cement Plant Benefits Paid in South Dakota	**$ 4,029,150**
Total Cement Plant Benefits Paid Outside South Dakota	**$ 347,362**
Total Cement Plant Benefits Paid	**$ 4,376,512**
Total SDRS and Cement Plant Benefits Paid	**$ 530,273,714**

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