



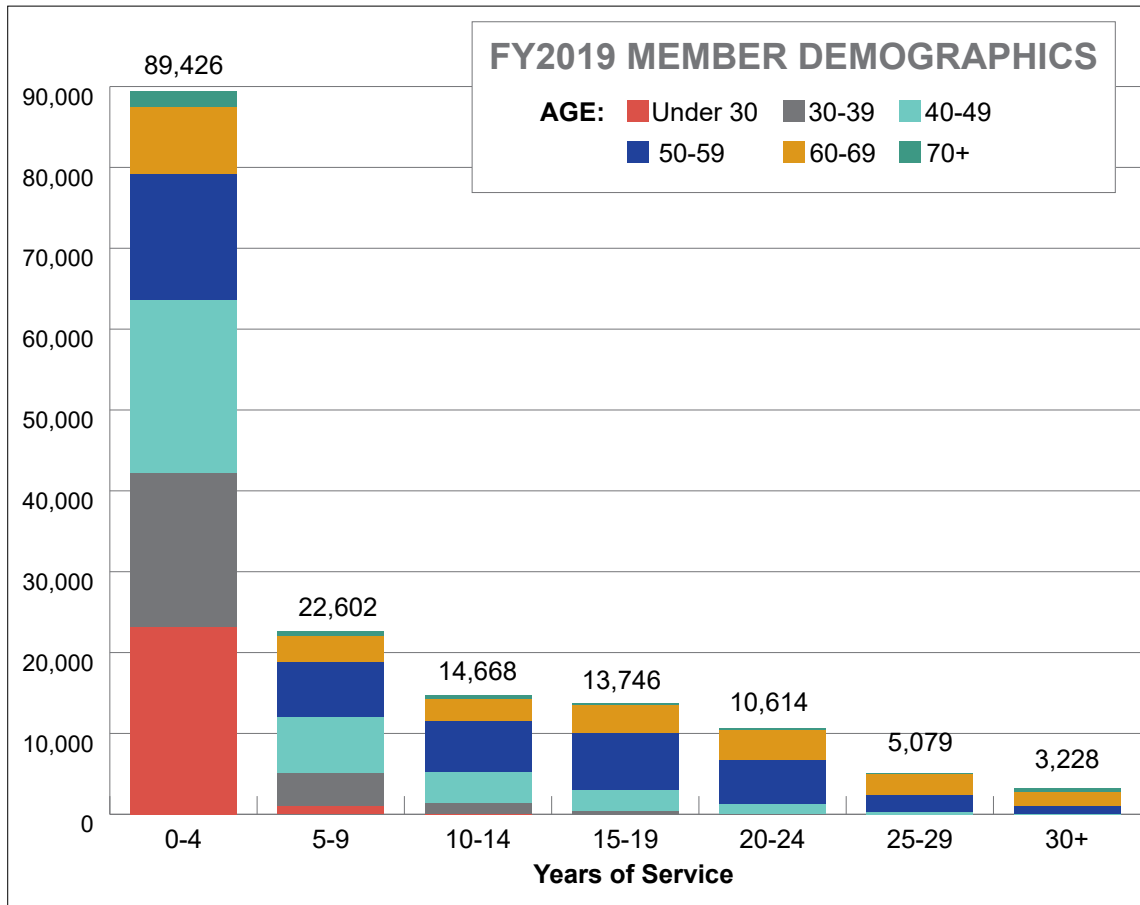
PENSION SUSTAINABILITY

September 2020

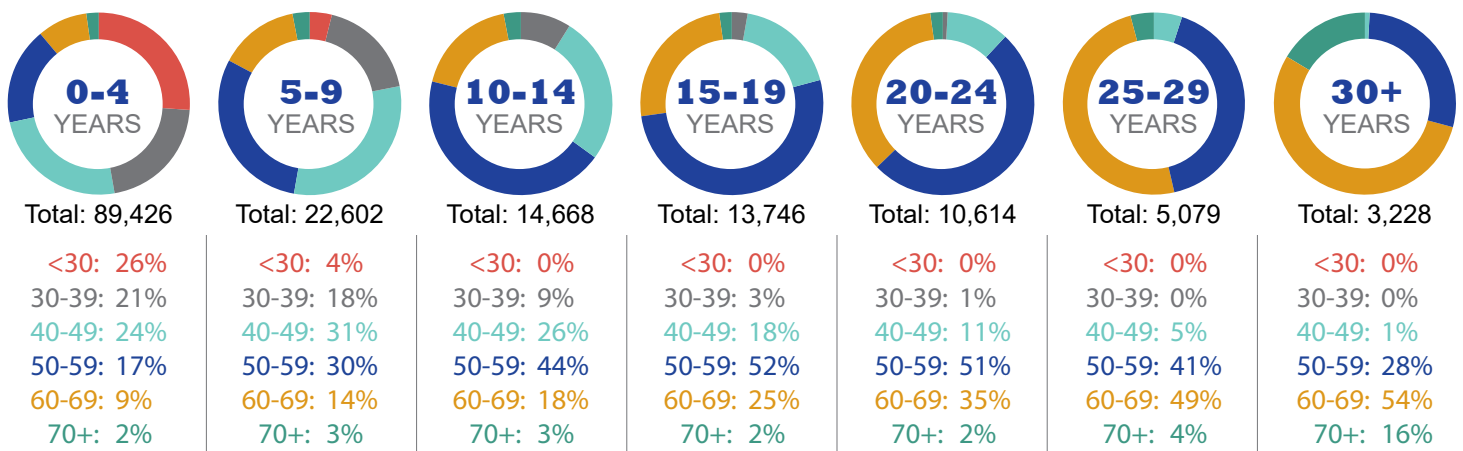
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Career Employee

- A breakdown of SERS' active membership by age and years of service.

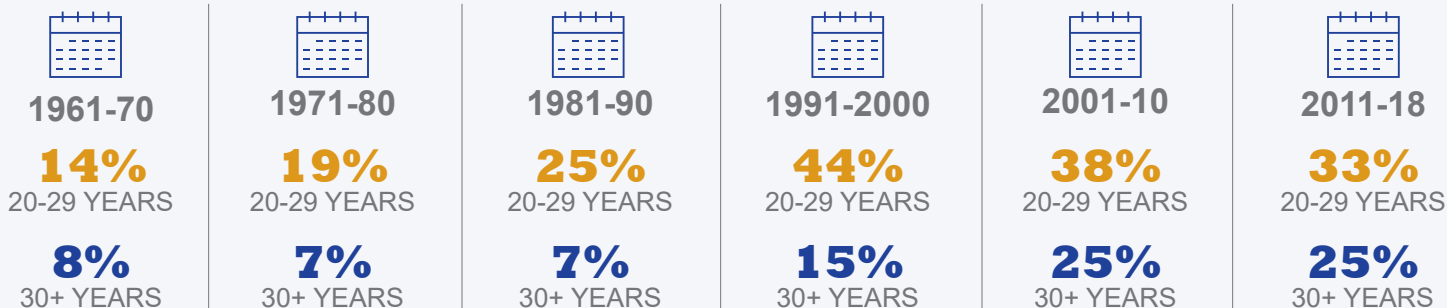


FY2019 MEMBER AGE PERCENTAGE BY YEARS OF SERVICE



- The percentage of SERS' retirees with 20+ years of service and 30+ years of service.

AVERAGE OF NEW SERS RETIREES WITH 20 YEARS AND 30 YEARS OF SERVICE



- The percentage of retirees at OPERS and STRS with 20+ and 30+ years of service.

STRS	5-9	10-14	15-19	20-24	25-29	30+	Average/ Total
Average Monthly benefit	\$584	\$1,088	\$1,778	\$2,480	\$3,300	\$4,764	\$3,637
FAS	\$45,300	\$57,695	\$66,023	\$72,714	\$80,278	\$86,760	\$79,278
Number of recipients	75	127	279	380	447	1,475	2,783
	2.69%	4.56%	10.03%	13.65%	16.06%	53.00%	

OPERS	0-4	5-9	10-14	15-19	20-24	25-29	30+	Average/ Total
Average Monthly benefit	\$678	\$629	\$996	\$1,437	\$1,949	\$2,679	\$3,826	\$2,406
FAS	\$21,882	\$38,395	\$46,178	\$50,300	\$55,634	\$61,597	\$69,902	\$57,847
Number of recipients	74	751	974	945	1,271	1,267	2,806	8,088
	0.91%	9.29%	12.04%	11.68%	15.71%	15.67%	34.69%	

SERS	5-9	10-14	15-19	20-24	25-29	30+	Average/ Total
Average monthly benefit	\$414	\$478	\$747	\$1,040	\$1,519	\$2,551	\$1,125
FAS	\$40,212	\$26,880	\$28,824	\$30,528	\$35,580	\$45,240	\$34,544
Number of recipients	2	279	265	216	444	863	2,069
	0.10%	13.48%	12.81%	10.44%	21.46%	41.71%	

- **An example of a ‘laddered’ plan design under which the benefit formula increases as the member meets certain years of service levels.**
 - For their state employees, Rhode Island has a laddered plan design. Members are also split into different groups based on a change made in 2012. We are referencing them below as groups A and B.

The amount of a retirement benefit is determined by four factors:

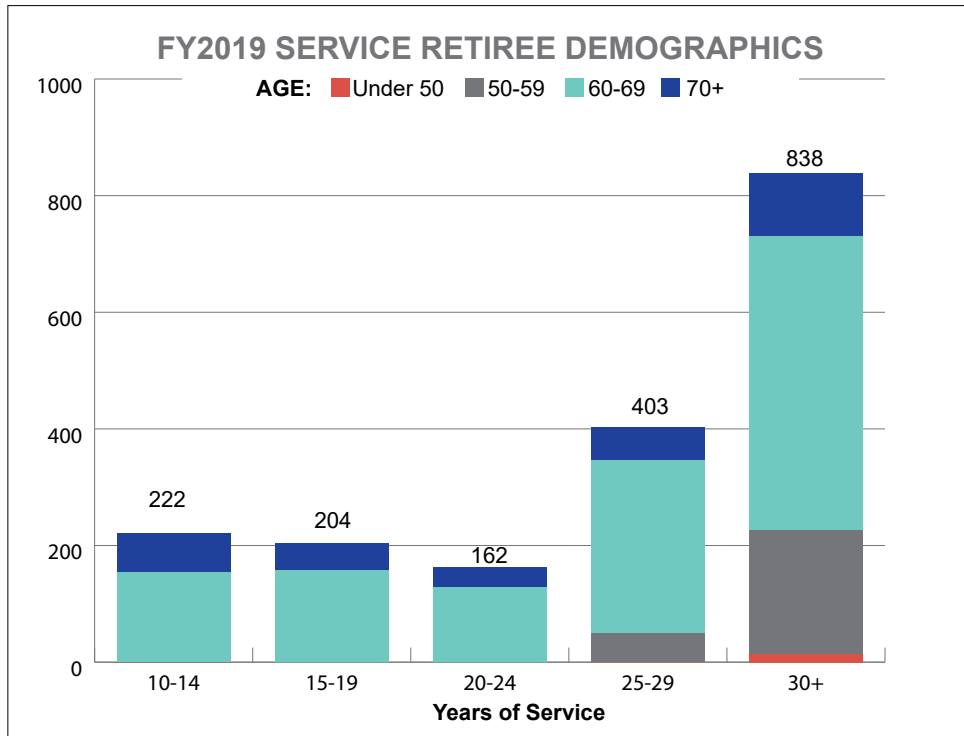
1. Group Type
2. Years of creditable service
3. Highest average salary
4. Retirement option selected

The service credit rates used to determine benefit is based on group type and number of years of service. Here is a chart to determine service credit rates earned for each of the years of service:

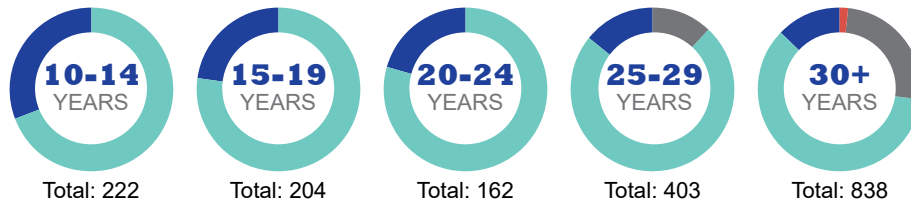
Year(s) Earned	Group A through 6/30/12	Group B through 6/30/12	Accruals as of 7/1/12 (all members)	Accruals as of 7/1/15 (if 20 or more years of service as of 6/30/12)
Years 1-10	1.7%	1.6%	1.0%	n/a
Years 11-19	1.9%	1.8%	1.0%	n/a
Years 21-25	3.0%	2.0%	1.0%	n/a
Years 26-30	3.0%	2.25%	1.0%	2.0%
Years 31-34	3.0%	2.5%	1.0%	2.0%
Year 35	2.0%	2.5%	1.0%	2.0%
Years 36-37	n/a	2.5%	1.0%	2.0%
Year 38	n/a	2.25%	1.0%	2.0%

Years in Retirement

- A breakdown of SERS' retirees by retirement age and years of service.



FY2019 SERVICE RETIREE AGE PERCENTAGE BY YEARS OF SERVICE



- A breakdown of how many SERS retirees have been drawing a benefit longer than they worked.

65,673

Total Active Service Retirements*



19.3% Years in Retirement Exceed or Equal Years of Service Credit

80.7% Years in Retirement Equal Less Than Years of Service Credit

*Using Active Service Retirements with Member receiving

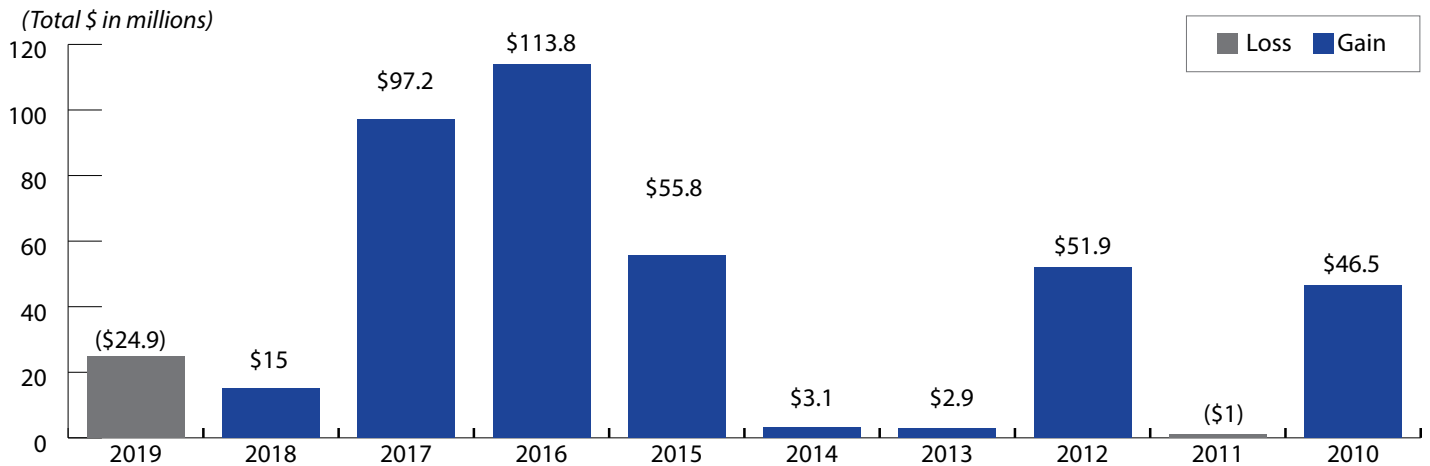
- **Data from 2010 through 2019 showing whether retirees lived shorter than the mortality assumption (actuarial gain) or longer than the mortality assumption (actuarial loss).**

Analysis of Financial Experience

Gains and Losses in Accrued Liabilities Resulting from Differences Between Assumed Experience and Actual Experience in the Basic Benefits

Type of Risk Area: Death after Retirement

If retirees live longer than assumed, there is a (loss). If not as long, a gain.



- **Does receiving a benefit payment for longer than you worked mean that unfunded liability is created? What are the factors that impact this?**

No, the UAAL (the excess of liability over assets) is not directly impacted by the occurrence of a retiree being paid longer than they worked. Typically, approximately 70% of lifetime payments a retiree receives is attributable to the investment earnings on the contributions deposited over their career. The largest source of current and future UAAL is due to investment volatility not longevity.

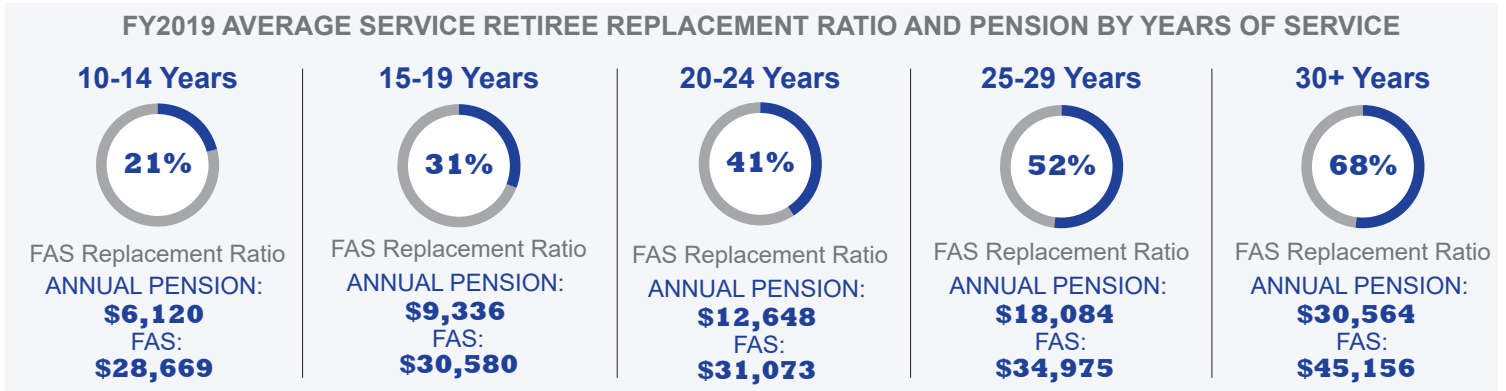
The comments in green are preliminary observations provided by Cavanaugh MacDonald.

Relationship Between Service Credit Amount and Pension Benefit Amount

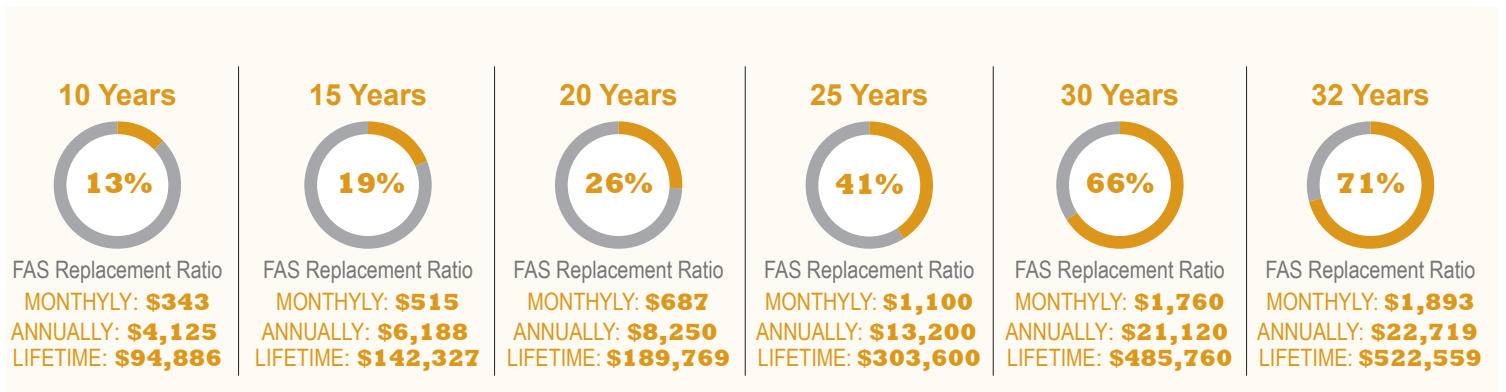
A member who works less than 120 days will receive a fractional amount of service credit prorated on the basis of a 180-day school year: A member who works less than 120 days will receive a fractional amount of service credit prorated on the basis of a 180-day school year:

Fractional Service Credit For Year When Working Less Than 120 Days											
Days	Percent	Days	Percent	Days	Percent	Days	Percent	Days	Percent	Days	Percent
1	.006	21	.117	41	.228	61	.339	81	.450	101	.561
2	.011	22	.122	42	.233	62	.344	82	.456	102	.567
3	.017	23	.128	43	.239	63	.350	83	.461	103	.572
4	.022	24	.133	44	.244	64	.356	84	.467	104	.578
5	.028	25	.139	45	.250	65	.361	85	.472	105	.583
6	.033	26	.144	46	.256	66	.367	86	.478	106	.589
7	.039	27	.150	47	.261	67	.372	87	.483	107	.594
8	.044	28	.156	48	.267	68	.378	88	.489	108	.600
9	.050	29	.161	49	.272	69	.383	89	.494	109	.606
10	.056	30	.167	50	.278	70	.389	90	.500	110	.611
11	.061	31	.172	51	.283	71	.394	91	.506	111	.617
12	.067	32	.178	52	.289	72	.400	92	.511	112	.622
13	.072	33	.183	53	.294	73	.406	93	.517	113	.628
14	.078	34	.189	54	.300	74	.411	94	.522	114	.633
15	.083	35	.194	55	.306	75	.417	95	.528	115	.639
16	.089	36	.200	56	.311	76	.422	96	.533	116	.644
17	.094	37	.206	57	.317	77	.428	97	.539	117	.650
18	.100	38	.211	58	.322	78	.433	98	.544	118	.656
19	.106	39	.217	59	.328	79	.439	99	.550	119	.661
20	.111	40	.222	60	.333	80	.444	100	.556	120	1.000

- A breakdown showing the Final Average Salary (FAS), pension benefit amount and replacement ratio for retirees with 10-14, 15-19, 20-24, 25-29 and 30+ years, respectively.



- An example of how years of service credit impacts the benefit amount and replacement ratio of a member who retires at age 62, with a FAS of \$32,000 and a life expectancy to age 85.



The info represents the Plan B (single life allowance) amount only.

Benefit Levels

▪ Spiking

▪ SERS Pension calculation

- Single-life benefit formula = Service Credit x 2.2% x FAS
 - Multiplier increases to 2.5% for every year beyond 30 years
- Based on fundamental assumption that contributions plus investment earnings should fund an individual's pension benefit

▪ Spiking is an increase in pension benefits by substantially increasing the FAS beyond what is expected from normal salary increases. Results in a pension that is underfunded; the pension is then subsidized by all other members.

- Common Anti-spiking tools:
 - Increase number of years used to calculate FAS
 - Limit types of remuneration included in pensionable compensation
 - Limit percent of pensionable compensation growth in FAS years

▪ Comparison of Anti-Spiking Tools

▪ Ohio

- STRS of Ohio
 - FAS calculated using 5 highest years
 - FAS Cap
 - Excludes amount of contributions that cause the percent increases in the highest two years to be greater than the highest percent increase during any of the three years immediately preceding the earlier of the two highest years.
 - Mitigation: Contributions are not excluded if the percent increase was paid to all of the district's other teaching employees. Excluded contributions are used to calculate a monthly annuity in addition to the pension. The member may request a hearing regarding the excluded amounts.

▪ Ohio PERS

- FAS calculated using 3 or 5 highest years, depending on Group
- Contribution Based Benefit Cap (CBBC): Pension is capped at the CBBC amount. Designed to impact only members whose formula benefit is out of proportion with their career contributions.
 - CBBC = single-life annuity based on member's accumulated contributions and age, multiplied by a CBBC factor
 - CBBC factor is set by the Board (in consultation with actuary). OPERS currently uses a CBBC factor of 6.
 - Mitigation: Pension cannot be reduced more than 5%.

▪ Louisiana

- Louisiana School Employees Retirement System (LSERS) & Teachers' Retirement System of Louisiana (TRSL)
 - LSERS membership is limited to school bus drivers/aides and maintenance/janitorial employees. LSERS has around 13,000 active members and 13,000 retirees/beneficiaries. Non-classified business office school employees and food service employees pay into TRSL. TRSL has around 80,000 retirees and around 96,000 actives/vested inactives/DROPs. With limited exceptions, members do not contribute to social security.

- FAS depends on system and effective date of membership:
- LSERS
 - Member before 7/1/06: 36 highest successive months (or joined months when interruption of service occurred), twelve month increase caps of 10% for all 36 months*
 - Member on or after 7/1/06: 60 highest successive months (or joined months when interruption of service occurred), twelve month increase caps of 10% beginning with months 13-24.*
 - Member on or after 7/1/10: 60 highest successive months (or joined months when interruption of service occurred), twelve month increase caps of 15% beginning with months 13-24.*
 - The caps do not apply when compensation increased by more than 10% or 15% solely because of an increase in compensation by legislative act or city/parish system-wide salary increase.
- TRSL
 - Member before 12/31/10: 3 highest successive years, annual increase caps of 10%* for all 3 years
 - Member on or after 1/1/11: 5 highest successive years, annual increase caps of 15%* for all 5 years.
 - The caps do not apply when compensation increased by more than 10% or 15% solely because of an increase in compensation by legislative act or city/parish system-wide salary increase. The cap is 25% if the increase is due to a classroom teacher changing school districts.

- **Missouri**

- Public School Retirement System of Missouri (PSRS - comparable to Ohio STRS) & Public Education Employee Retirement System of Missouri (PEERS - comparable to SERS)
 - PEERS members pay into SS; PSRS members do not
 - PEERS has 86,463 members (49,345 active/37,118 inactive) and 31,850 benefit recipients (28,947 are service retirees)
 - FAS calculated using 3 highest consecutive years
 - FAS Cap: annual increase caps of 20% during the FAS period
 - Exception for increases that are due to a genuine change in position or employer

Disability Benefits

- **Description of a service-connected and non-service connected disability benefit model.**
 - **Service-Connected Disability Retirement:** permanent incapacitation from performing the duties of a position resulting from an injury or illness that arises out of and in the course of employment and the employment substantially contributes to incapacity. A member does not have to be vested to apply for a Service-Connected Disability Retirement.
 - **Non service-Connected Disability Retirement:** permanent incapacitation from performing the duties of the position. Member must be Vested (have five (5) or more years of full-time Service Credit with or in total when combined with your service under a Reciprocal System) to apply for a Nonservice Connected Disability Retirement.

Non Work-Related Disability:	
Eligibility	Five years of service
Benefit Formula	1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but the total projected benefit cannot be more than one-third of Final Compensation. The Service Retirement benefit is payable, if greater.
Work-Related Disability:	
All Members Eligibility	No age or service requirements.
Benefit Formula	50% of the Final Compensation or 100% of Service Retirement benefit, if greater

Sacramento County Employees' Retirement System

SERS' Disability Program

▪ Disability Retirement – Old Plan

- Covers members whose first date of service is before July 29, 1992 and did not elect New Plan
- Member must file application before reaching age 60
- Member is eligible to receive benefit until death (subject to re-evaluation)
- Benefit amount ranges between 30%-75% of final average salary
- Currently, there are 3,175 members receiving a disability benefit under the Old Plan
- Approximately 3,000 members qualify to apply for disability benefits under the Old Plan

▪ Disability Allowance – New Plan

- Covers members whose first date of service is on or after July 29, 1992
- Member can apply at any age
- Limits length of time a benefit can be received
- At some point member must convert to retirement
- Benefit amount ranges between 45%-60% of final average salary
- Currently, there are 1,803 members receiving a disability benefit under the New Plan
- Approximately 57,000 members qualify to apply for disability benefits under the New Plan

▪ Eligibility

▪ Applicant must:

- Have at least 5 years of total service credit
- Apply within 2 years of last contributing date of service
- Be found disabled from last assigned duties for a period of at least 12 months by a SERS-appointed examiner
- Not be receiving service retirement
- Not have withdrawn their contributions

▪ Application Process

▪ Attending Physician

- A *Report of Health Care Provider* must be completed by member's treating physician(s) with diagnoses. Physicians must also provide medical documents regarding the condition(s) identified as disabling:
 - clinical office notes
 - test results
 - operative report
 - hospital discharge summary

▪ Employer

- A *Job Duty Form* must be completed by member's employer, identifying applicant's current job, employment status. A detailed job description is also required.

- **Medical Examination**

- Upon receipt of necessary information, SERS appoints an examining physician and schedules a medical examination for the applicant.
 - Examination(s) based upon the medical conditions identified in the Report of Health Care Provider
- Examiners must complete a detailed medical report
- SERS utilizes approximately 100 examiners, board-certified in a wide range of medical specialties
- Processing time is approximately 3 – 5 months

- **Medical Advisory Committee**

- Chairman: Glen Borchers, M.D. (Internal Medicine/Gastroenterology)
 - Reviews all applications with staff
 - Reviews all SERS Examiner Reports
 - Makes formal recommendations to Board
 - Attends Personal Appearance Hearings
 - Presides over Special Conference Meetings
- Marc Cooperman, M.D. (General Surgery)
- Marjorie Gallagher, M.D. (Psychiatry)
- Andrew Iams, M.D. (Physical Medicine)
- Albert Kolibash, M.D. (Cardiology)
 - Three Committee members are assigned to review all denials, terminations, appeals, and re-applications.
 - Special Conference meetings are held monthly for Committee to discuss when consensus has not been reached.

- **Decision**

- Final Decision is made by Retirement Board
- Written notice of final decision is sent to both the applicant and employer
- Approval of disability may be conditioned on applicant receiving medical treatment.
 - If applicant does not sign and return Medical Treatment Agreement form, application is denied.
- Member may appeal denial or termination of benefits.

- **Medical Treatment**

- Copy of SERS Examiner's Report is forwarded to applicant or to their personal physician regarding recommended treatment.
- Personal physician is contacted every 3-4 months to verify ongoing medical treatment.
- Disability recipient must verify participation in recommended treatment to continue receiving benefits.
- Leave of absence is extended to five years if participating in medical treatment or vocational rehabilitation.

- **Re-Examination**

- **Annual Medical Examinations**

- Unless waived by the Board, disability recipients must undergo an annual examination.
- After completing the examination, the SERS examiner certifies whether the disability recipient continues to be disabled or is no longer disabled.

- **Continuation or Termination**

- Upon receipt of recommendation from Chairman of the Medical Advisory Committee, the Retirement Board makes the final decision as to whether a disability benefit will be continued or terminated.

- **During Leave of Absence Period**

Member is re-examined to determine if they are capable of resuming service that is the same or similar to that from which they were found disabled.

- Approximately 150 members are re-examined under this standard per year.
- In FY 2019, three members were terminated after SERS determined they were no longer disabled from their last-assigned position.

- **After Leave of Absence Period**

Members approved for disability February 2013 and after are re-examined to determine if they are capable of “any occupation” defined as:

- Replaces not less than 75% of the member’s final average salary, adjusted each year by the actual average increase in the consumer price index prepared by the United States bureau of labor statistics;
- Is reasonably to be found in the member’s regional job market;
- Is one that the member is qualified for by experience or education.
 - Approximately 250 members are re-examined under this standard per year.
 - In FY 2019, 16 members were terminated after SERS determined they were capable of any occupation.

- **Any Occupation Review**

- **SERS’ Any Occupation Standard is in place to help get people back into the workforce, which saves SERS’ disability program money that is used to keep the program financially stable.**

- A *Capabilities Checklist* is completed by the member’s treating physician or SERS-appointed examiner, indicating the member’s work capacity (Sedentary, Light, Heavy, etc.).
- An *Employment/Education History* form is completed by the member, indicating their previous work experience and qualifications
- A Vocational Evaluator reviews the information to determine if member is capable of any occupation.
- If jobs are identified by the Vocational Evaluator, a SERS-appointed medical examiner determines if they are medically capable of performing those jobs.
- Disability administrative expenses including independent medical examinations

Dates	Disability Expenses	Dr. Borchert	Kimberly Wicker	Total	Difference from Prior Year
April 2016 – March 2017	\$438,777.38	\$ 40,000.08	\$ 2,708.50	\$481,485.96	
April 2017 – March 2018	\$466,165.28	\$ 40,000.08	\$ 425.00	\$506,590.36	+ 5.2%
April 2018 – March 2019	\$551,432.63	\$ 40,000.08	\$ 4,437.00	\$595,869.71	+17.6%
April 2019 – March 2020	\$440,301.52	\$ 40,000.08	\$ 4,394.50	\$484,696.10	- 19.0%

- **To date, 39 disability recipients have been deemed eligible to return to the workforce under the Any Occupation re-examination program, with an estimated savings to the disability program of \$7.5 million***

*Assumes life expectancy to age 83 and no COLA increases.

▪ **Termination**

▪ **Disability Benefits Terminate:**

- If Board finds disability recipient is no longer disabled based on medical examination
- If disability recipient fails to file an earnings statement or current medical information, or refuses to submit to medical examination
- If disability recipient requests termination
- If disability benefit recipient returns to SERS-covered employment
- When disability recipient under New disability plan reaches age benefit period ends (age 65 or after)

▪ **Notice**

- SERS sends notice of a decision to terminate to the benefit recipient
- If member is within leave of absence period, SERS notifies the employer the benefit recipient is no longer incapable of resuming service that is the same or similar to that from which the benefit recipient was found disabled

▪ **Appeal Process**

▪ **Available when benefit is denied or terminated.**

- Member must submit notice of intent to appeal within 15 days of denial/termination.
- Member has 90 days to submit additional evidence.

▪ **Additional Evidence**

- Additional evidence must be current, pertinent to a condition for which disability was claimed, and not previously submitted.
- If no additional evidence is received, appeal rights end and the decision becomes final.

▪ **Personal Appearance**

- Retirement Board conducts the personal appearance
 - Last year, 13 members appeared before the Board on appeal.

▪ **Medical Advisory Committee (MAC) Review**

- MAC reviews all evidence, including recording of personal appearance
- MAC may request new medical examination
- MAC makes recommendation to Board

▪ **Retirement Board makes final decision**

▪ **Statement of Employment and Earnings**

- SERS sends annual statement requests to disability recipients.
 - Benefit is suspended if statement not received by SERS within 60 days
 - Benefit is terminated if statement not received by SERS within 12 months
- Requirement to complete annual statement is waived if:
 - disability has been certified as ongoing (ex: confined to nursing home); or
 - member has attained age 65; or
 - member has received disability benefits for 20 years or more.
- Statements provide information regarding employment activity from previous year.
 - If necessary, a medical re-evaluation will be scheduled.

- SERS current statute:
 - Does not prevent a member from working a non-covered position while on disability.
 - Requires members on disability to have any occupation review after leave of absence period ends (three to five years).

▪ **Summary of Disability Experience**

- In FY2020, the typical SERS disability recipient:
 - Was 65.4 years old
 - Had 16.4 years of service
 - Received a benefit of \$1,370/month (\$16,440/year) partially replacing the average \$33,597 annual salary earned while working. This is a 49% replacement amount, on average.

Service Retirements 2019 and 2020	Disability Benefits 2019 and 2020
Average Plan B amount: \$1,544.16	Average Payment amount: \$1,370.37
Average FAS: \$34,404.49	Average FAS: \$33,597.63

- Disability benefit recipients are decreasing
- Approval rates among school employers have stayed consistent

▪ **Statistics**

Fiscal year is July 1 – June 30

Disability Recipients as Percentage of Total Benefit Recipients

Fiscal Year	Total SERS Benefit Recipients	Total Disability Recipients	Percentage of Total Recipients	Percentage of Total Disbursements
2014-2015	73,868	5,538	7.50%	8.90%
2015-2016	75,809	5,530	7.30%	8.70%
2016-2017	79,183	5,505	7.00%	8.30%
2017-2018	81,332	5,352	6.60%	7.90%
2018-2019	81,024	5,261	6.50%	7.70%

Percentage of Applications Approved by Condition

Condition	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Musculoskeletal	39%	32%	36%	38%	40%
Neurologic	12%	14%	13%	12%	14%
Oncologic	11%	16%	15%	13%	14%
Psychiatric	5%	5%	7%	7%	7%
Cardiovascular	5%	1%	3%	6%	9%
Other	28%	32%	26%	24%	16%
Total	100%	100%	100%	100%	100%

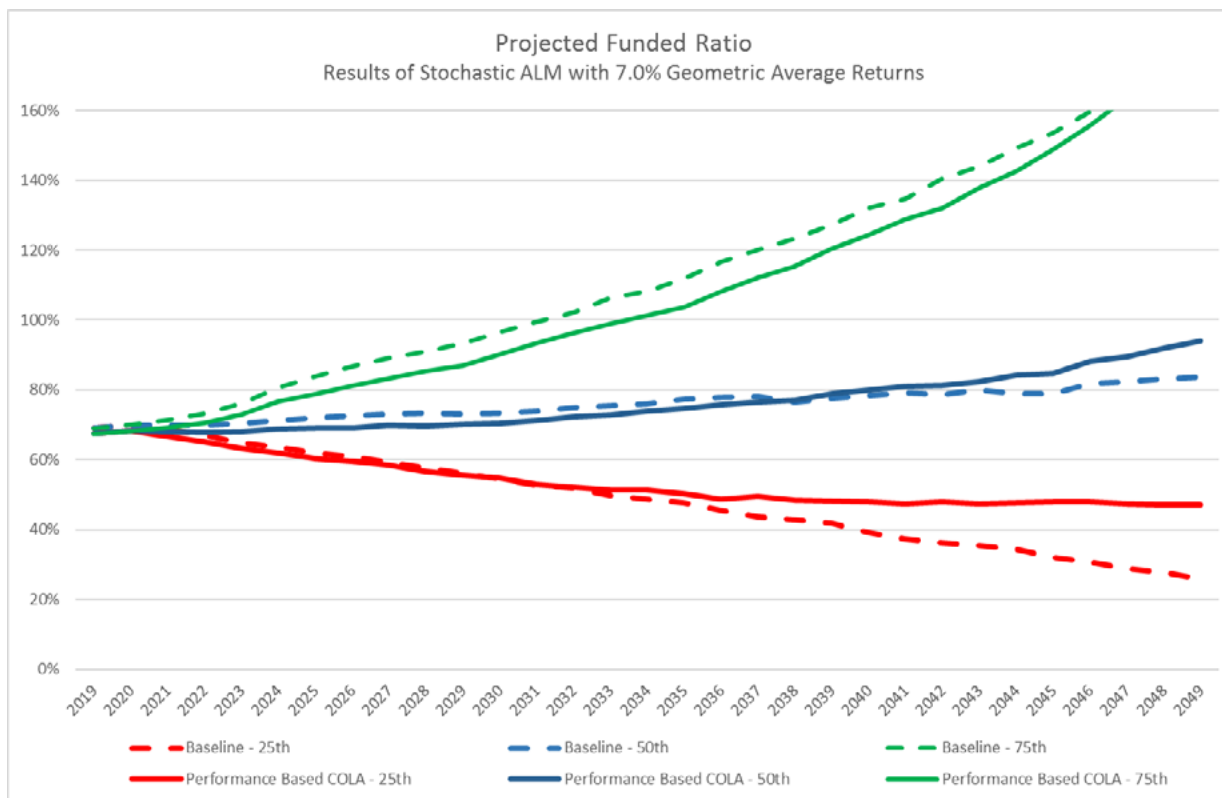
COLA - Performance-based Method to determine the COLA

Stochastic Projections

- Actuarial Asset Liability Model – ALM
- Generates 1,000 random return outcomes for the next 30 years to model the impact of investment volatility on PERA’s future valuation results
 - Investments are by far the largest source of volatility in future results
 - Provides a range of future outcomes
 - Median of outcomes or the 50th percentile – mid-point of expectation
 - 75th percentile – best likely outcome
 - 25th percentile – worst likely outcome

Performance Based COLA

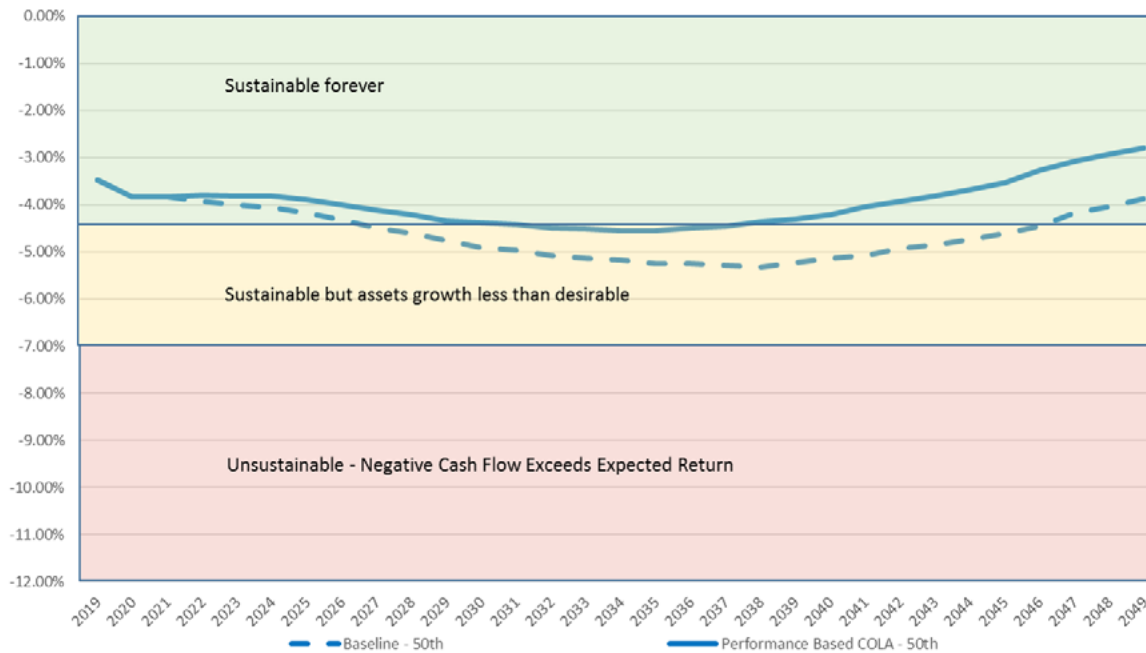
- Determine the hurdle rate
 - Minimum smoothed rate of investment return required to provide a COLA
 - Preliminary analysis results in the hurdle rate of 5.625%
- When the actuarial rate of return in a year exceeds the hurdle rate
 - The funded portion of the excess actuarial return is the maximum shareable gain
 - Example: smoothed investment return of 8.00%
 - Excess return = 8.00% less 5.625% Hurdle rate or 2.375%
 - Plan is 75% funded, shareable gain = 75% times 2.375% or 1.78%
- Performance based COLA limited to not less than 0% and not greater than 2.5%.



Note: Performance based COLA provides larger COLAs when returns are good and smaller COLAs when returns underperform.

Results in improved funded ratio at 25th and 50th percentiles but decreased funded ratio at 75th percentile where better returns provide larger COLAs

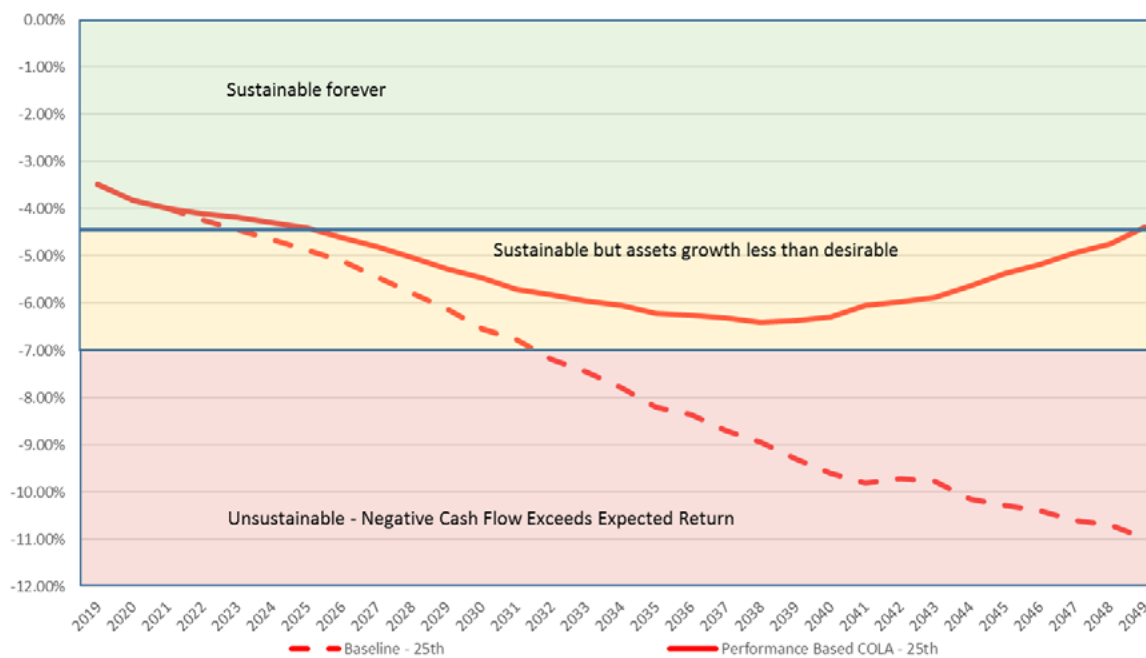
Projected Net External Cash Flow at the 50th Percentile (Expected Outcomes)
Results of Stochastic ALM with 7.0% Geometric Average Returns



Note:
At the median of expectation (50th percentile), the current baseline projects negative cash flow reaches -5.3% in year 2038. This exceeds the sustainable cash flow metric of -4.5%.

The performance based COLA would be expected to maintain negative cash flow at (or very near) a forever sustainable measure.

Projected Net External Cash Flow at the 25th Percentile (Worst Likely Outcomes)
Results of Stochastic ALM with 7.0% Geometric Average Returns



Note:
When returns underperform, COLAs are reduced which maintains sustainable negative cash flow.

Although, the funded ratio is expected to decline while the assets consistently underperform over the long-term, the expected funded ratio stabilizes around 40%.