



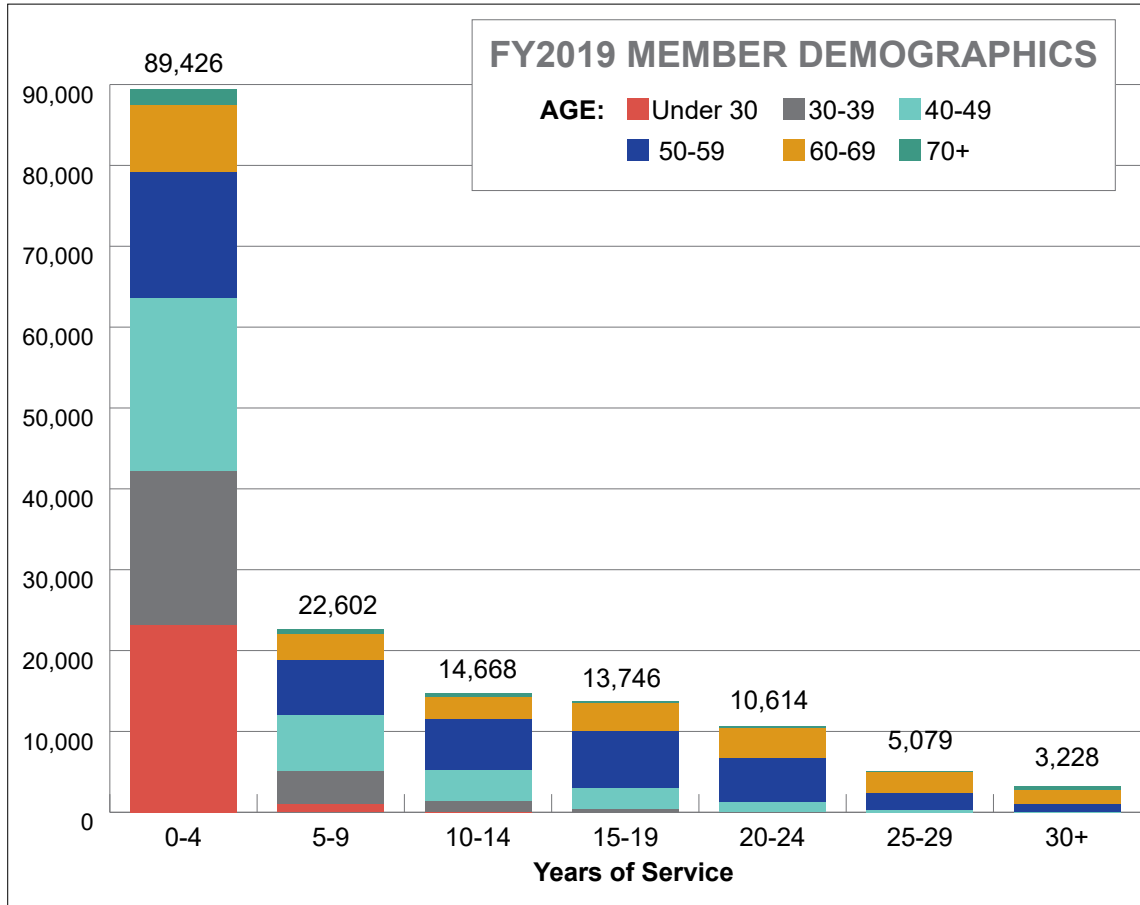
# PENSION SUSTAINABILITY

August 2020

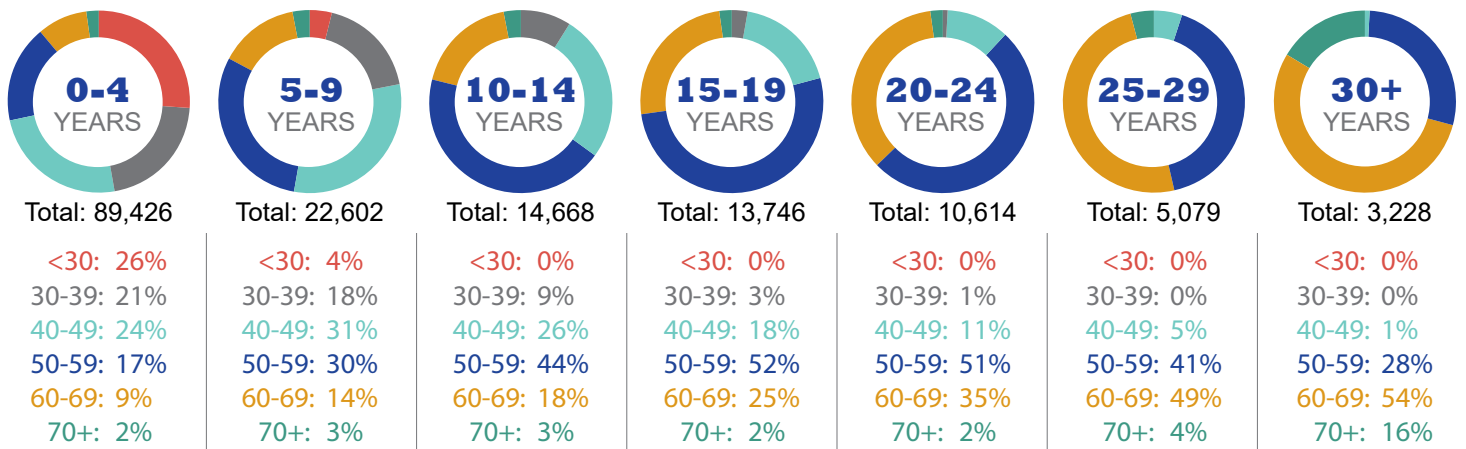
<b>Career Employee .....</b>	<b>1</b>
A breakdown of SERS' active membership by age and years of service.....	1
The percentage of SERS' retirees with 20+ years of service and 30+ years of service.....	2
The percentage of retirees at OPERS and STRS with 20+ and 30+ years of service.....	2
An example of a 'laddered' plan design under which the benefit formula increases as the member meets certain years of service levels.....	3
<b>Years in Retirement.....</b>	<b>4</b>
A breakdown of SERS' retirees by retirement age and years of service.....	4
A breakdown of how many SERS retirees have been drawing a benefit longer than they worked.....	4
Data from 2010 through 2019 showing whether retirees lived shorter than the mortality assumption (actuarial gain) or longer than the mortality assumption (actuarial loss).....	5
<b>Relationship Between Service Credit Amount and Pension Benefit Amount .....</b>	<b>6</b>
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.....	6
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.....	6
<b>Impact of Raising the Age for Eligibility for an Unreduced Benefit .....</b>	<b>7</b>
Information regarding the impact of raising the current rule of age 57 with 30 years of service to age 60 with 30 years of service (Rule of 90).....	7
<b>Earning Service Credit.....</b>	<b>8</b>
Information on how the current 120 day service year was established and what the impact would be on current active members from changing to a 180 day service year.....	8
Information on how the definition of a day of full time service was established.....	8
<b>Benefit Levels .....</b>	<b>9</b>
Impact of changing from a 3 year FAS to a 5 year FAS.....	9
Impact of changing from a 3 highest year FAS to a 3 consecutive highest year FAS.....	9
Potential ways to control against pension 'spiking'.....	10
<b>Disability Benefits .....</b>	<b>11</b>
Information regarding the current disability plan design.....	11
Information comparing disability benefits to service retirement benefits.....	13
Information regarding the actuarial gain and losses under the current disability plan due to the differences between assumed disability experience and actual experience.....	15
Information regarding the fiscal impact of the new 'any occupation' review of current disability benefit recipients.....	15
Description of a service-connected and non-service connected disability benefit model.....	17
<b>Risk Sharing/Profit Sharing COLA Model .....</b>	<b>18</b>
Information on how a risk sharing/profit sharing COLA model works (i.e., lower COLA in low investment return years and higher COLA in higher investment return years) and its impact on cash flow.....	18

# Career Employee

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

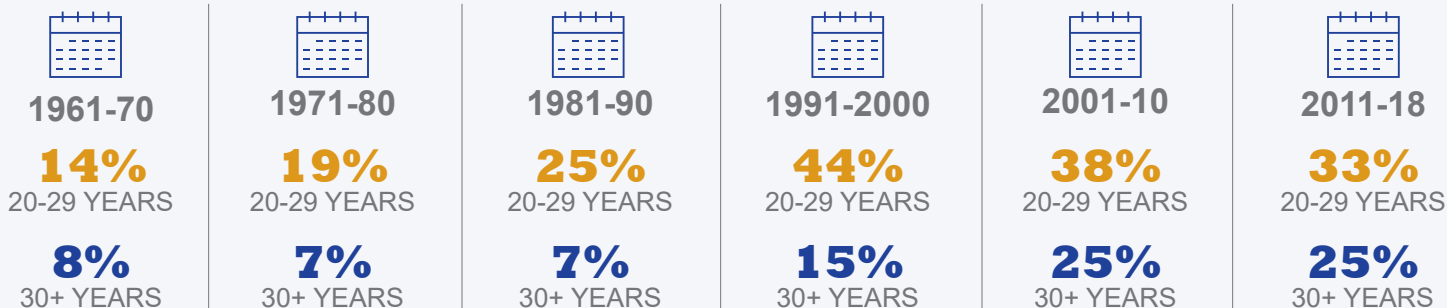


## FY2019 MEMBER AGE PERCENTAGE BY YEARS OF SERVICE



- 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:

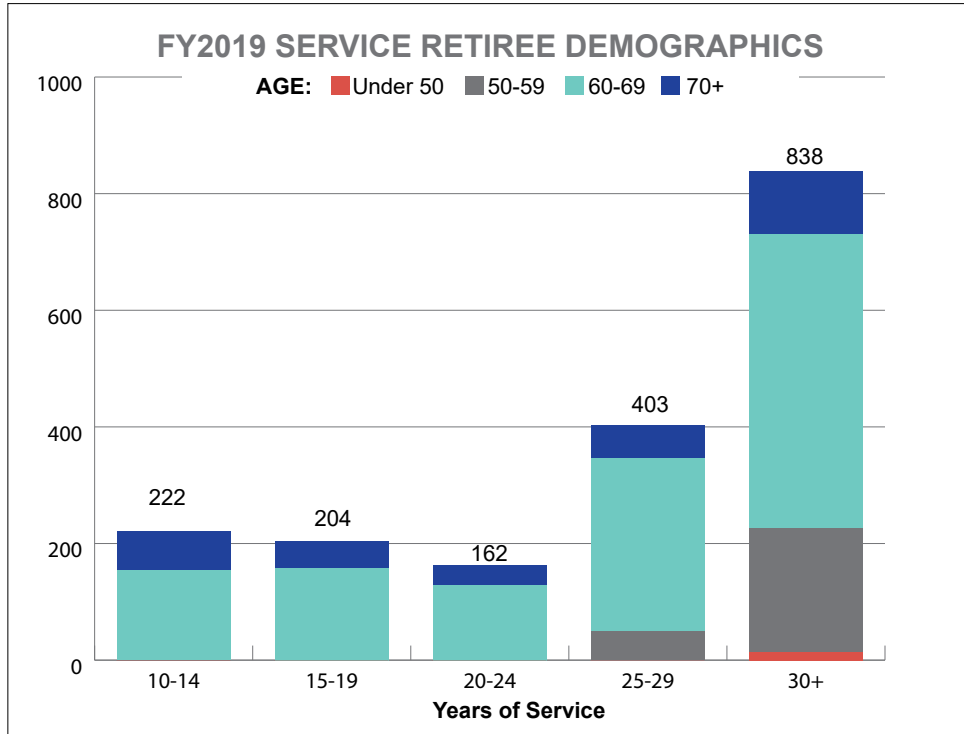
1. Group Type
2. Years of creditable service
3. Highest average salary
4. Retirement option selected

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:

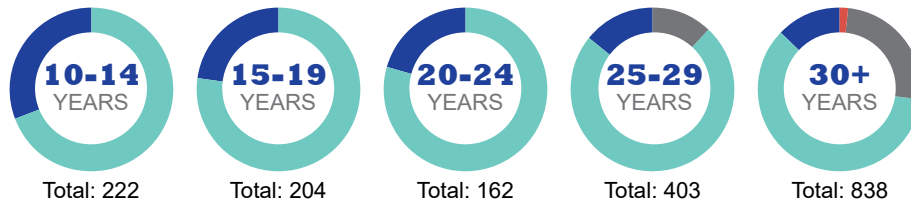
Year(s) Earned	Group A through 6/30/12	Group B through 6/30/12	Accruals as of 7/1/12 (all members)	Accruals as of 7/1/15 (if 20 or more years of service as of 6/30/12)
Years 1-10	1.7%	1.6%	1.0%	n/a
Years 11-19	1.9%	1.8%	1.0%	n/a
Years 21-25	3.0%	2.0%	1.0%	n/a
Years 26-30	3.0%	2.25%	1.0%	2.0%
Years 31-34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

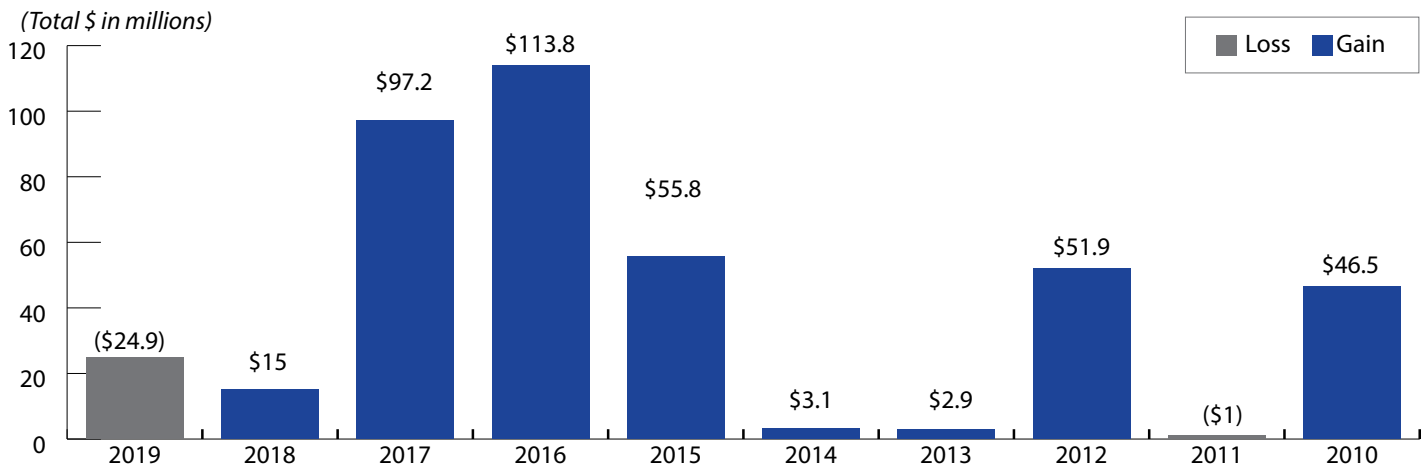
- **Data from 2010 through 2019 showing whether retirees lived shorter than the mortality assumption (actuarial gain) or longer than the mortality assumption (actuarial loss).**

### Analysis of Financial Experience

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

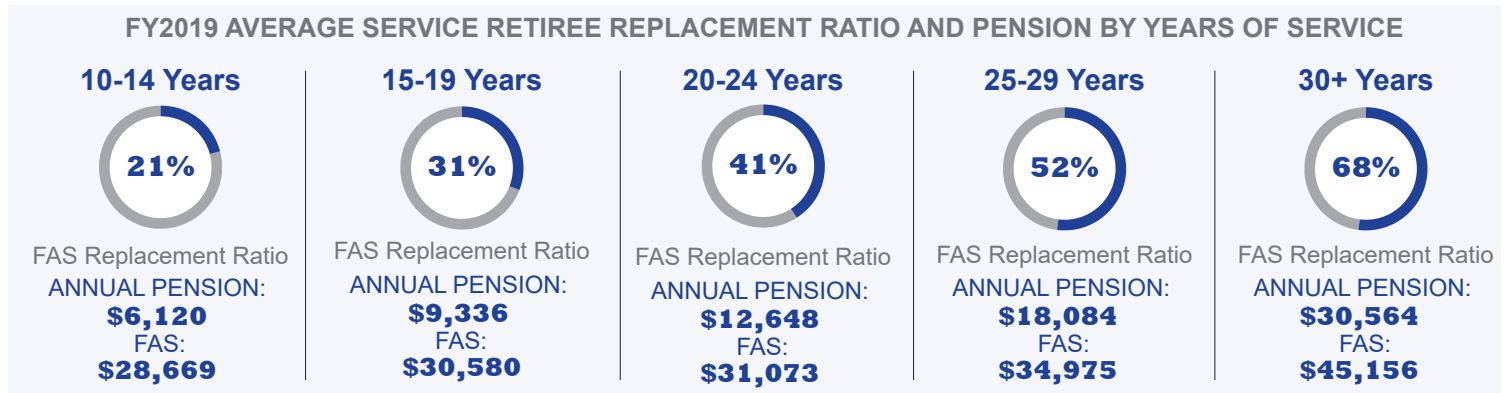
#### Type of Risk Area: Death after Retirement

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

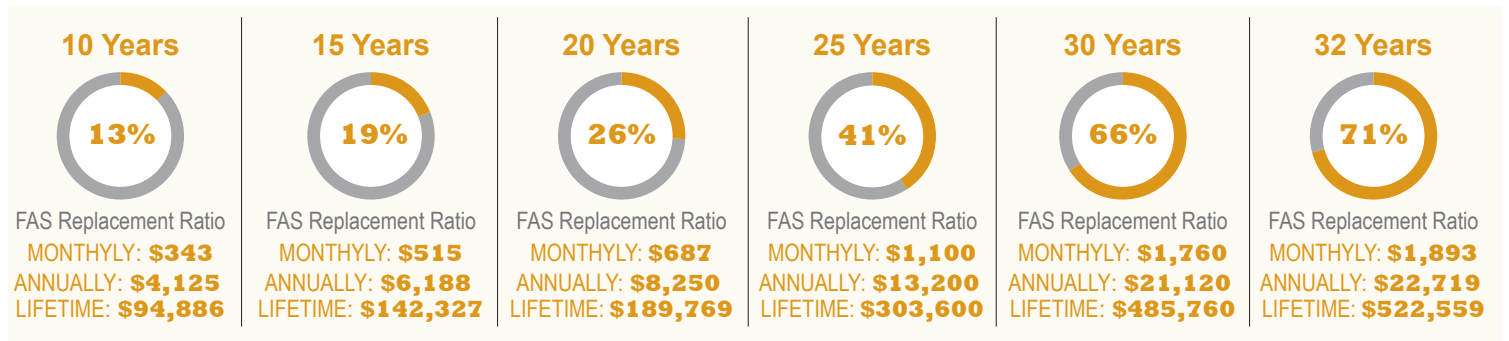


# Relationship Between Service Credit Amount and Pension Benefit Amount

- 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.



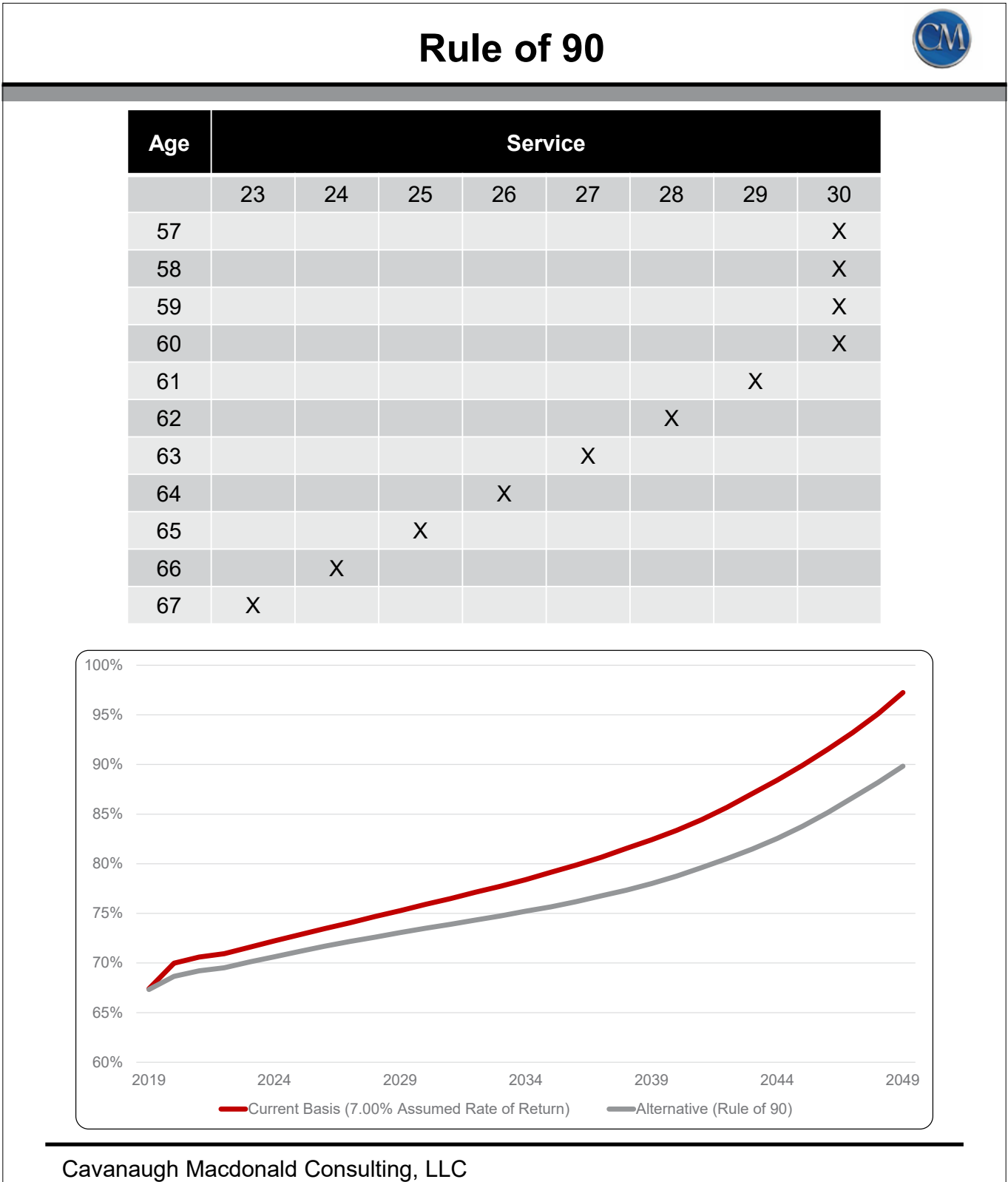
- An example of how years of service credit impacts the benefit amount and replacement ratio of a member who retires at age 62, with a FAS of \$32,000 and a life expectancy to age 85.



The info represents the Plan B amount only.

# Impact of Raising the Age for Eligibility for an Unreduced Benefit

- Information regarding the impact of raising the current rule of age 57 with 30 years of service to age 60 with 30 years of service (Rule of 90).

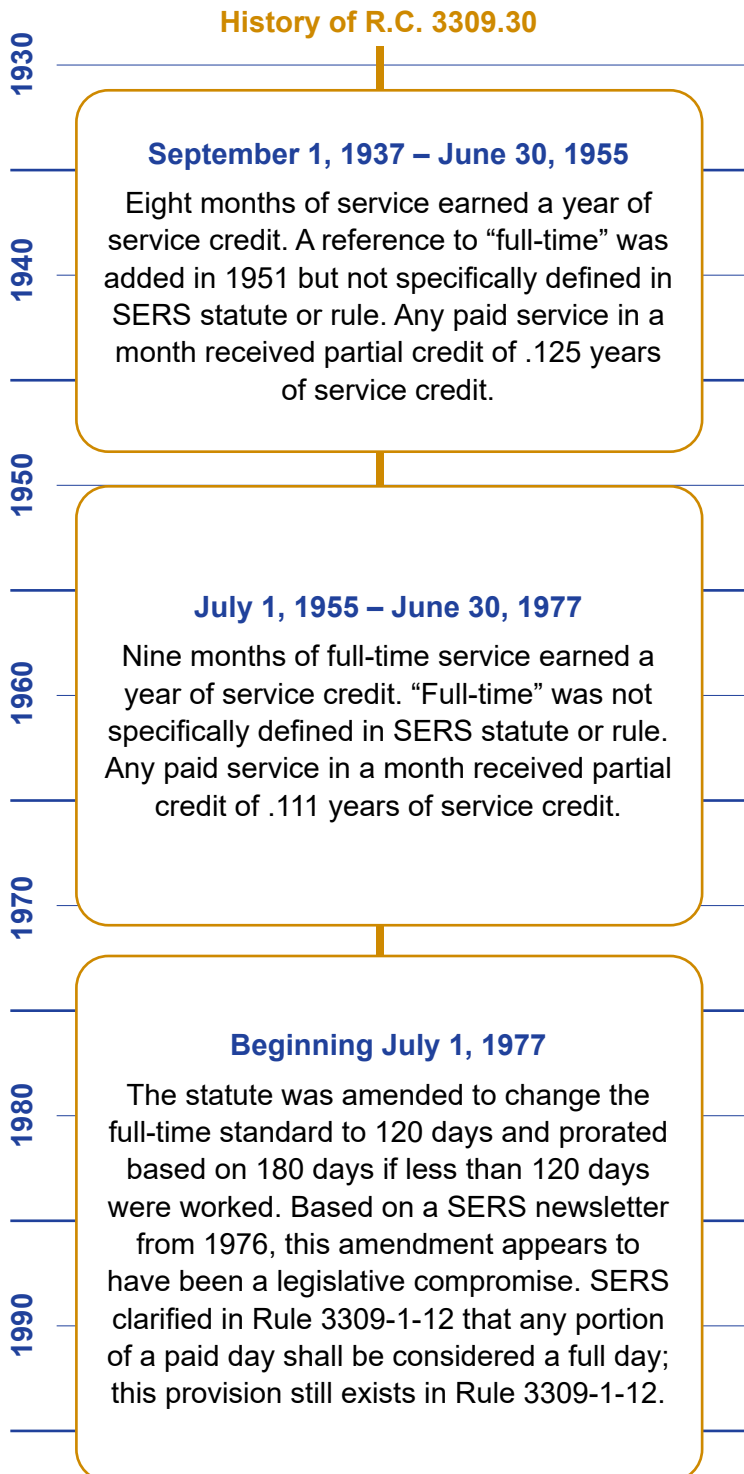




# Earning Service Credit

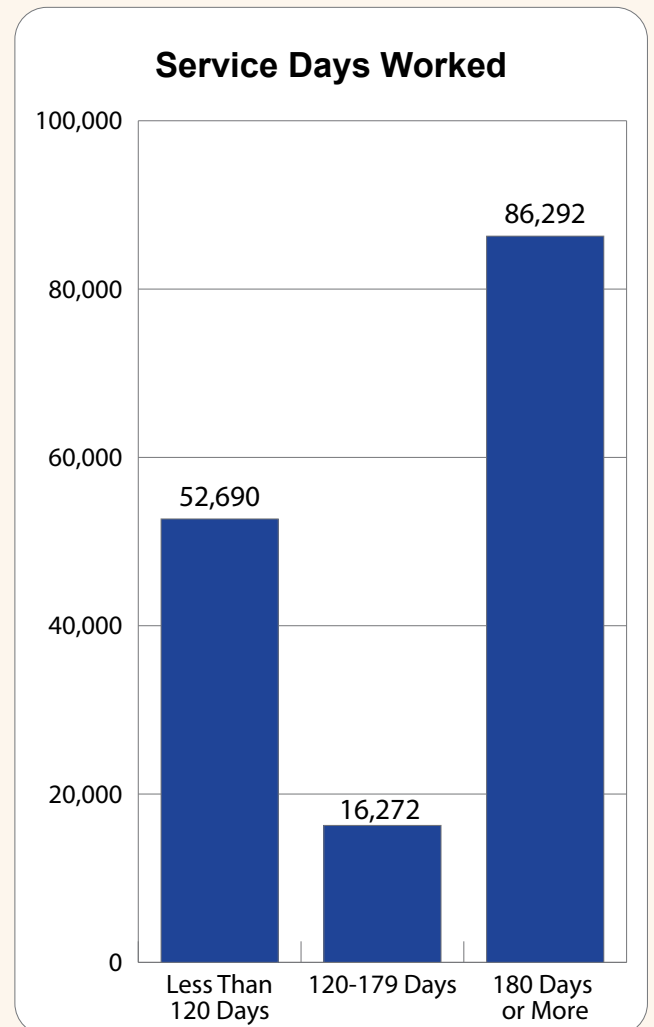
- Information on how the current 120 day service year was established and what the impact would be on current active members from changing to a 180 day service year.
- Information on how the definition of a day of full time service was established.

## How was the 120-Day Service Year established?



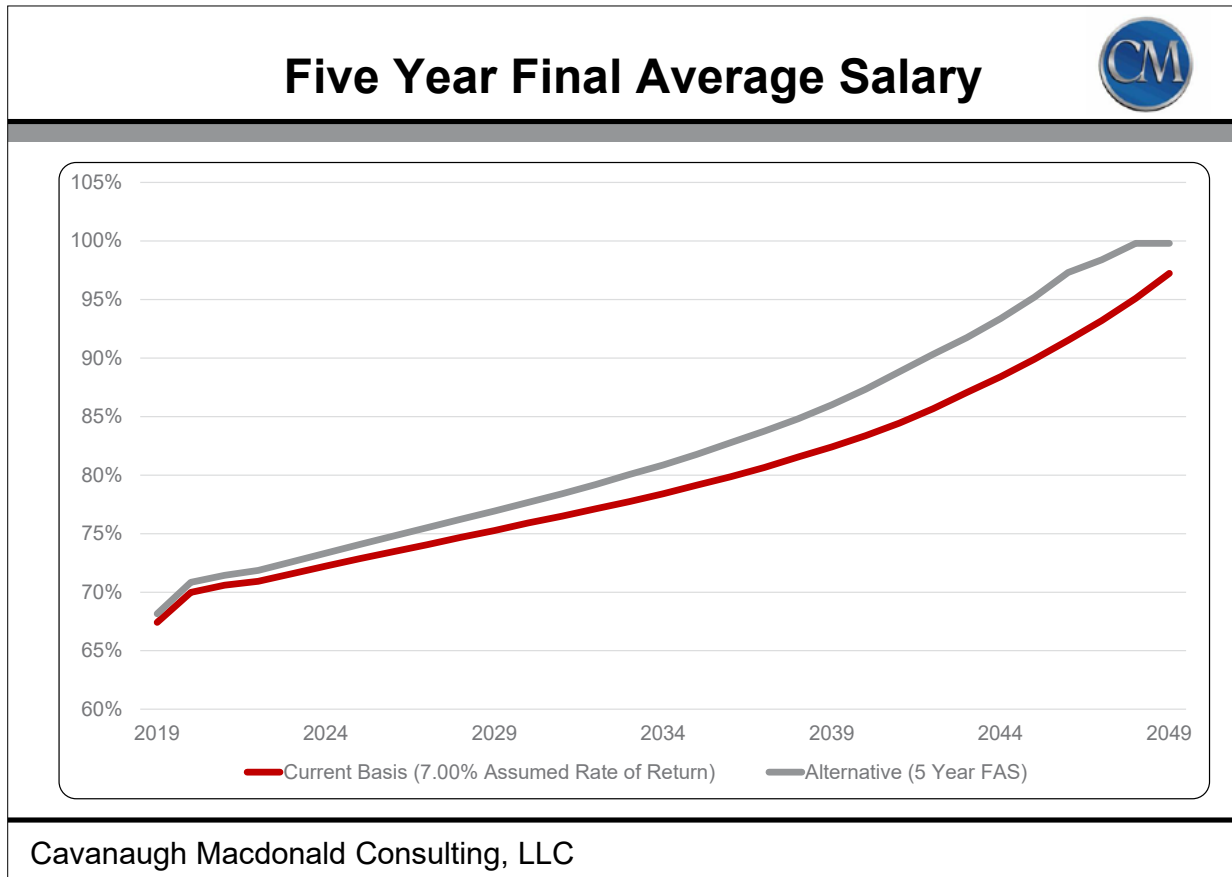
## What is the impact of changing to a 180-Day Service Year?

As of November 2019, SERS has 155,254 active members. Of this group, 16,272 members (10.4%) had between 120 days and 179 days of service for the year. Using the 180-day proration, the average service credit for this group would be .867 rather than a full year. The least amount of service credit change is -.006 for members who worked 179 days, and the greatest amount of service credit change is -.333 for members who worked 120 days.



# Benefit Levels

- Impact of changing from a 3 year FAS to a 5 year FAS.



- Impact of changing from a 3 highest year FAS to a 3 consecutive highest year FAS.

Fiscal Year	Annual Salary	Months
2018	\$19,456.00	12
2017	\$21,951.00	12
2016	\$22,874.00	12
2015	\$39,784.20	12
2014	\$37,279.50	12
2013	\$23,834.00	12
2012	\$29,095.30	12
2011	\$28,975.70	12
2010	\$29,240.40	12
2009	\$34,200.70	12
2008	\$35,003.30	12
2007	\$30,862.20	12

- \$37,355.67 - Highest 3 Year FAS (2008, 2014, 2015)
- \$33,632.57 - Consecutive Highest 3 year FAS (2013-2015)

## ▪ **Potential ways to control against pension ‘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**

- 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 - lowers the benefits of all members, not just those that spike
  - Limit types of remuneration included in pensionable compensation
  - Limit percent of pensionable compensation growth in FAS years

### ▪ **Comparison of anti-spiking provision between SERS, STRS, OPERS**

#### ▪ **SERS**

- FAS calculated over 3 years (in 1974, changed from 5 to 3 years)
- No statutory anti-spiking provision. Reliance on definition of “compensation” to address, which has been challenging to administer.

#### ▪ **STRS**

- FAS calculated over 5 years
- FAS cap
  - Excludes amount of contributions that cause the percent increases in the highest two years to be greater than the percent increases during any of the three years immediately preceding the two highest years
    - Unless the percent increase was paid to all of the district’s other teaching employees
  - The excluded contributions are then used to calculate a monthly annuity in addition to the pension.
  - Member may request a hearing regarding the excluded amounts.

#### ▪ **OPERS**

- FAS calculated over 3 or 5 years, depending on Group
- Contributions Based Benefit Cap (CBBC)
  - Pension is capped at the CBBC amount
  - 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)
  - Designed to impact only members whose formula benefit is out of proportion with their career contributions
    - Intended to address spiking any time throughout a member’s career, not just in final years

# Disability Benefits

## Information regarding the current disability plan design.

A member is covered under one of two disability plans. A member who became a member after July 29, 1992, is covered under the **new disability plan**. A member who became a member on or before July 29, 1992, is covered by the **old disability plan** unless they exercised a one-time election to switch to the new plan.

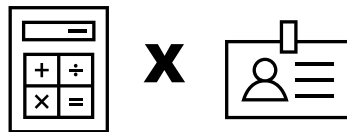
### Eligibility

Under both plans, a member is eligible for disability benefits if the member:

- Has at least five (5) years of total service credit;
- Files an application no later than two (2) years from the date that the contributing service stopped;
- Is permanently disabled, either physically or mentally, for work in the member's last SERS-covered position as determined by a physician appointed by SERS;
- Under the old disability plan, a member also must apply before turning 60 years old. Under the new disability plan a member may apply at any age.
- Disability recipients who are enrolled in SERS health care coverage are required to apply for Social Security disability benefits, if eligible.

### Calculation

#### Old Disability Plan

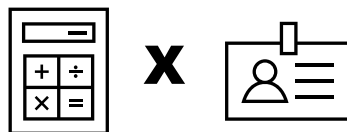


**2.2 % of FAS x Years of Service Credit\***

Benefit cannot be less than 30% or more than 75% of FAS.

\*includes all service credit the member has at the time of retirement plus years between member's current age and age 60

#### New Disability Plan



**The greater of 45% of FAS or 2.2 % of FAS x Years of Service Credit (capped at 60%)**

The following chart shows the approximate applicable percentage amounts under this plan:

Years of Service Credit	Percentage of the Member's Final Average Salary
5-21	45.0%
22	48.4
23	50.6
24	52.8
25	55.0
26	57.2
27	59.4
28 or more	60.0

## Termination of Benefits

Under the new disability plan, benefits will end after a specified number of months as shown:

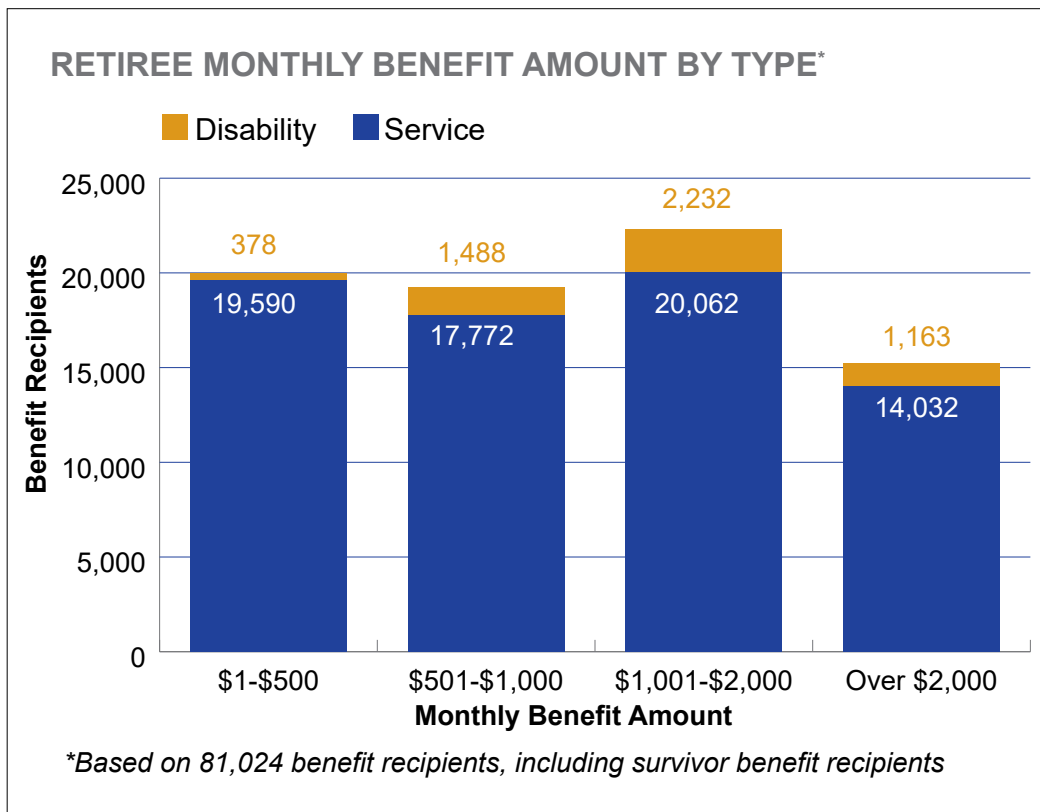
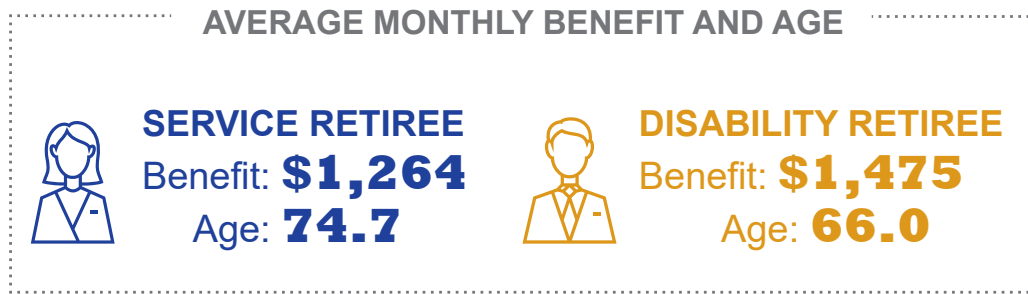
Age at Effective Date	Period Benefits Payable
Younger than 60	Until age 65
60 or 61	60 months
62 or 63	48 months
64 or 65	36 months
66, 67, or 68	24 months
69 or older	12 months

At the end of the period, the member can apply for a conversion retirement benefit.

Under both plans a disability benefit stops if any one of the following events occurs:

- A subsequent SERS medical re-examination finds that the member meets the applicable standard for termination.
  - For disability benefit recipients whose benefit was effective before January 7, 2013, the standard is whether the member is no longer disabled from their SERS-covered position.
  - For disability benefit recipients whose benefit was effective on or after January 7, 2013 the standard for termination changes 3 or 5 years after the disability benefits began (depending on whether the member is receiving recommended vocational rehabilitation or medical treatment).
    - For the first 3-5 years, the standard is whether the member is no longer disabled from their SERS-covered position,
    - After 3-5 years, the standard is whether the member is capable of performing the duties of a position with pay at or above 75% of his or her final average salary for which he or she is qualified, and which can reasonably be found in the member's regional job market.
- The member returns to a SERS-covered job
- The member's death
- The member requests that benefits end

- Information comparing disability benefits to service retirement benefits.

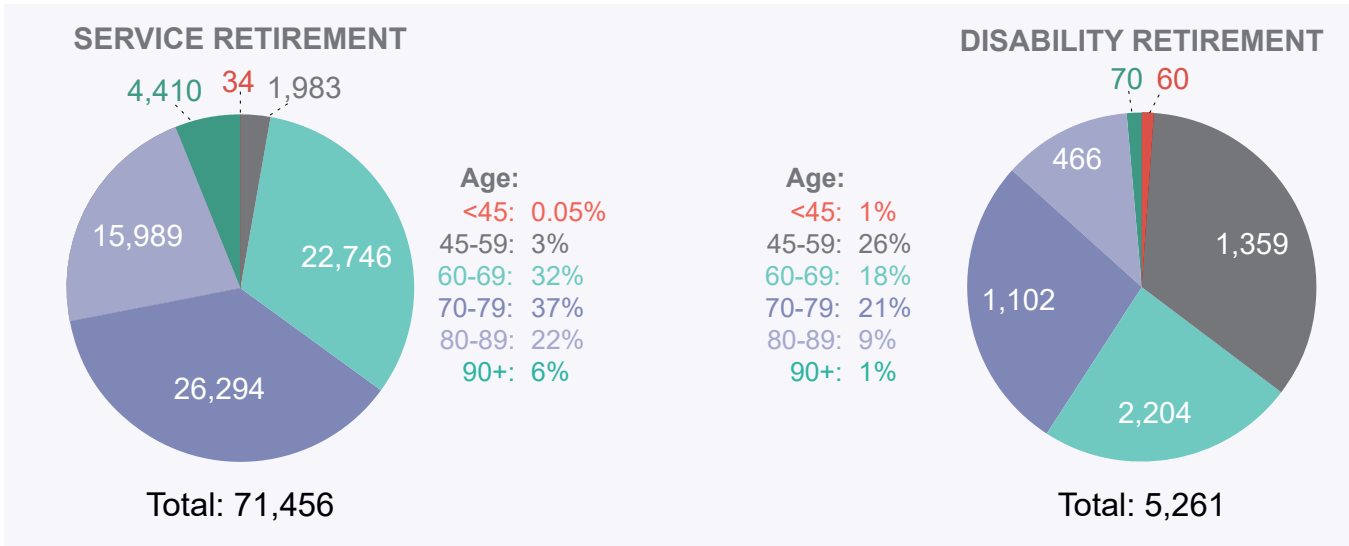


### RETIREE LIVES

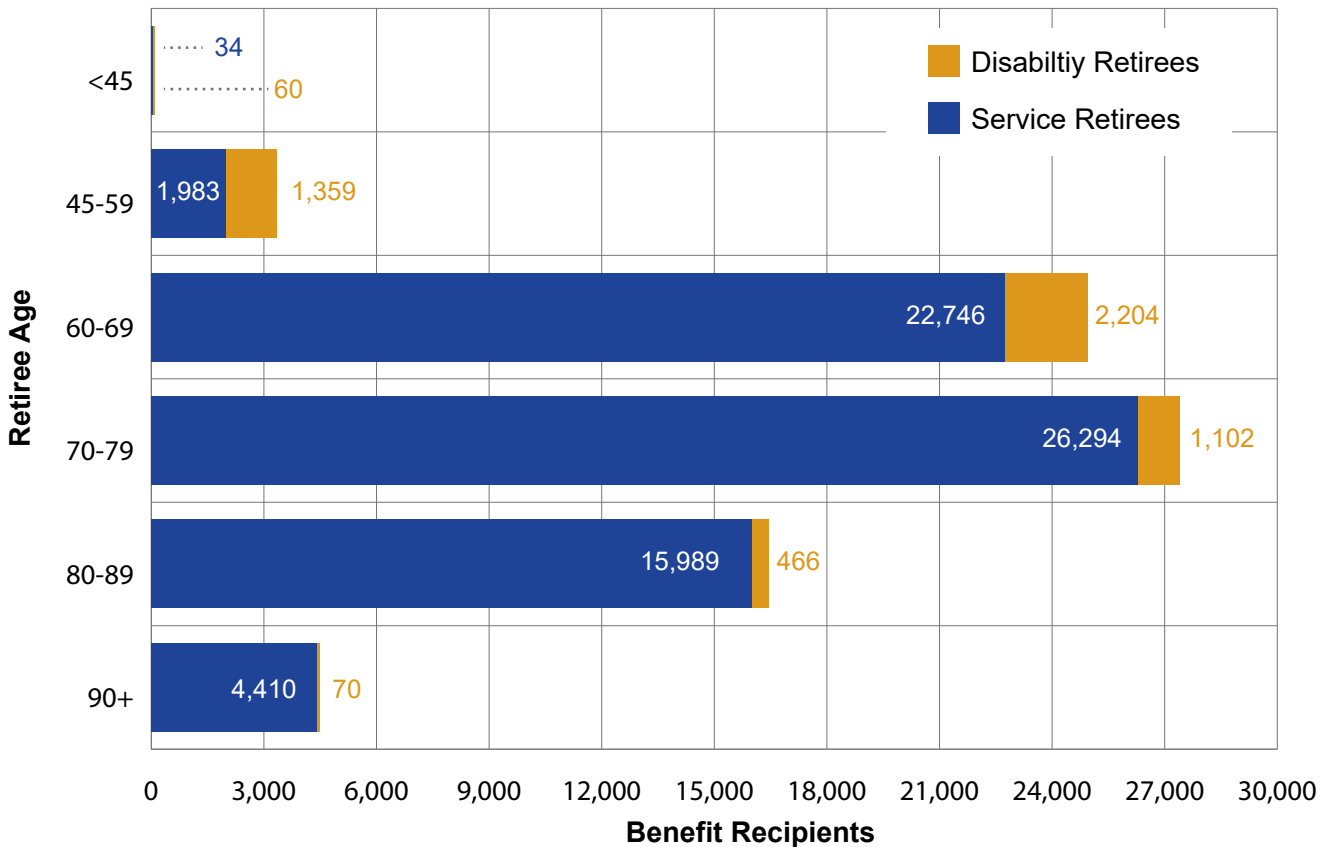
Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age
Retirees and Beneficiaries	71,456	\$1,086,489,678	\$15,205	74.7
Disability	5,261	93,103,386	17,697	66.0
Survivors	4,307	39,362,442	9,139	72.6
<b>Total in SERS</b>	<b>81,024</b>	<b>\$1,218,955,506</b>	<b>\$15,044</b>	<b>74.0</b>

▪ **Ages of disability retirees in comparison to service retirees**

**Age:** ■ Under 45 ■ 45-59 ■ 60-69 ■ 70-79 ■ 80-89 ■ 90+



**TOTAL SERVICE AND DISABILITY RETIREES BY AGE**



**PERCENTAGE OF TOTAL:**

Age:	Service:	Disability:
<45:	.04%	.08%
45-59:	3%	2%
60-69:	30%	3%
70-79:	34%	1%
80-89:	21%	.61%
90+:	6%	.09%

- Information regarding the actuarial gain and losses under the current disability plan due to the differences between assumed disability experience and actual experience.

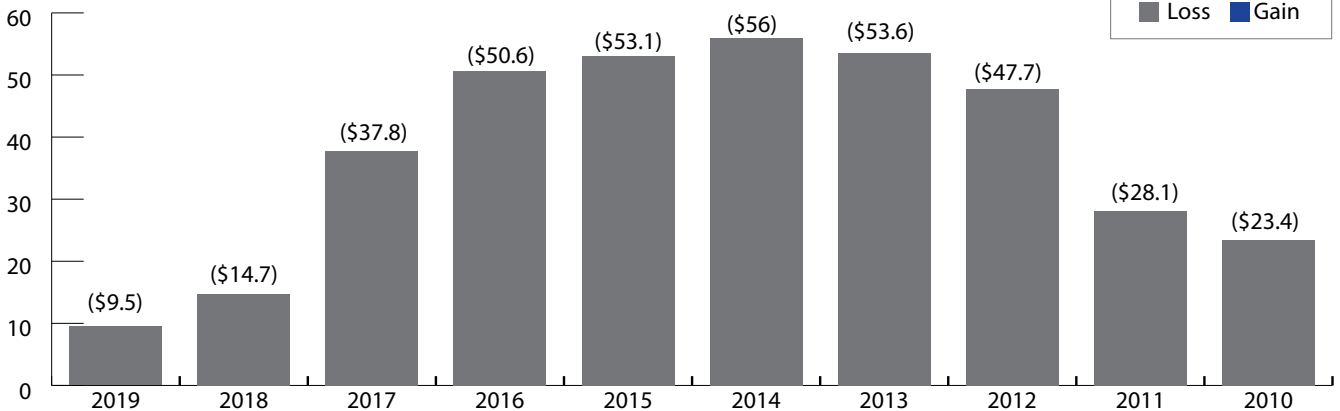
### Analysis of Financial Experience

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

#### Type of Risk Area: Disability Retirements

If disability claims are less than assumed, there is a gain. If more claims, a (loss).

(Total \$ in millions)



- Information regarding the fiscal impact of the new ‘any occupation’ review of current disability benefit recipients.

The process of re-examination for Any Occupation was implemented with pension reform changes in 2017. This changed how SERS re-examines members after they receive disability benefits for three years (or five years if on a continued leave of absence), evaluating their ability to work in any occupation. Prior to this change, members were re-examined only on their ability to perform their last-assigned position with the schools.

Following are Disability administrative expenses including independent medical examinations and vocational evaluations. Also included in the total are the fees paid to both Dr. Borchers and our Any Occupation expert, Kimberly Wickert.

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

Based on projections, SERS stands to save **\$7.5 million** over the lifetime of those that have returned to work due to the Any Occupation re-examination program. Note: this program is still in its infancy stage and has room for adjustments that could lead to bigger savings.

Assumptions:

- Life expectancy of 83.
- COLA increases not included
- For service retirement plan B amount, if there is \$0 listed, that indicates the member had less than 10 years of service credit and would not be eligible for service retirement benefits



Case ID	Disability Plan	Conversion Date	Disability Benefits (through termination date if on New Plan)	Conversion Amount *	Service Ret Plan B Amount **	Difference between Disability and Service Retirement Lifetime
#####	New	7/31/2034	\$192,324.48	\$204,117.84	\$138,950.28	\$257,492.04
#####	New	1/31/2031	\$114,088.32	\$152,798.40	\$0.00	\$266,886.72
#####	Old		\$525,599.28		\$277,765.20	\$247,834.08
#####	New	4/30/2021	\$10,100.16	\$81,164.16	\$35,880.00	\$55,384.32
#####	New	6/30/2020	\$13,731.00	\$233,169.84	\$140,153.88	\$106,746.96
#####	New	5/31/2026	\$113,001.00	\$260,325.36	\$187,412.40	\$185,913.96
#####	New	7/31/2020	\$10,481.90	\$96,955.92	\$0.00	\$107,437.82
#####	New	7/31/2029	\$184,935.96	\$281,605.68	\$0.00	\$466,541.64
#####	New	7/31/2036	\$292,122.72	\$260,820.00	\$0.00	\$552,942.72
#####	New	4/30/2023	\$47,722.08	\$191,741.04	\$118,349.28	\$121,113.84
#####	New	8/31/2027	\$97,017.48	\$173,247.12	\$75,892.32	\$194,372.28
#####	Old		\$509,890.08		\$343,124.04	\$166,766.04
#####	Old		\$389,823.00		\$314,024.40	\$75,798.60
#####	New	11/30/2020	\$103,326.00	\$100,370.88	\$60,369.60	\$143,327.28
#####	New	7/31/2023	\$54,484.80	\$130,822.56	\$0.00	\$185,307.36
#####	New	9/30/2035	\$283,098.24	\$292,189.68	\$238,602.08	\$336,685.84
#####	Old		\$505,204.20		\$429,049.85	\$76,154.35
#####	New	8/31/2028	\$106,844.40	\$196,043.76	\$166,473.05	\$136,415.11
#####	New	11/30/2019	\$9,473.64	\$156,444.48	\$0.00	\$165,918.12
#####	New	11/30/2034	\$237,007.80	\$253,936.08	\$268,992.48	\$221,951.40
#####	New	3/31/2032	\$185,594.40	\$262,632.24	\$179,756.44	\$268,470.20
#####	New	10/31/2030	\$115,332.36	\$188,725.68	\$99,188.86	\$204,869.18
#####	Old		\$512,500.80		\$262,008.00	\$250,492.80
#####	New	3/31/2032	\$182,672.64	\$258,500.16	\$268,592.71	\$172,580.09
#####	New	12/31/2030	\$147,057.24	\$134,915.88	\$0.00	\$281,973.12
#####	New	12/31/2022	\$29,272.68	\$170,521.20	\$116,580.24	\$83,213.64
#####	New	9/30/2034	\$184,366.80	\$197,532.00	\$172,751.42	\$209,147.38
#####	New	3/31/2029	\$200,587.32	\$389,489.04	\$433,685.87	\$156,390.49
#####	New	4/30/2040	\$154,816.80	\$127,833.12	\$0.00	\$282,649.92
#####	New	4/30/2030	\$100,087.20	\$174,910.32	\$167,543.43	\$107,454.09
#####	New	8/31/2031	\$163,637.28	\$245,455.92	\$193,817.72	\$215,275.48
#####	New	7/31/2037	\$180,837.84	\$185,898.24	\$152,747.24	\$213,988.84
#####	New	7/31/2029	\$40,626.36	\$78,885.36	\$38,195.60	\$81,316.12
#####	New	02/29/2029	\$94,152.24	\$177,647.04	\$152,047.26	\$119,752.02
#####	New	3/31/2026	\$67,480.56	\$181,710.00	\$156,903.00	\$92,287.56
#####	New	7/31/2023	\$47,430.72	\$276,296.40	\$318,161.16	\$5,565.96
#####	New	1/31/2027	\$100,964.64	\$252,061.20	\$144,644.59	\$208,381.25
#####	New	5/31/2028	\$77,204.16	\$159,369.12	\$98,280.51	\$138,292.77
#####	New	6/30/2035	\$194,522.40	\$214,155.36	\$0.00	\$408,677.76
					<b>Total Lifetime Savings:</b>	<b>\$7,571,769.15</b>

\* Amount the member would be paid over their lifetime if they did not return to work

\*\* Amount member would receive when converted to a retirement based on their years of service

- **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.

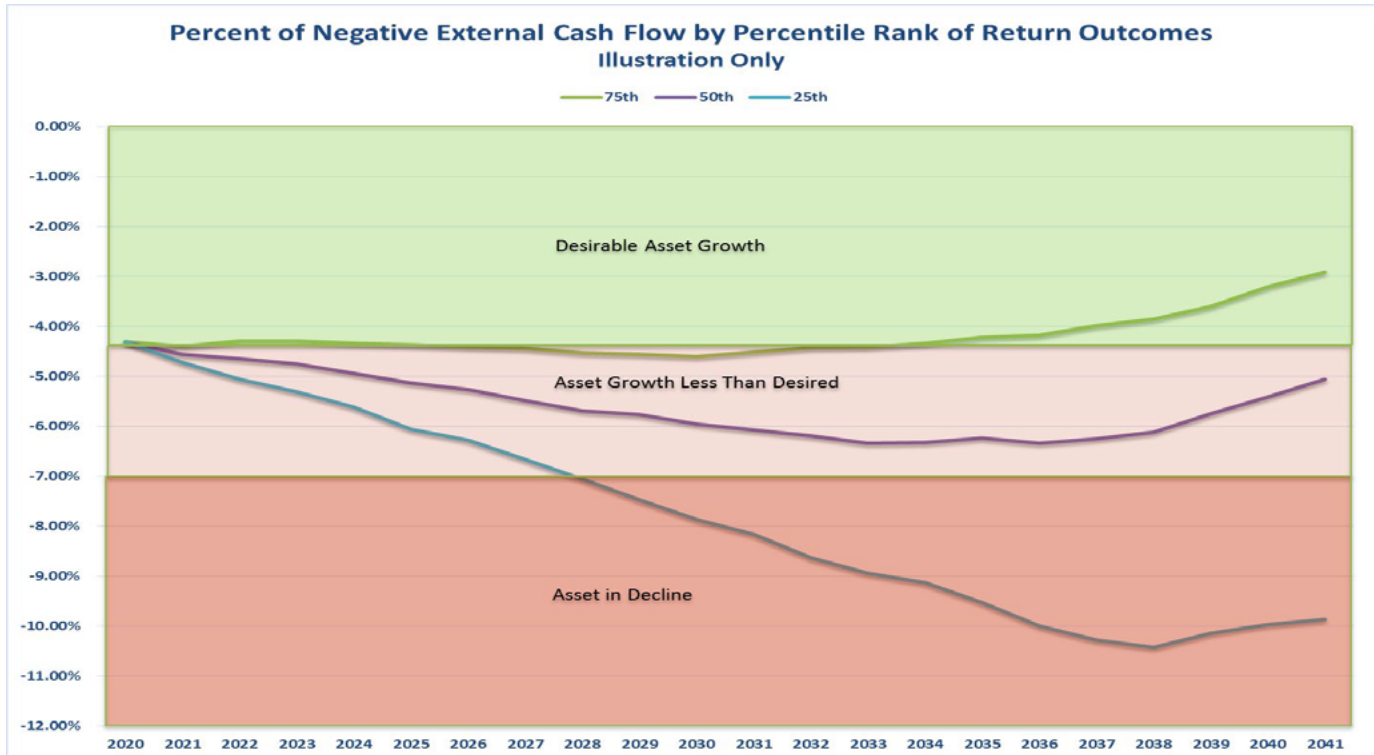
<b>Non Work-Related Disability:</b>	
Eligibility	Five years of service
Benefit Formula	1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but the total projected benefit cannot be more than one-third of Final Compensation. The Service Retirement benefit is payable, if greater.
<b>Work-Related Disability:</b>	
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

# Risk Sharing/Profit Sharing COLA Model

- Information on how a risk sharing/profit sharing COLA model works (i.e., lower COLA in low investment return years and higher COLA in higher investment return years) and its impact on cash flow.
  - Risk-Shared COLAs
    - Feature of Systems in Wisconsin, South Dakota, and most recently, New Mexico.
    - Purpose is not necessarily to reduce the amount of COLAs or the associated liability
      - Aligns the payment of COLAs with investment performance
      - Smaller COLAs when returns are less than expected and full or larger COLAs in years with investment gains.

## Large System Net Cash Flow Issues

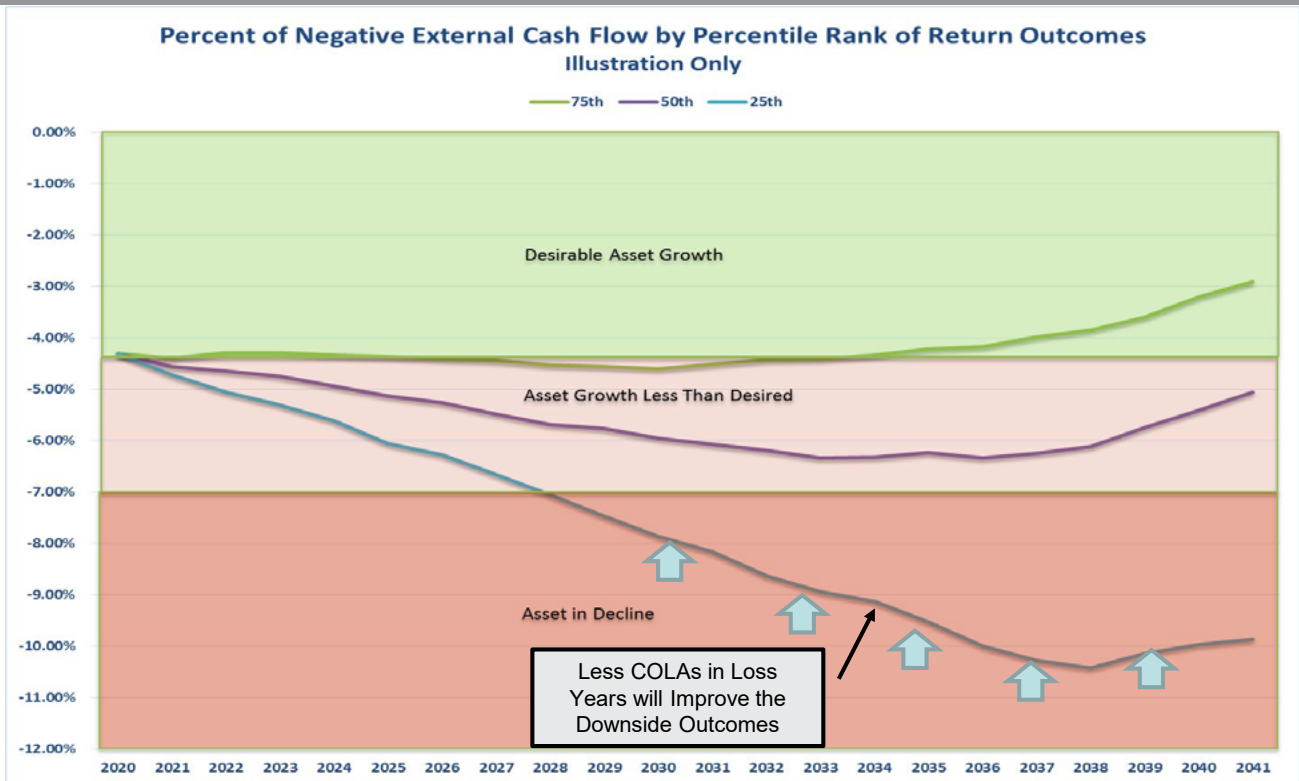


Cavanaugh Macdonald Consulting, LLC

- **Risk-Shared COLA Features**

- Target rate of return or “hurdle rate”
  - Expect this to be 1.5% to 2.0% less than the assumed investment rate of return.
  - For example: the “hurdle rate” is the discount rate that results in the same liability measure without a COLA as the current assumed rate of return with a COLA.
    - For illustration only:
      - 7.0% assumed rate of return with an assumed 2.5% simple annual COLA has the same liability as assuming a 5.25% rate of return without a COLA.
    - An investment return above the “hurdle rate” of 5.25% generates the assets to be shared for upcoming COLAs by determining the simple COLA rate that can be provided with the asset gain.
    - We suggest first applying funded ratio to any asset gain to determine the “shareable” amount
  - COLA rates may still have a floor and cap (currently 0% floor and 2.5% cap)

# Risk-Shared COLA Benefit



Cavanaugh Macdonald Consulting, LLC