

VERMONT STATE EMPLOYEES' RETIREMENT SYSTEM
Meeting of the Board of Trustees – Conference Call, Treasurer's Conference
Room

October 27, 2022 – 8:30 a.m.

DRAFT COPY – NOT YET APPROVED BY BOARD

Please note all member participated via telephone, video, or teleconference:

Members present:

ROGER DUMAS, Chair, VRSEA Representative (term expiring October 31, 2024)
BETH PEARCE, VT State Treasurer
ERIC DAVIS, VSEA Representative (term expiring September 30, 2023)
THOMAS MOZZER, VSEA Representative (term expiring September 30, 2023)
BETH FASTIGGI, Commissioner of Human Resources
JAY WISNER, Governor's Delegate position
ALLEN BLAKE, VRSEA Alternate Representative (term expiring October 31, 2024)
JOHN VORDER BRUEGGE, VSEA Alternate Representative (term expiring September 30, 2024)

Members absent:

JEAN-PAUL ISABELLE, VSEA Representative (term expiring September 30, 2024)
ADAM GRESHIN, Commissioner of Finance and Management

Also attending:

Michael Clasen, Deputy State Treasurer
Tim Duggan, Director, Vermont Retirement Systems
Ashlynn Doyon, Director of Financial Literacy and Outreach
Stephen Barry, Financial Administrator I, Retirement Division
Owen Doherty, Executive Assistant to the Treasurer
Eric Henry, VPIC Chief Investment Officer
Tom Golonka, VPIC Chair of the Board
Jeremiah Breer, Chief Financial Officer, State Treasurer's Office
Kathleen Riley, Segal Consulting
Matthew Strom, Segal Consulting
Austin Miller, Segal Consulting
Ptryk Tabernacki, Segal Consulting
David Borsykowsky, Assistant Attorney General

The Chair, Roger Dumas, called the Thursday, October 27, 2022 meeting to order at 8:30 a.m., which was held by conference call and in-person at the Treasurer's Conference Room, Pavilion Building, 4th Floor, 109 State Street, Montpelier, VT.

ITEM 1: Agenda approval and announcements

On a motion made by Mr. Davis, seconded by Ms. Pearce, the Board voted unanimously to approve the agenda.

Vermont State Employees'
Retirement System

Actuarial Valuation as of June 30, 2022

October 27, 2022

Kathy Riley / Matt Strom / Patryk Tabernacki

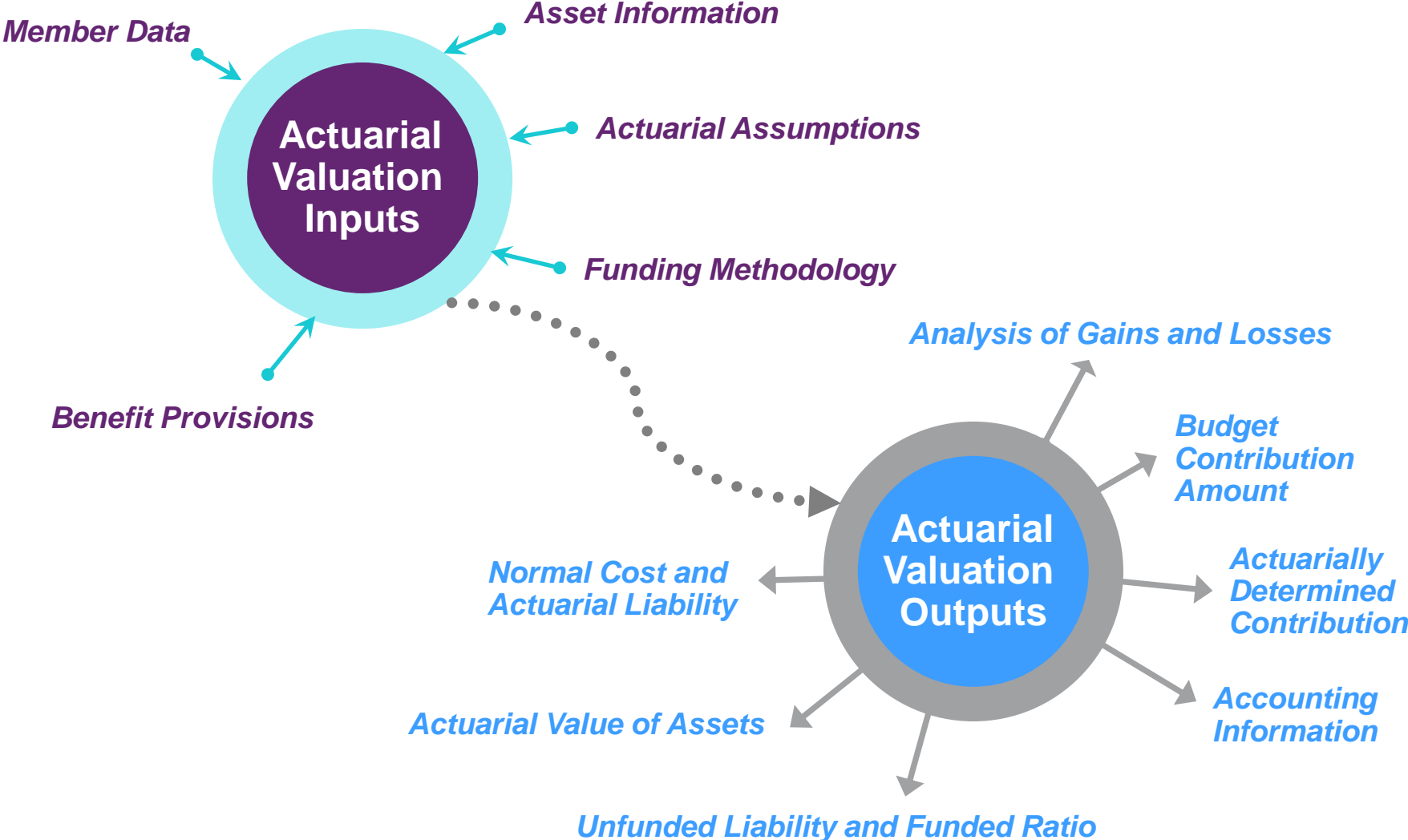
This document has been prepared by Segal for the benefit of the Board of Trustees of the Vermont State Employees' Retirement System and is not complete without the presentation provided at the October 27, 2022, meeting of the Board of Trustees.

| Agenda

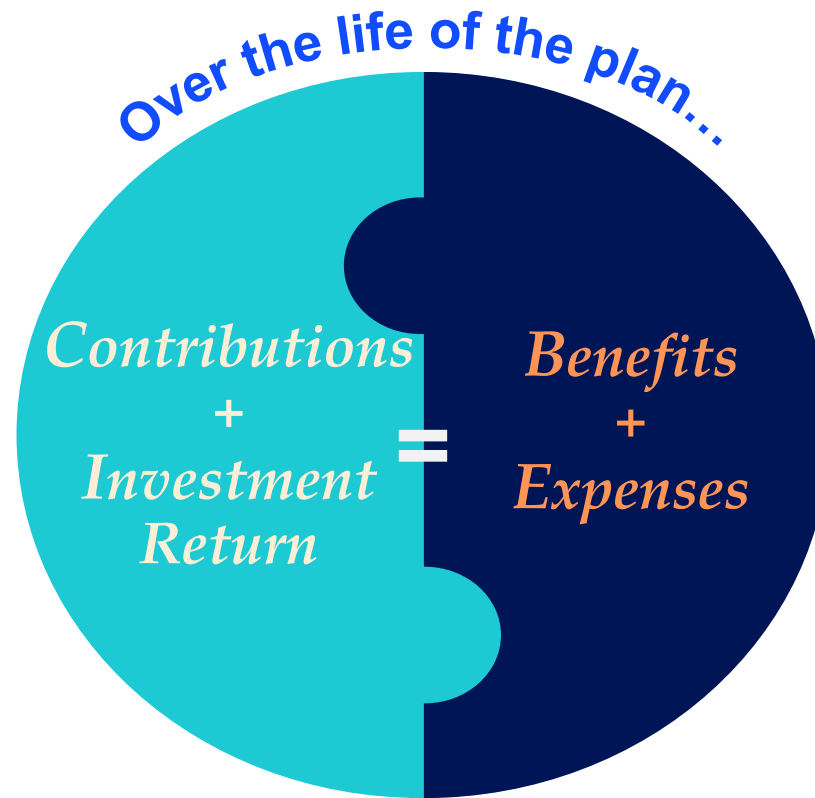
Overview of Valuation Process

Valuation Results and Projections

The Valuation Process



Actuarial Balance



Or: *Contributions* = *Benefits* + *Expenses* - *Investment Return*

Actuarial Assumptions

Demographic

- Retirement
- Disability
- Death in active service
- Withdrawal
- Death after retirement



Economic

- Inflation – 2.30%
- Investment return – 7.00%
- Salary increases – 5.55% for new members to 3.40% for members with 40+ years
- COLA* – 2.40% for Groups A, C and D members; 1.35% for all others



Actuaries make assumptions as to when and why a member will leave active service and estimate the amount and duration of the pension benefits paid.

*The January 1, 2023, COLA is expected to be 2.50% for members in Group E and Group F who retired before July 1, 2008, and 5.00% for all other groups.

Actuarial Methods



Asset Valuation Method

- Investment gains and losses recognized over a number of years
- VSERS recognizes 20% of the difference between expected and actual returns in the current year
- A 20% market value corridor is applied – actuarial value of assets must fall within 80% to 120% of market value



Actuarial Cost Method

- Allocation of liability to past and future service
- VSERS uses the entry age normal cost method
 - Allocates cost of member's retirement benefit over expected career as a level % of salary
- Most common cost method among public sector retirement systems
- Required by GASB for financial statement reporting purposes

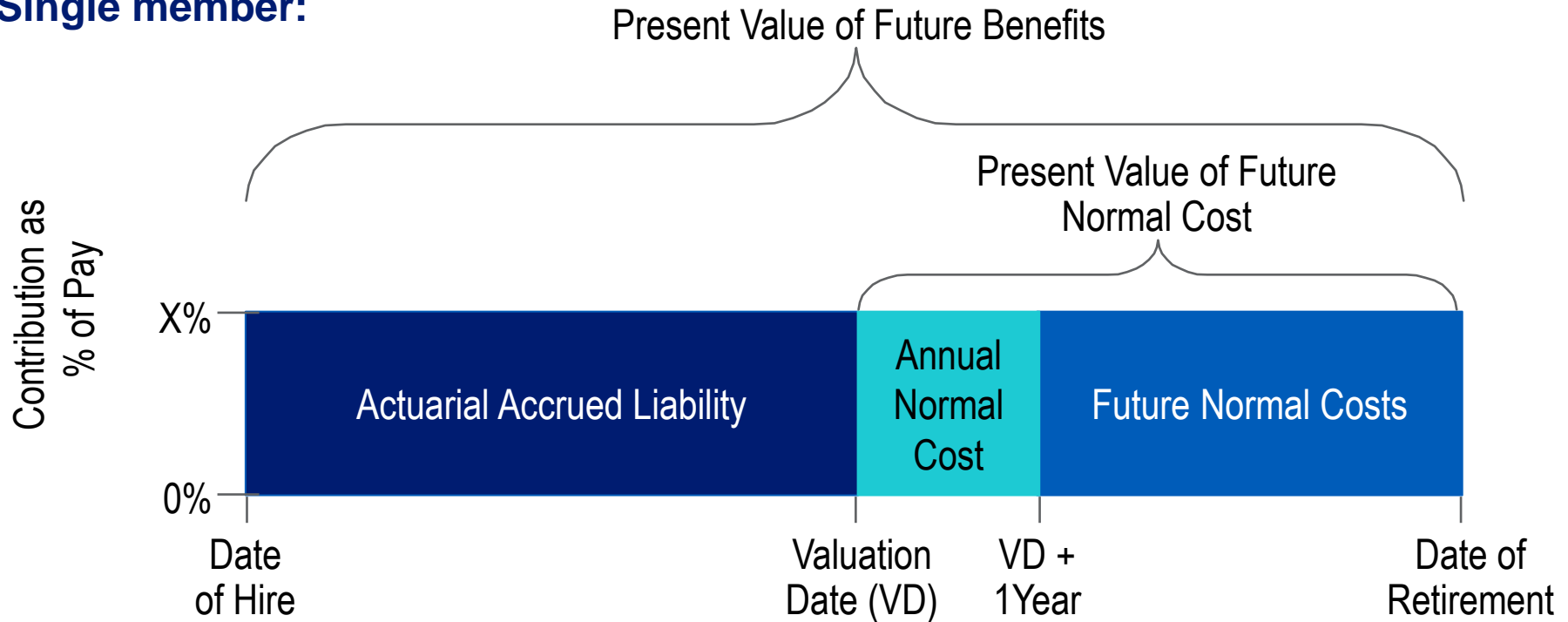


Amortization Method

- Relies on two inputs:
 - Number of years to amortize the UAL
 - Level dollar or level percentage of payroll approach
- VSERS' amortization method:
 - Closed period ending on June 30, 2038
 - 16 years remaining
 - Payments calculated to increase by 3% per year

Funding Process

Single member:



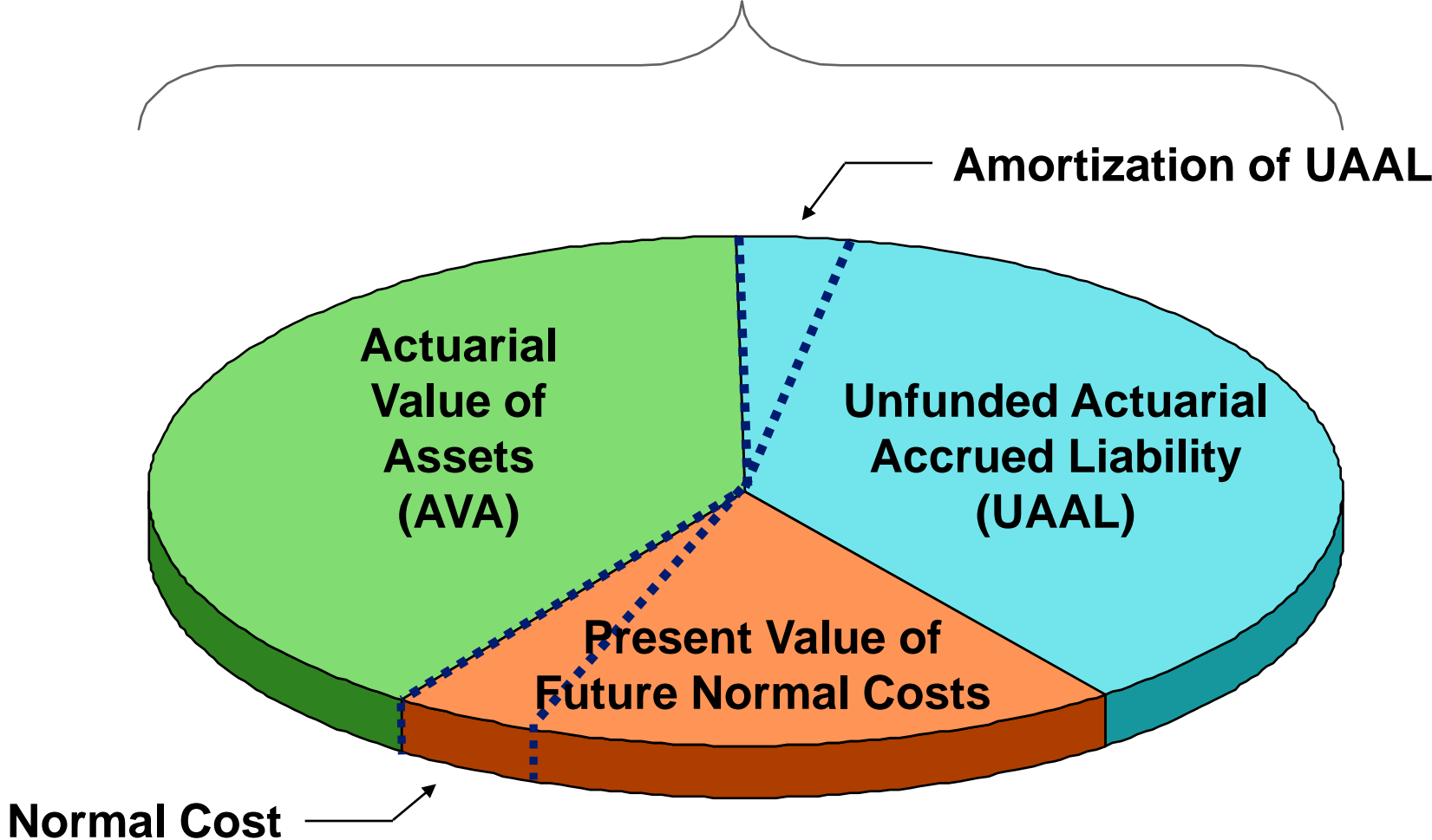
Entry Age cost method: Allocates cost between past and future service

- **Normal Cost:** Cost of annual benefit accrual as a level percent of salary
- **Actuarial Accrued Liability:** Represents accumulated value of past normal costs (or difference between total cost and present value of future normal costs)
- **Unfunded Actuarial Accrued Liability:** Actuarial accrued liability minus actuarial value of assets

Actuarially Determined Contribution

Entire group:

Present Value of Future Benefits



Summary of Valuation Highlights

June 30, 2022, Actuarial Valuation

- The **return on the market value of assets** for the year ending June 30, 2022, was **-8.66%***
 - Gradual recognition of deferred losses resulted in **5.56% return on the actuarial value of assets**
- Act 114 included changes that impacted benefits and contributions
 - Additional **\$75 million** State contribution during fiscal 2022
 - Changes in benefits decreased the actuarial accrued liability by **\$46.4 million**
- **Funded ratio** increased from 67.56% (as of 6/30/2021) to **69.85%** (as of 6/30/2022)
- Net impact on the **preliminary contribution requirement** was a decrease from 21.08% of payroll to **19.99%** of payroll
 - In terms of dollars, the preliminary contribution requirement decreased from \$122.0 million for fiscal 2022 to \$120.8 million for fiscal 2023
- The **estimated fiscal 2024 contribution** for budget purposes is **\$121.9 million**

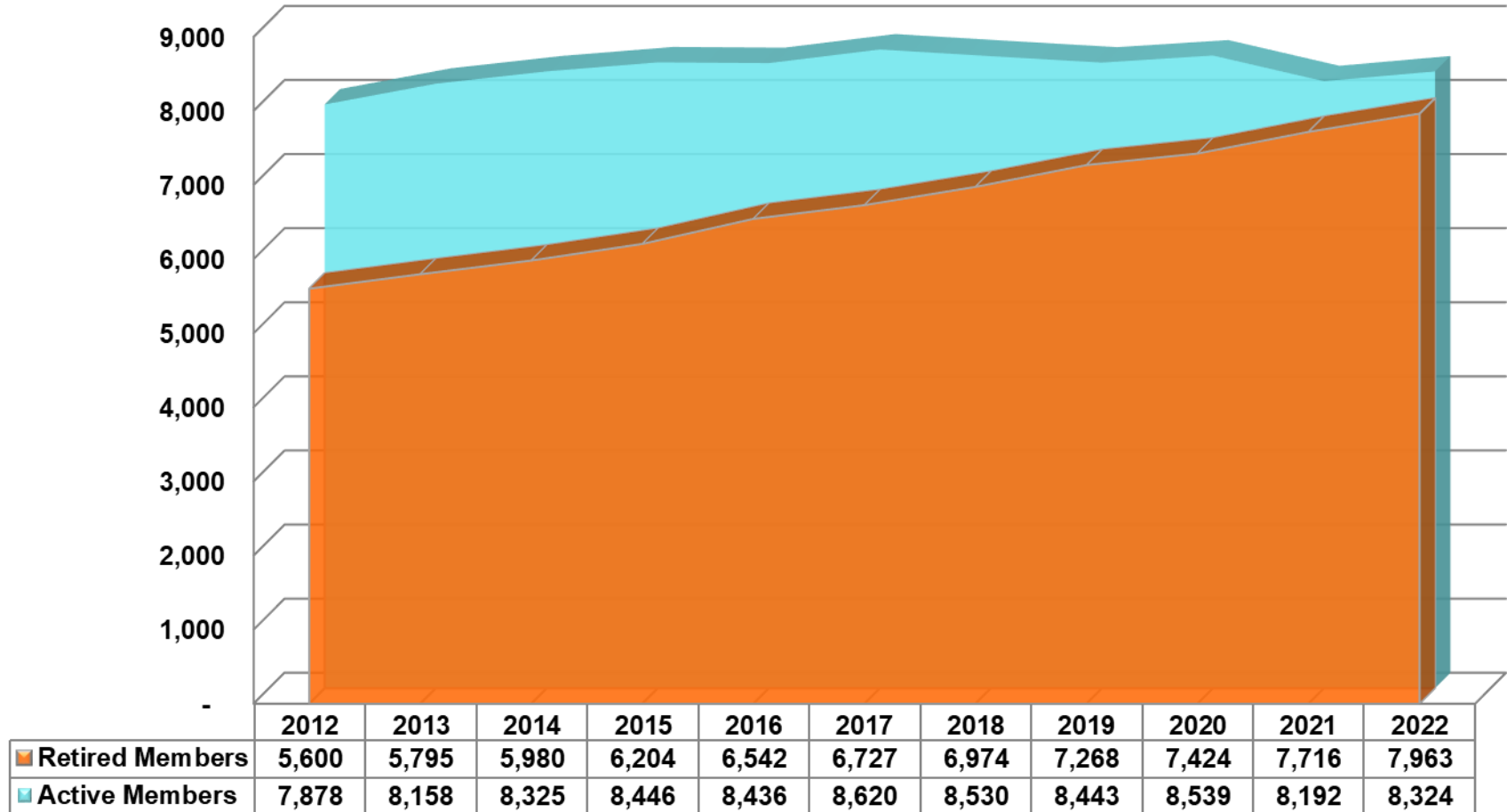
* Based on Segal calculation, which may differ slightly from the rate determined by the VPIC Investment Advisor for various reasons (e.g., cash flow timing)

Membership

Membership information as of June 30

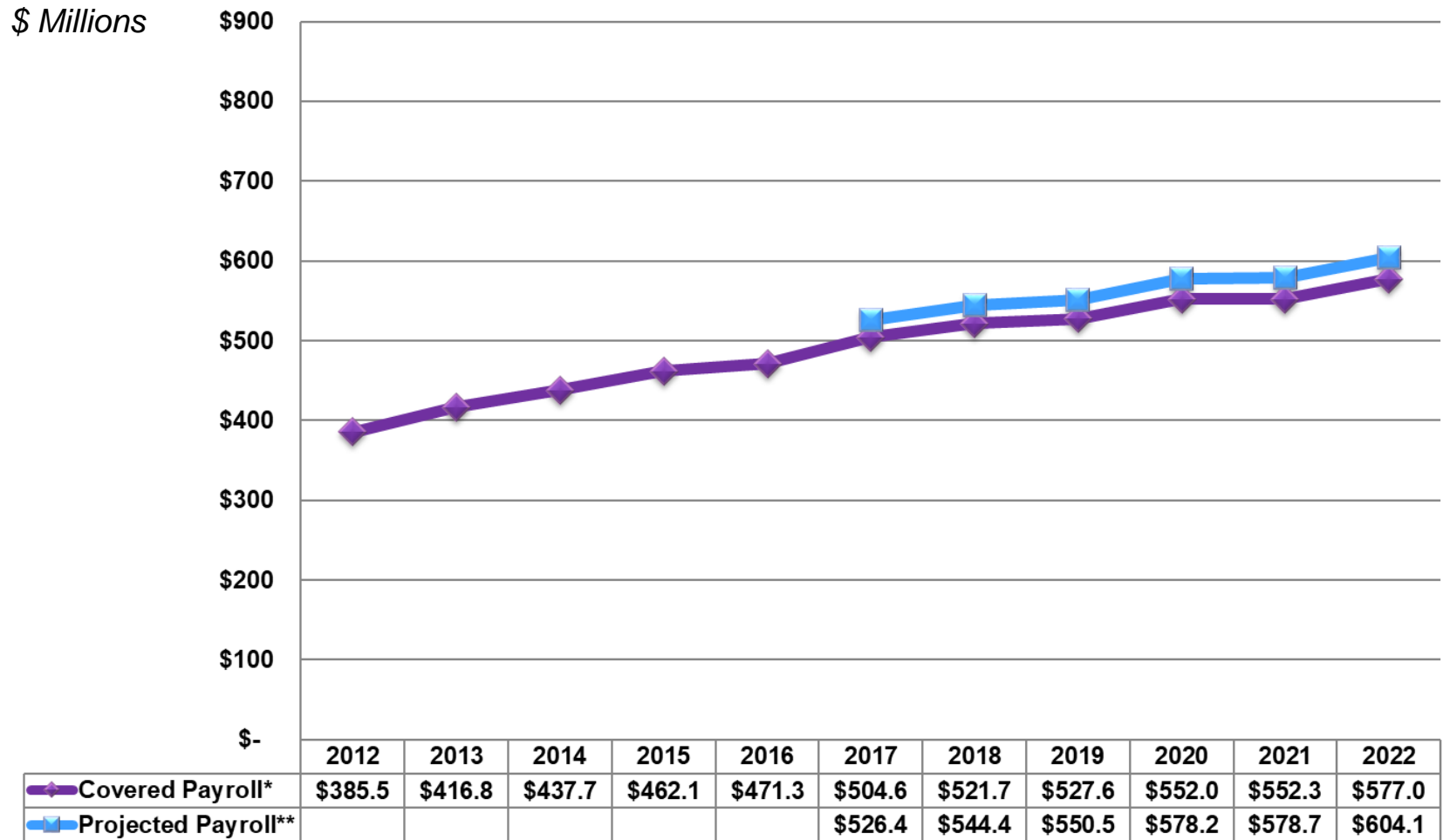
	2022	2021	Change
Actives			
• Number	8,324	8,192	1.6%
• Payroll (annualized)	\$577.0 mil	\$552.3 mil	+4.5%
• Average Age	45.3 years	45.7 years	-0.4 years
• Average Service	10.4 years	10.9 years	-0.5 years
Retirees and Beneficiaries			
• Number	7,963	7,716	+3.2%
• Total Annual Benefits	\$175.3 mil	\$161.5 mil	+8.6%
• Average Monthly Benefit	\$1,835	\$1,744	+5.2%

Active and Retired Membership



Note: Active membership increased to a peak of 8,620 in 2017

Active Payroll

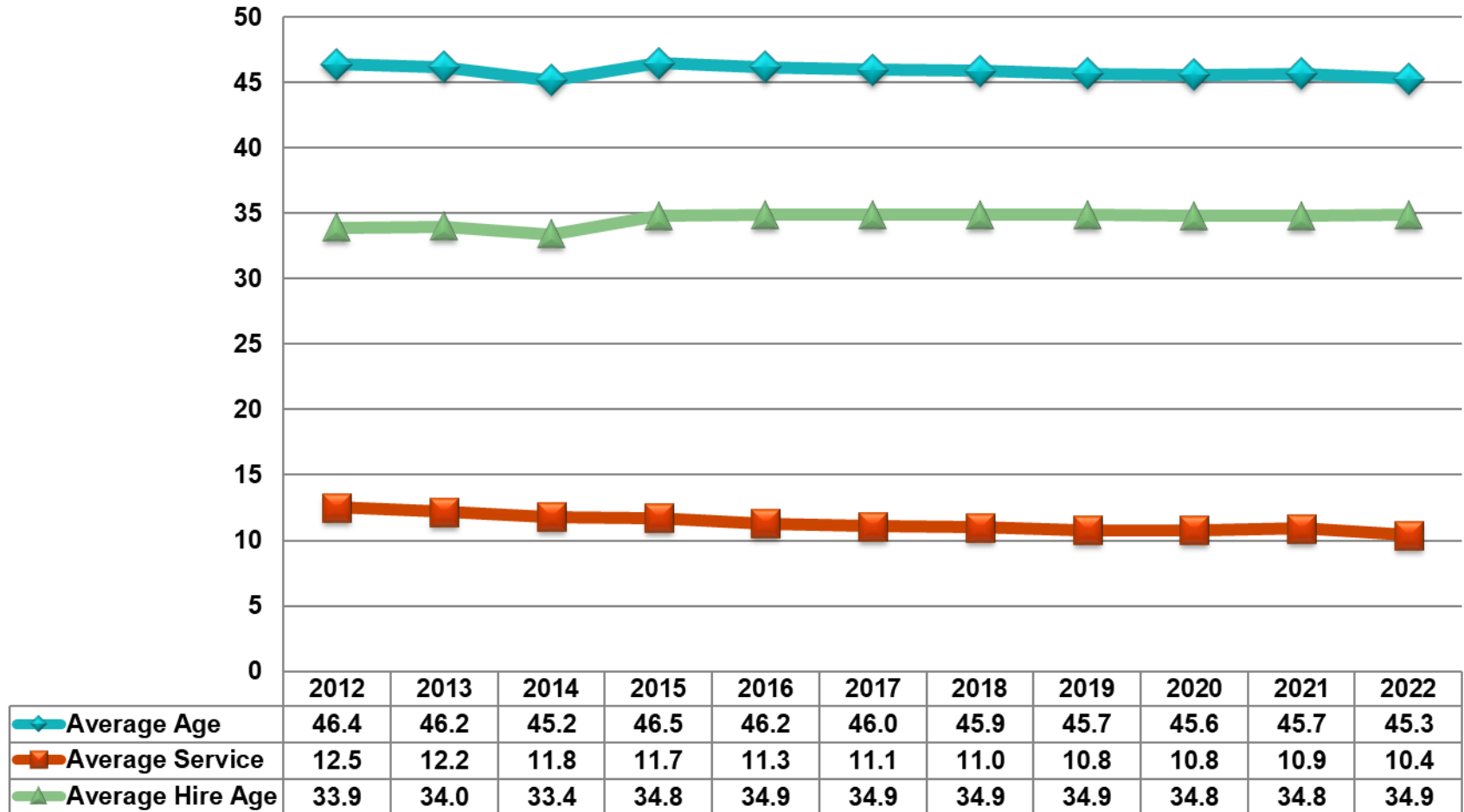


*Prior year

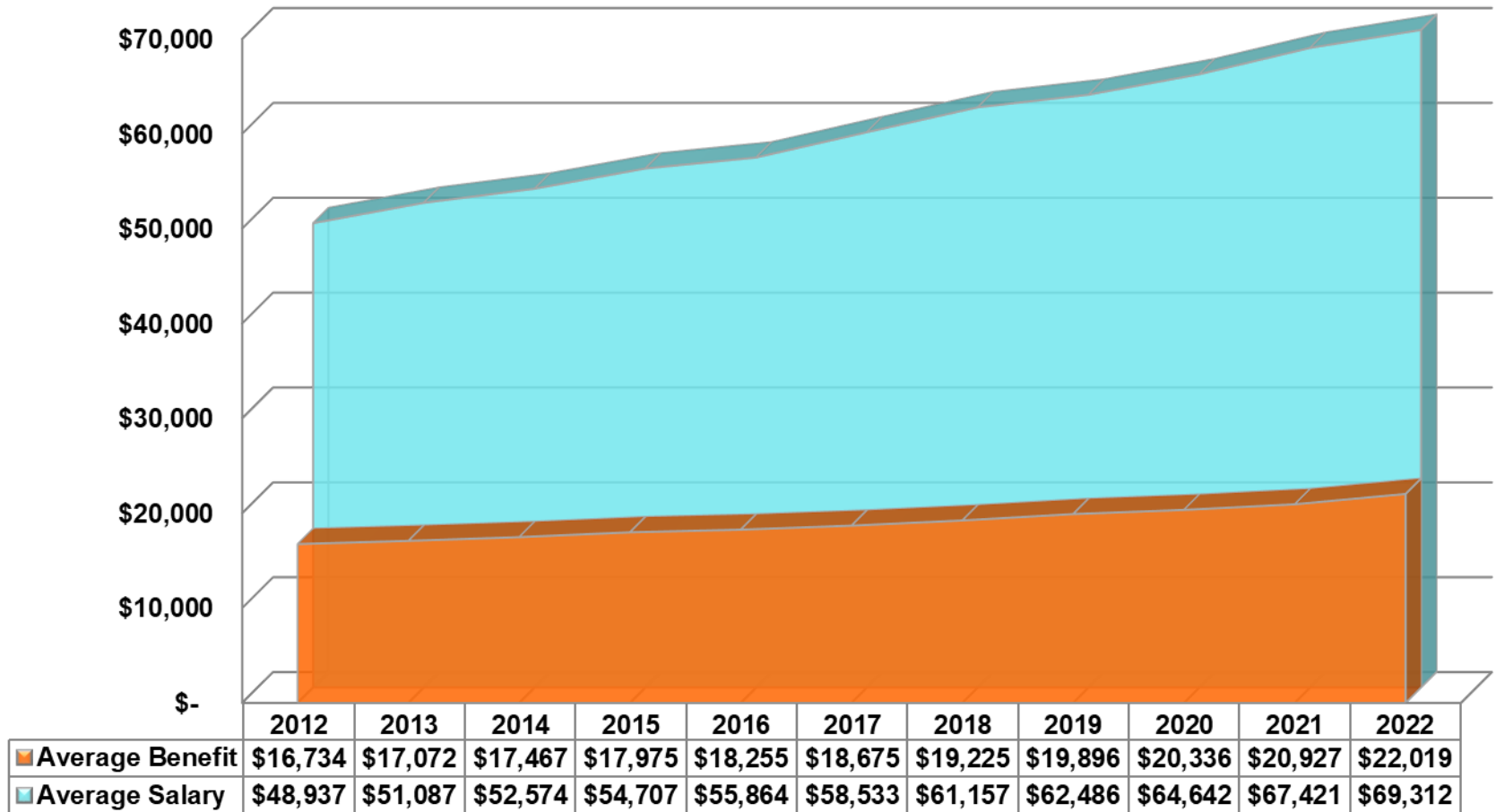
**Upcoming year

Since 2012, active payroll has increased, on average, 4.1% per year.

Average Age and Service of Active Members



Average Salary and Average Benefit (Annual Amounts)



Since 2012, average salary has increased, on average, 3.5% per year, and the average annual benefit has increased, on average, 2.8% per year.

Assets

- The market value of assets decreased from \$2.43 billion (as of 6/30/2021) to \$2.28 billion (as of 6/30/2022)
 - Segal estimated the investment return at -8.66% , net of investment expenses
- The actuarial value of assets, which smooths investment gains and losses over a period of five years, increased from \$2.22 billion (as of 6/30/2021) to \$2.41 billion (as of 6/30/2022)
 - Return of 5.56% , net of investment expenses
 - Compared to the assumption of 7.00%
 - Actuarial value is 105.7% of market
 - There is a total of \$129 million of deferred net investment losses that will be recognized in future years
- Average annual returns are:

	Actuarial Value	Market Value
5-year average	7.0%	6.2%
10-year average	7.0%	6.5%
20-year average	6.4%	6.5%

Market Value of Assets (\$ in millions)

For Fiscal Year Ending June 30

	2022	2021
Beginning of Year	\$2,425	\$1,959
Contributions:		
• Employer*	196	87
• Member	<u>45</u>	<u>42</u>
• Total	\$241	\$129
Benefits and Refunds	-174	-160
Investment Income (net)	<u>-215</u>	<u>497</u>
End of Year	\$2,277	\$2,425
Rate of Return	-8.66%	25.71%

* Net of administrative expenses, but including net other income

Note: numbers may not add due to rounding

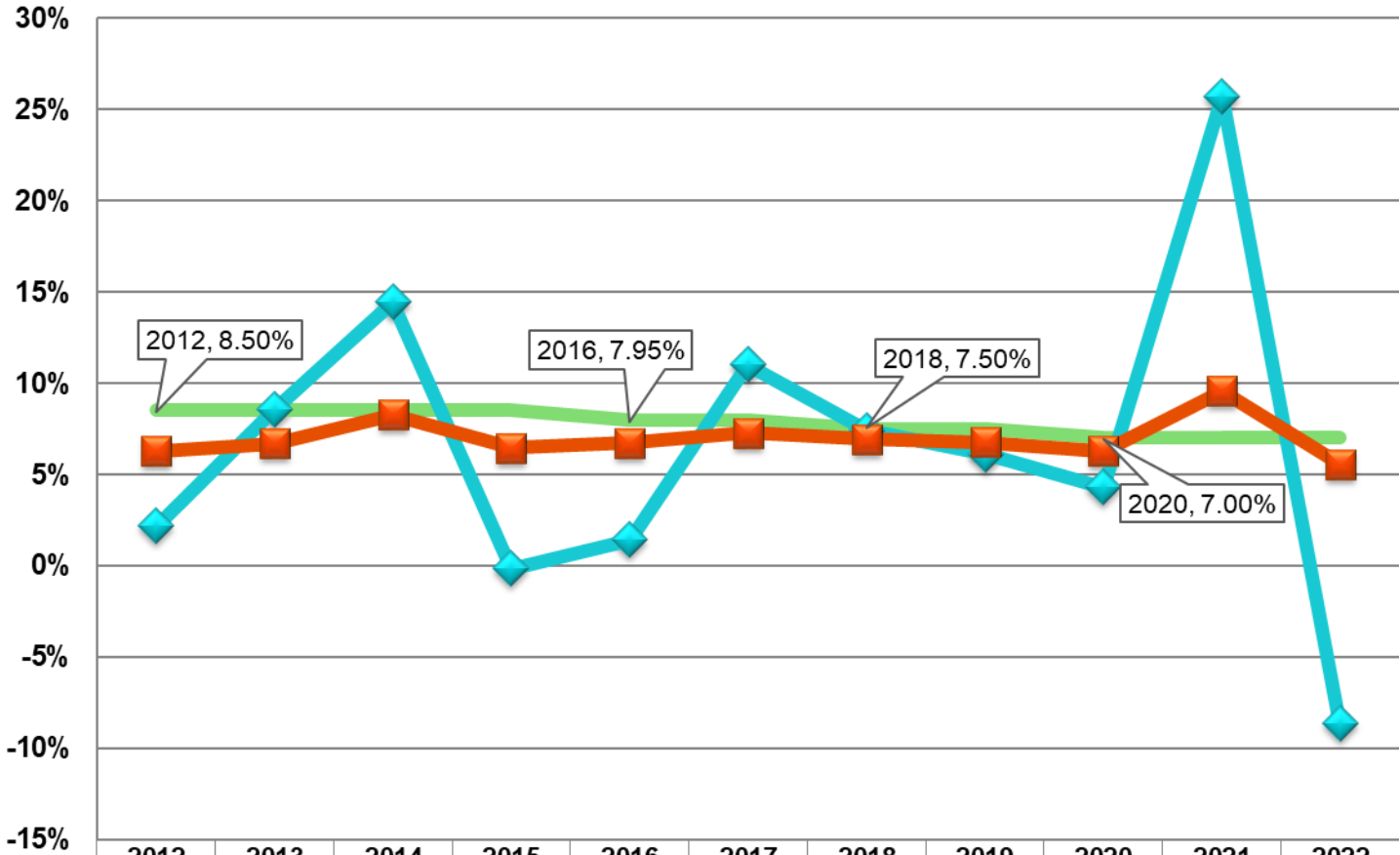
Actuarial Value of Assets (\$ in millions)

For Fiscal Year Ending June 30

	2022	
1. Prior Year Actuarial Value		\$2,216
2. Net New Money, Including Expected Investment Income		<u>222</u>
3. Preliminary Asset Value: 1 + 2		\$2,438
4. Smoothing Adjustment:		
a. Market Value of Assets	\$2,277	
b. Preliminary Asset Value	<u>2,438</u>	
c. Unrecognized Appreciation: a - b	-\$161	
d. Adjustment	20%	<u>-32</u>
5. Actuarial Value of Assets: 3 + 4d		\$2,406
6. Actuarial Value as a Percentage of Market Value: 5 ÷ 4a		105.7%

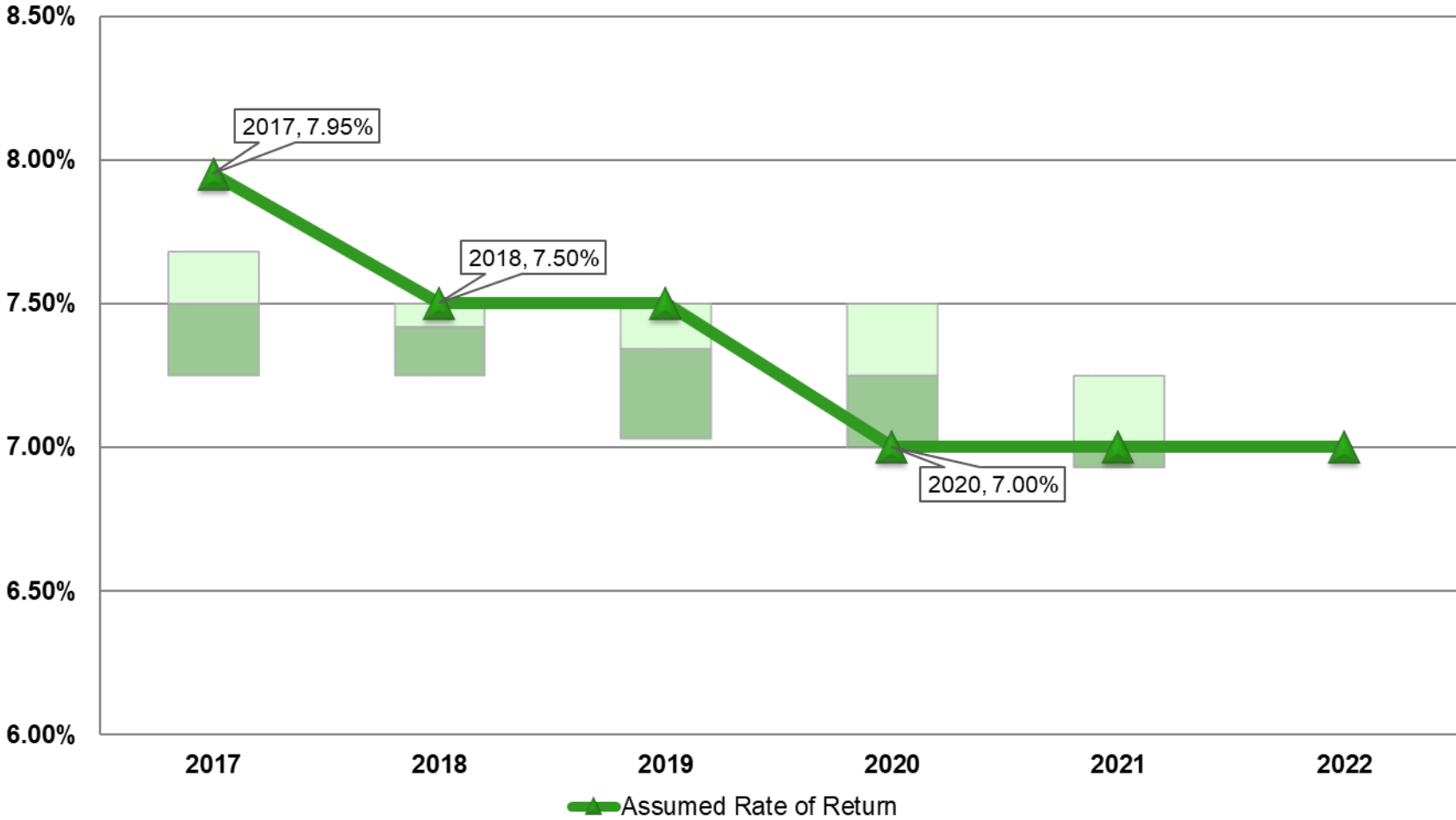
Note: numbers may not add due to rounding

Asset Returns



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Assumed Rate of Return	8.50%	8.50%	8.50%	8.50%	7.95%	7.95%	7.50%	7.50%	7.00%	7.00%	7.00%
Market Value of Assets	2.2%	8.6%	14.4%	-0.2%	1.4%	11.0%	7.4%	6.1%	4.3%	25.7%	-8.7%
Actuarial Value of Assets	6.3%	6.7%	8.3%	6.5%	6.7%	7.3%	6.9%	6.8%	6.3%	9.6%	5.6%

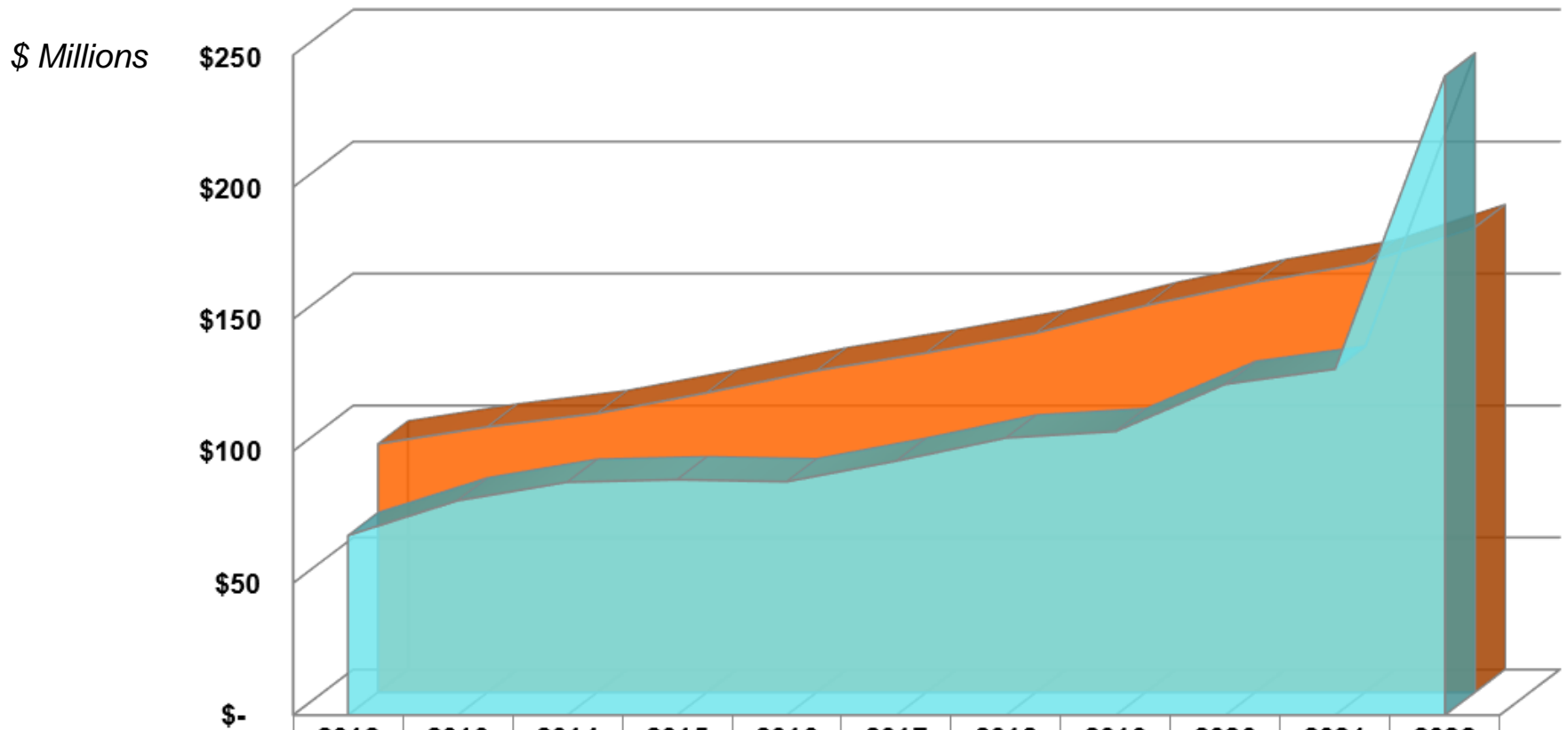
Investment Return Assumption, Comparison With Other Public Systems



For context, historical data is compared to 55 systems in the Public Plans Data* that primarily cover state employees. The top marker represents the 2nd quartile (50th to 75th percentile) and the lower marker represents the 3rd quartile (25th to 50th percentile), where the middle line indicates the median.

* Public Plans Data. 2001-2021. Center for Retirement Research at Boston College, Mission Square Research Institute, and National Association of State Retirement Administrators.

Contributions vs. Benefits and Refunds

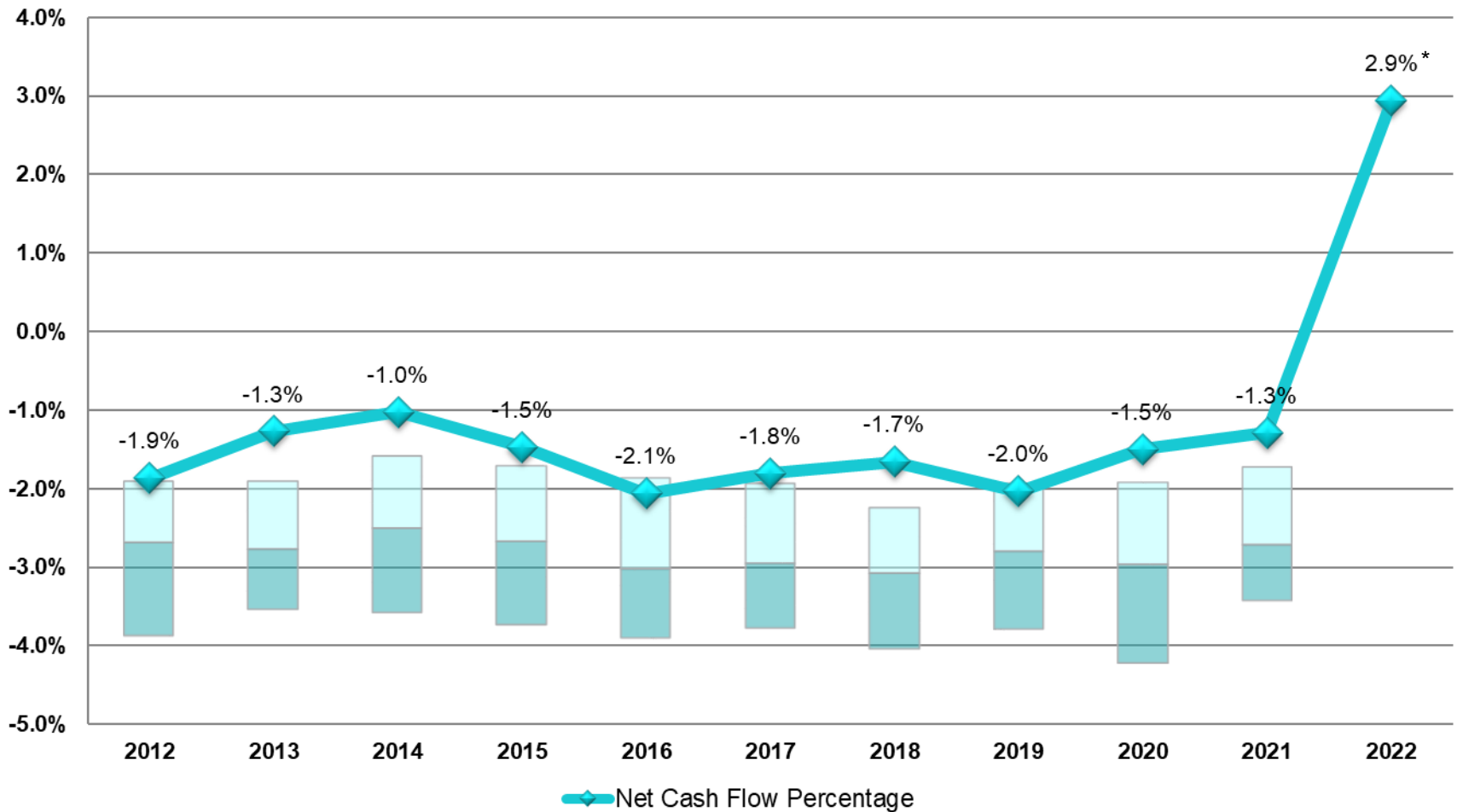


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
■ Contributions*	\$68.0	\$81.2	\$88.2	\$89.2	\$88.4	\$96.2	\$105.0	\$107.4	\$125.3	\$131.1	\$242.2
■ Benefits & Refunds**	\$94.1	\$100.6	\$105.7	\$113.5	\$121.9	\$128.6	\$136.1	\$146.5	\$155.3	\$162.6	\$176.1

* Includes member and employer contributions along with additional State contributions from Act 114 in 2022 and beyond.

** Includes administrative expenses, and depreciation and health/life insurance expenses (2014 and prior).

Net Cash Flow as a % of Market Value, Comparison With Other Public Systems



*2022 net cash flow includes additional State contributions from Act 114.



For context, historical data is compared to 55 systems in the Public Plans Data* that primarily cover state employees. The top marker represents the 2nd quartile (50th to 75th percentile) and the lower marker represents the 3rd quartile (25th to 50th percentile), where the middle line indicates the median.

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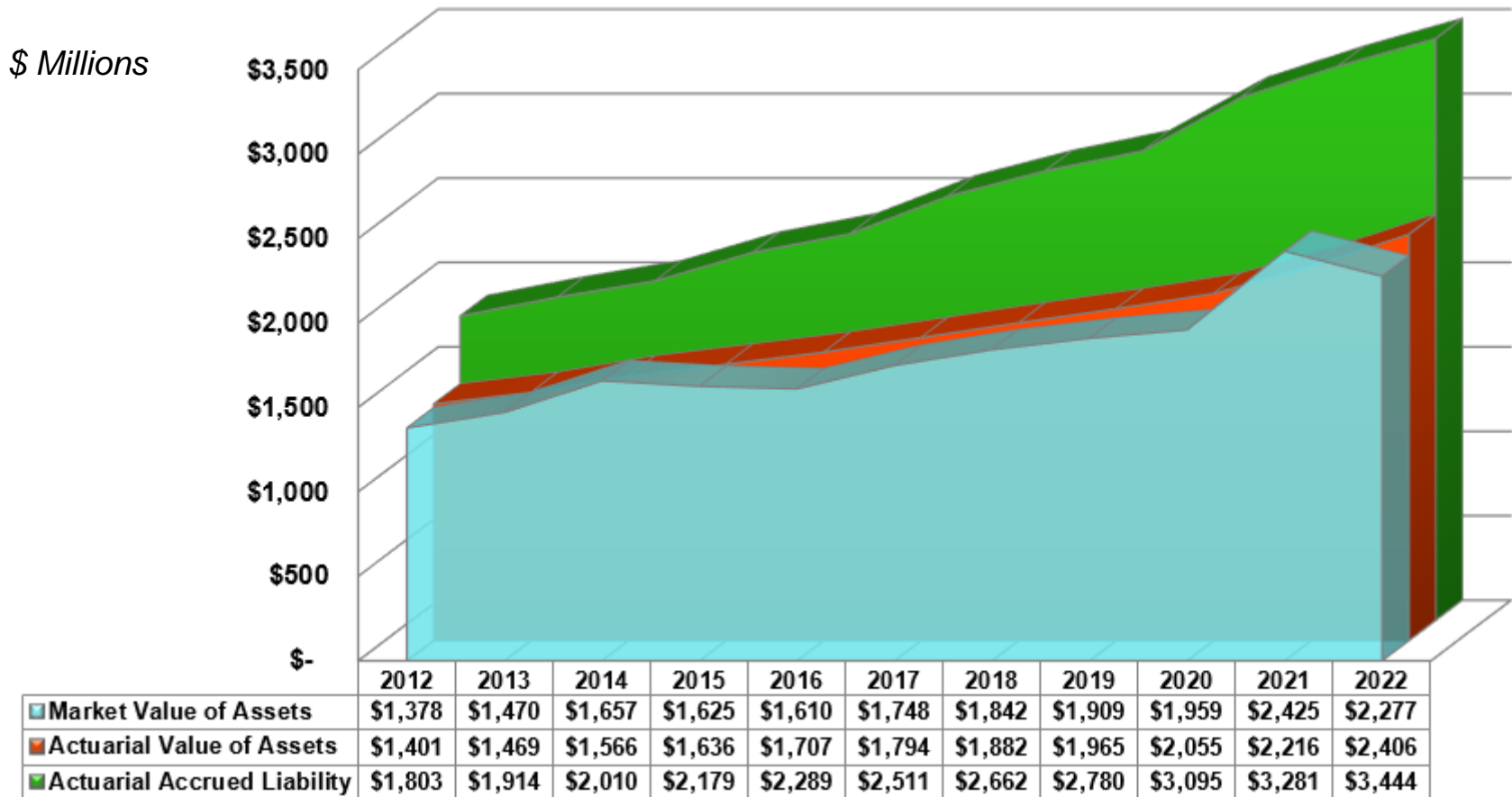
Valuation Results (\$ in millions)

Valuation Results as of June 30

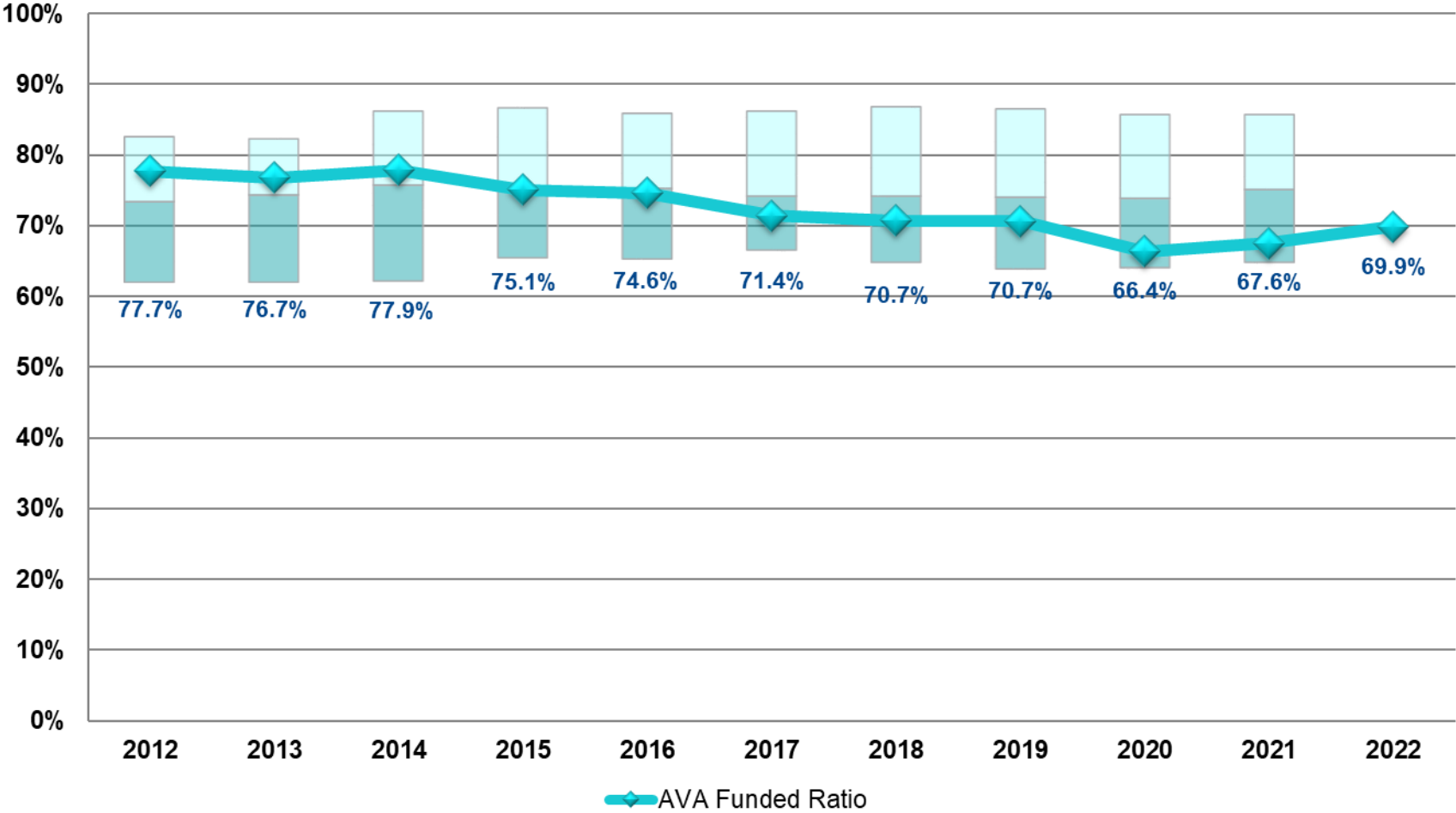
	2022	2021
Actuarial Accrued Liability:		
• Active Members	\$1,136	\$1,157
• Inactive Members	98	89
• Retirees and Beneficiaries	<u>2,210</u>	<u>2,034</u>
Total	\$3,444	\$3,281
Actuarial Value of Assets	<u>2,406</u>	<u>2,216</u>
Unfunded Accrued Liability	\$1,038	\$1,064
Funded Ratio	69.9%	67.6%
Market Value of Assets	\$2,277	\$2,425
Unfunded Liability, Market Basis	1,167	856
Funded Ratio, Market Basis	66.1%	73.9%

Note: numbers may not add due to rounding

Market and Actuarial Values of Assets Compared to Actuarial Accrued Liability



Funded Ratio, AVA Basis, Comparison With Other Public Systems



For context, historical data is compared to 55 systems in the Public Plans Data* that primarily cover state employees. The top marker represents the 2nd quartile (50th to 75th percentile) and the lower marker represents the 3rd quartile (25th to 50th percentile), where the middle line indicates the median.

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Preliminary Contribution Requirement

	For the Year Beginning	
	July 1, 2022	July 1, 2021
Normal Cost Rate*	12.66%	12.94%
Member Rate	<u>-7.23%</u>	<u>-6.78%</u>
Employer Normal Cost Rate	5.43%	6.16%
Amortization of UAAL	<u>14.56%</u>	<u>14.92%</u>
Preliminary Contribution Requirement	19.99%	21.08%

* Includes 0.40% for administrative expenses

Reconciliation of Preliminary Contribution Requirement from July 1, 2021, to July 1, 2022	
Expected change in amortization (payroll growth)	0.45%
Contribution (more)/less than ADC**	-1.24%
Effect of investment (gain)/loss	0.47%
Effect of other (gain)/loss on accrued liability	1.28%
Effect of change in plan provisions	-1.65%
Net effect of other changes, including payroll	<u>-0.40%</u>
Total change	-1.09%

** The contribution actually paid during fiscal 2022 was based on the June 30, 2020, actuarial valuation, and was not adjusted for timing lag used for budgeting purposes.

Amortization Schedule and Projected Employer Contribution Amounts

As of July 1	Balance	Additional Contribution ¹	Amortization Payment	Funded Percentage
2022	\$1,038,338,081	\$0	\$84,755,382	69.9%
2023	1,023,350,098	9,000,000	90,903,961	71.2%
2024	991,643,143	12,000,000	92,760,235	72.9%
2025	952,693,334	15,000,000	94,314,197	74.8%
2026	906,306,382	15,000,000	95,508,501	76.8%
2027	855,436,946	15,000,000	96,621,217	78.7%
2028	799,855,647	15,000,000	97,626,040	80.7%
2029	739,344,261	15,000,000	98,487,922	82.7%
2030	673,705,540	15,000,000	99,158,831	84.7%
2031	602,778,114	15,000,000	99,570,549	86.7%
2032	526,459,884	15,000,000	99,621,563	88.7%
2033	444,746,609	0	99,151,072	90.8%
2034	373,316,206	0	102,125,604	92.5%
2035	293,808,794	0	105,189,372	94.3%
2036	205,566,677	0	108,345,053	96.1%
2037	107,883,350	0	111,595,405	98.0%
2038	0	0	0	100.0%

	Year Ending June 30, 2024	Year Ending June 30, 2025
Projected Payroll	\$625,255,984	\$647,139,944
Employer Normal Cost Rate ²	4.95%	4.46%
Projected Contributions		
Employer Normal Cost	\$30,969,409	\$28,882,353
Unfunded Liability Payment	90,903,961	92,760,235
Total	\$121,873,370	\$121,642,588

¹ Under Act 114, beginning in FY24, the State is contributing an additional payment that grows to \$15 million in FY26 and remains at that level until the funded percentage reaches 90%.

² Reflects an estimated 0.48% and 0.49% increase in member contribution rate effective FY24 and FY25, respectively, under Act 114.

Five-Year History of Gain/(Loss)

Experience for the Year Ended June 30

<i>\$ Thousands</i>	2022	2021	2020	2019	2018
Investments	-\$32,288	\$52,181	-\$23,940	-\$13,758	-\$10,076
Admin expenses	\$44	N/A	N/A	N/A	N/A
Demographics					
• Turnover	\$13,686	\$3,447	-\$2,813	-\$1,589	-\$7,932
• Retirement	-22,922	-19,016	-8,892	-13,425	-17,049
• Mortality	10,207	-4,440	3,692	-1,885	-4,855
• Disability retirement	-1,599	-158	-434	292	-491
• Salary/service	-30,740	-4,449	-3,698	344	-7,121
• COLA experience	-46,707	-35,589	23,970	11,994	-727
• Miscellaneous	<u>-9,645</u>	<u>-3,195</u>	<u>-2,407</u>	<u>-14,995</u>	<u>-16,190</u>
• Subtotal	-\$87,721	-\$63,401	\$9,417	-\$19,263	-\$54,364
Total	-\$119,965	-\$11,220	-\$14,523	-\$33,021	-\$64,440

Note: numbers may not add due to rounding

Caveats

This presentation is based on the results of the June 30, 2022, actuarial valuation performed for the Board of Trustees of the Vermont State Employees' Retirement System. The actuarial valuation report has information on the plan provisions, data, methods and assumptions used in the valuation. Use of the information in this presentation is subject to the caveats described in that document. The measurements in this presentation may not be appropriate for purposes other than those described in the actuarial valuation report.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on our proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models and reviews test lives and results, under the supervision of the responsible actuary.