November 15, 2022

Actuarial Summary Report

Oklahoma State Pension Commission

Fiscal Year ending June 30, 2022

RVK

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Executive Summary

Executive Summary

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Overview	RVK reviewed the Fiscal Year 2022 actuarial reports for each underlying plan within the Oklahoma State Pension Commission. This presentation summarizes several key plan metrics from FY 2022 as well as historical trends over the prior 20 years. The metrics include in the report are: funded status levels, asset balance changes, liabilities, and contributions. RVK also incorporated data obtained from RVK's semi-annual Public Fund Survey as well as Public Plans Data, which is an organization that collects data on more than 5,000 US public pension plans. The information presented in this report is based on Actuarial Valuation reports for the Fiscal Year ending on June 30, 2022. The actuaries for each Plan provided all plan-specific data used in this presentation. RVK is not an actuarial firm and does not provide the actuarial services that generated the plan-specific data. This being the case, the information contained herein does not constitute a statement of actuarial opinion and may not be used in place of valuation results and recommendations provided by the plan actuary.
Funded Status Highlights	1. **Change in Funded Status** – For the fiscal year ending June 30, 2022, The funded status of the plans increased by 1.8% based on the actuarial value of assets. Based on the market value of assets, however, the funded status of the plans decreased by 13.9%: • **Actuarial Value of Assets Increase** – An increase of approximately $1.8 billion (~4.7%) in the actuarial value of assets was the primary driver of improved funded status of the plans. This is a result of smoothing of gains from previous fiscal years to reduce the volatility of unfunded liabilities. • **Market Value of Assets Decrease** – Market results in the second half of FY 2022 were challenged, with both equity and fixed income assets experiencing double digit losses. The market value of assets fell by approximately $5.6 billion (~13.0%). • **Liability Increase** – Liabilities increased by approximately $1.1 billion (~2.4%) over the last year partially offset the increase in the actuarial value of assets. 2. **Positive Impact of Excess Contributions** – In FY 2022, pension plan contributions exceeded the actuarially required contributions, offsetting a portion of market value losses.

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Executive Summary (continued)
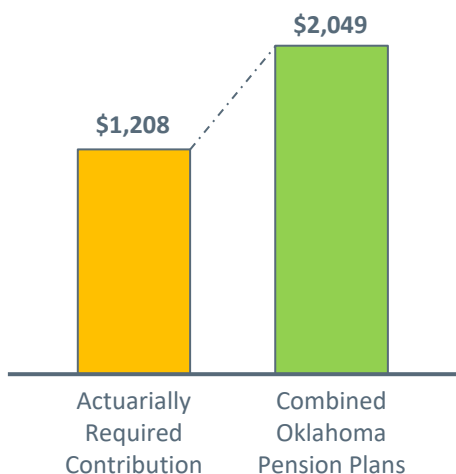
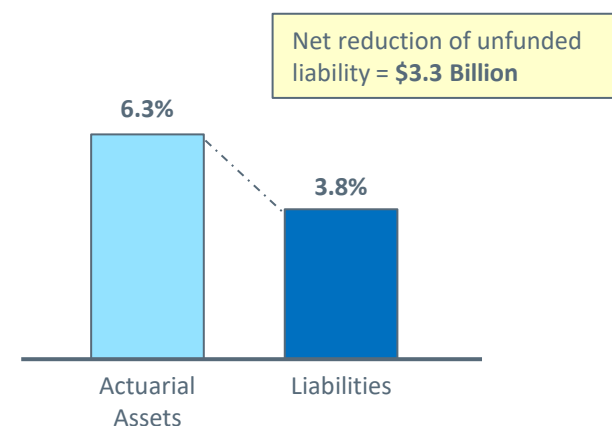| Contribution Highlights	1. **Annual Contribution Increase** – Total contributions for the fiscal year were approximately $2.05 Billion, which was a 15.1% increase relative to the prior fiscal year. Contributions from the State ($902 M) and employers ($543 M) were the primary drivers of contribution increase. 2. **Actual Contributions Exceeded Required Contributions** – For the past Fiscal Year, the actual contribution exceeded the actuarially required contribution. Since 2012, total plan contributions have been higher than the actuarial requirement.

Key Metrics for Oklahoma Pension Plans

Funded Status (AV) vs. RVK Survey Median

- 86.0% — RVK Public Plan Average*
- 82.8% — Combined Oklahoma Pension Plans
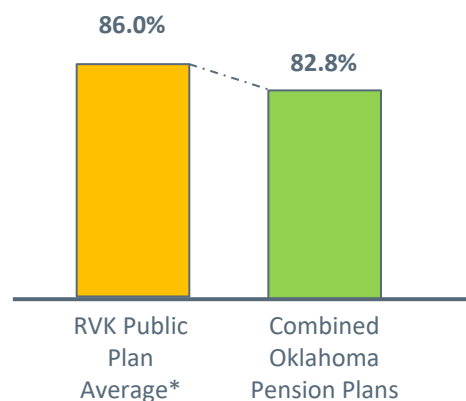
Total Contributions FY 2022 ($ Millions)

- $1,208 — Actuarially Required Contribution
- $2,049 — Combined Oklahoma Pension Plans

10-Year Asset vs. Liability Growth Rate (FY 2012 – 2022)

- 6.3% — Actuarial Assets
- 3.8% — Liabilities

Net reduction of unfunded liability = **$3.3 Billion**

Source: RVK Public Pension Plan Survey

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OKSPC Funded Status

Aggregate Funded Status (Actuarial Values)

Funded Status (Actuarial AV) line values by year:
61.0%, 60.9%, 60.0%, 62.1%, 60.7%, 57.0%, 55.9%, 66.7%, 64.9%, 66.5%, 72.5%, 73.2%, 76.0%, 75.4%, 78.6%, 81.2%, 82.2%, 76.7%, 81.0%, 82.8%

Public Fund Average line values by year:
87%, 85.4%, 85.3%, 86.3%, 84.4%, 78.4%, 75.7%, 74.3%, 72.3%, 71.9%, 73.2%, 73.2%, 71.6%, 72.1%, 72.4%, 72.5%, 72.7%, 75.0%

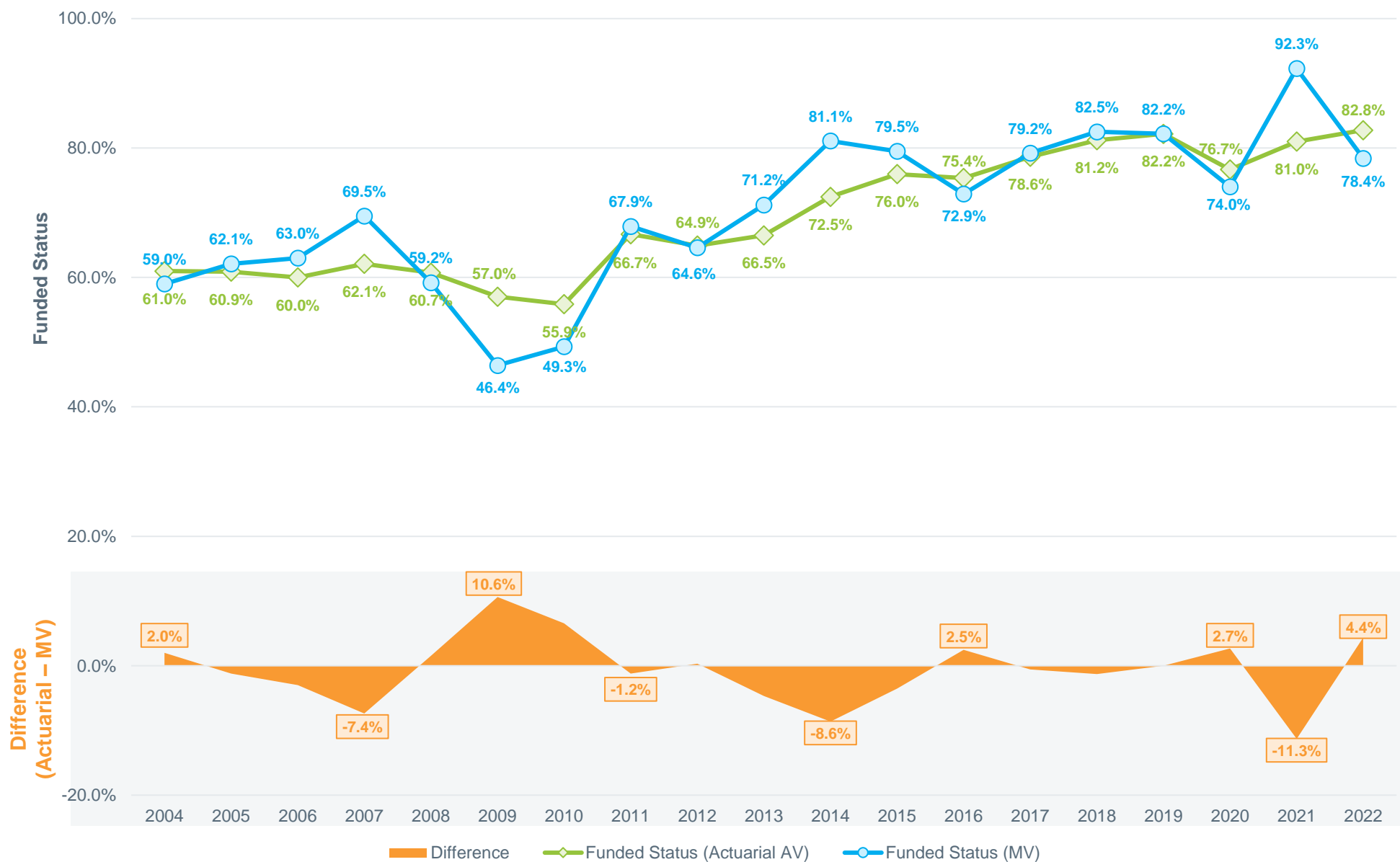Legend: Assets (Actuarial) | Liability | Funded Status (Actuarial AV) | Public Fund Average*
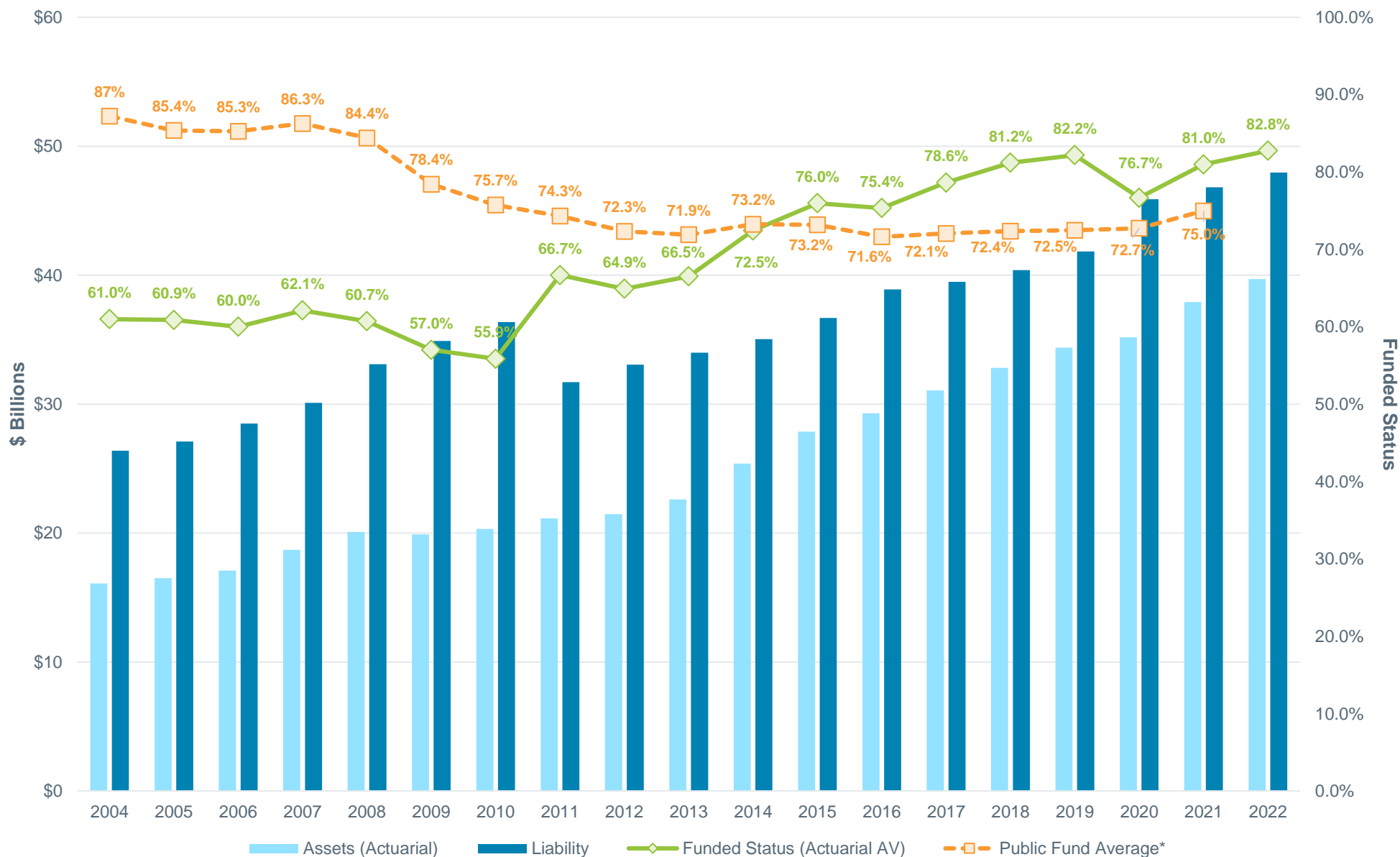
Data as of June 30, 2022.
*Source: Public Plans Data (2022). 2022 Public Fund data is currently unavailable.

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OKSPC Funded Status

Aggregate Funded Status (Actuarial Assets vs Market Values)
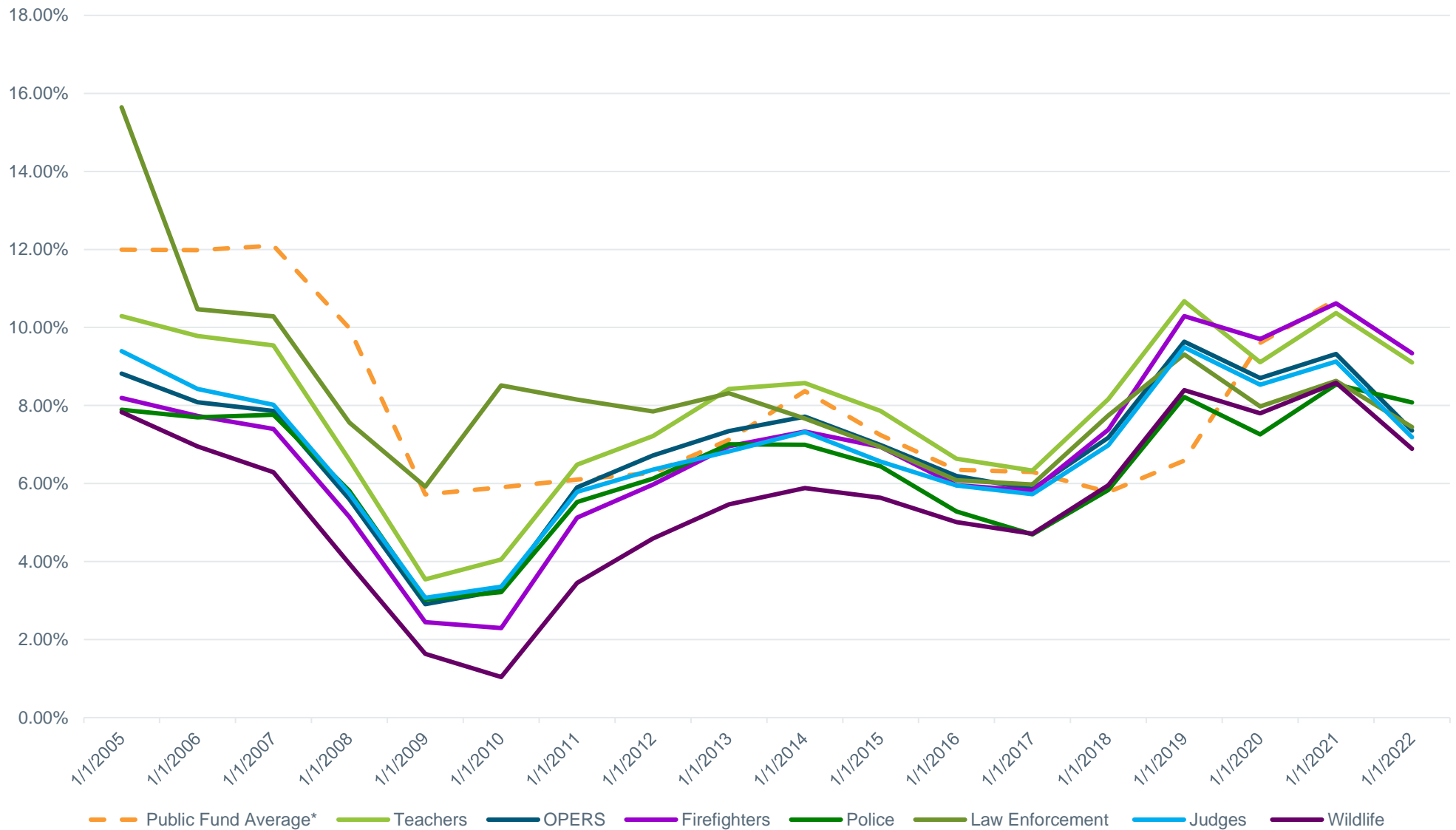
OKSPC Funded Status

Individual Plan Funded Status Summary

Plan	Actuarial Value of Assets ($M)	Actuarial Accrued Liability ($M)	Market Value of Assets ($M)	Funded Status (per Actuarial Assets)	Funded Status (per MV Assets)	Change YoY (Actuarial)	Change YoY (MV)
Teachers	$20,469	$27,835	$19,669	73.54%	70.66%	2.04%	-10.91
OPERS	$11,312	$11,140	$10,393	101.54%	93.29%	2.04%	-20.11
Firefighters	$3,130	$4,286	$2,978	73.03%	69.49%	1.33%	-14.75
Police	$3,087	$2,929	$3,009	105.41%	102.74%	0.79%	-14.33
Law Enforcement	$1,174	$1,283	$1,077	91.54%	83.97%	0.98%	-14.11
Judges	$390	$352	$358	110.86%	101.65%	-0.40%	-25.14
Wildlife	$130	$141	$119	92.15%	84.92%	-0.74%	-17.91

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OKSPC Rates of Return

Individual Plan Rates of Return

Rolling 10-Year Return

Legend: Public Fund Average*, Teachers, OPERS, Firefighters, Police, Law Enforcement, Judges, Wildlife
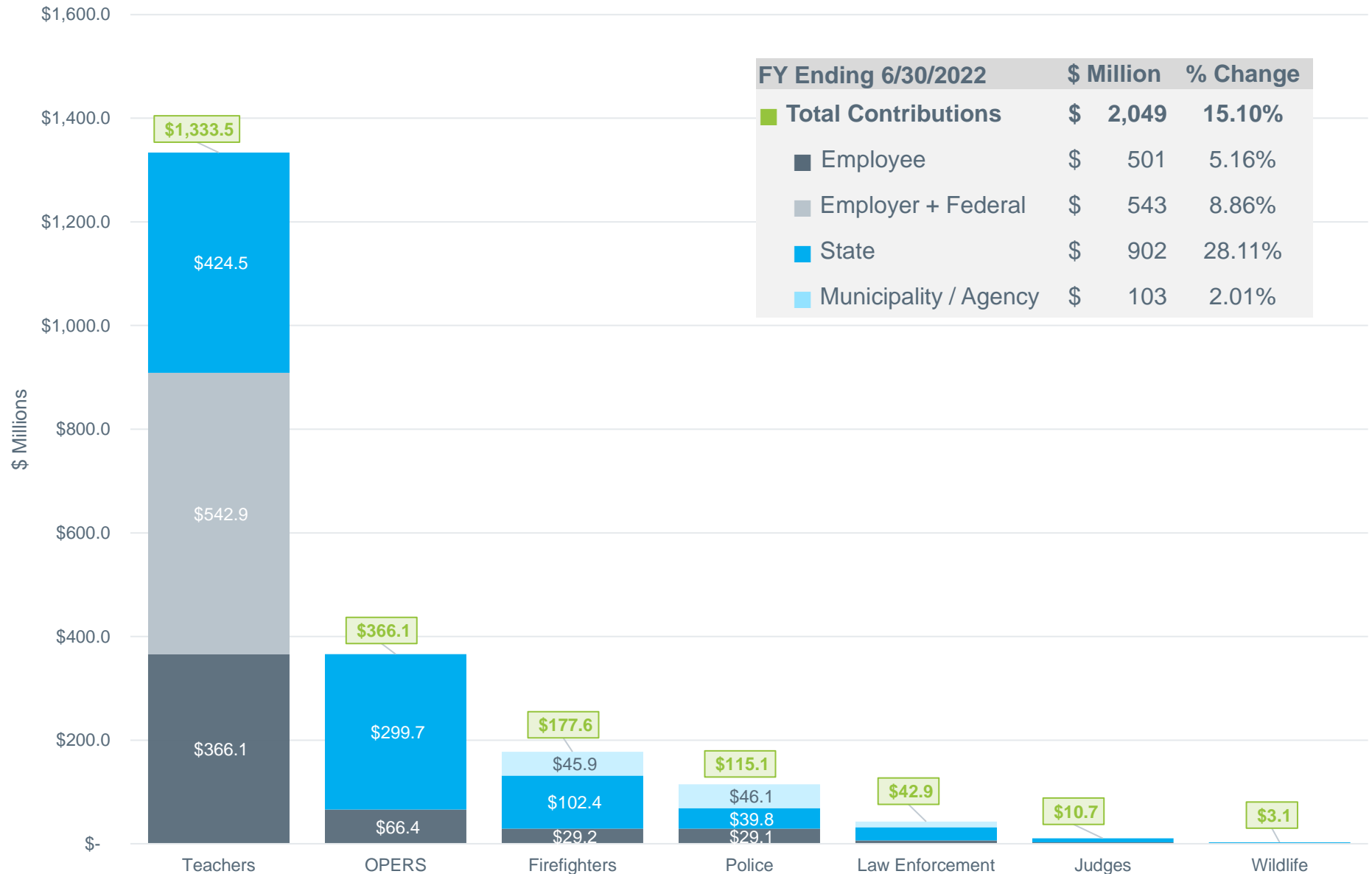
Data as of June 30, 2022.
*Source: Public Plans Data (2022). 2022 data is currently unavailable.

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OKSPC Contributions

Individual Plan 2022 Contributions

FY Ending 6/30/2022	$ Million	% Change
■ **Total Contributions**	**$ 2,049**	**15.10%**
■ Employee	$ 501	5.16%
■ Employer + Federal	$ 543	8.86%
■ State	$ 902	28.11%
■ Municipality / Agency	$ 103	2.01%

Teachers "Employer + Federal" contribution includes grant matching funds.

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OKSPC Historical Contributions

Historical State and Employer Contributions

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Required	$1.51	$1.63	$1.09	$1.17	$1.17	$1.00	$1.11	$1.10	$1.10	$1.11	$1.15	$1.29	$1.21
Actual	$1.05	$1.07	$1.14	$1.18	$1.21	$1.27	$1.27	$1.21	$1.27	$1.35	$1.36	$1.27	$1.52
% Actual vs Required	69.6%	65.5%	104.3%	101.1%	103.3%	126.8%	114.2%	109.8%	116.0%	121.1%	118.3%	98.19%	125.47%

Historical Contributions

Required   ◆ Actual

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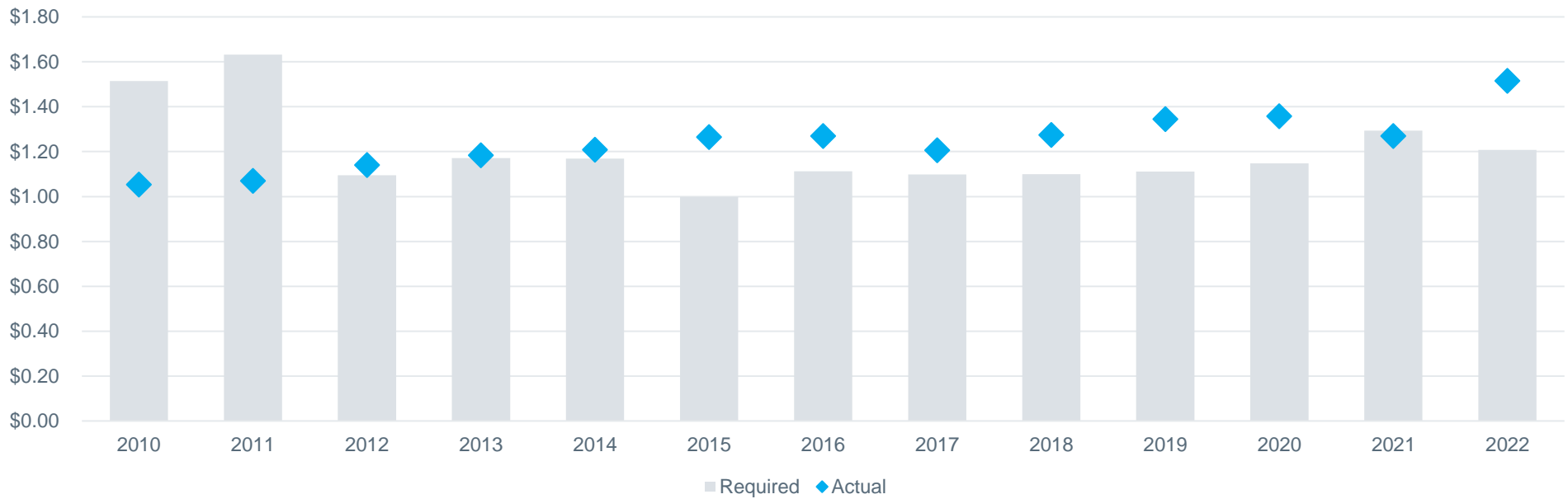
OKSPC Actuarially Determined Contribution Rates

	Teachers	OPERS	Firefighters	Police	Law Enforcement	Judges	Wildlife
Total Normal Cost	10.4%	10.8%	22.0%	20.5%	25.2%	26.2%	13.4%
Expenses	0.1%	0.6%	1.2%	0.7%	1.8%	0.7%	0.0%
Amortization of UAAL	13.8%	-0.4%	32.0%	-3.6%	22.8%	-21.3%	12.9%
Total ADC	**24.3%**	**11.0%**	**55.2%**	**17.6%**	**49.8%**	**5.6%**	**26.3%**
Employee Contribution	7.0%	4.3%	9.0%	8.0%	8.0%	8.0%	5.0%
Total Employer ADC	**17.3%**	**6.7%**	**46.2%**	**9.6%**	**41.8%**	**-2.4%**	**21.3%**
Employer Contribution	9.3%	16.5%	14.0%	13.0%	11.2%	22.0%	21.3%
Total State ADC	**8.0%**	**16.5%**	**32.2%**	**0.0%**	**30.6%**	**22.0%**	**21.3%**

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GASB 67 : Funding Position and Contributions

Funding Position:

	Net Position ($M)	Total Pension Liability ($M)	Unfunded Accrued Liability ($M)	Funded Status	Discount Rate
Teachers	$19,202	$27,411	$8,209	70.05%	7.00%
OPERS	$9,987	$10,828	$841	92.24%	6.50%
Firefighters	$2,978	$4,286	$1,308	69.49%	7.50%
Police	$3,009	$2,929	($80)	102.74%	7.50%
Law Enforcement	$1,075	$1,271	$197	84.53%	7.50%
Judges	$354	$349	($5)	101.44%	6.50%
Wildlife	$119	$141	$21	84.92%	7.00%
Total	**$36,724**	**$47,214**	**$10,490**	**77.78%**	

Contributions:

	ADEC	Actual Contributions	Contribution Deficiency/Excess	Covered Payroll	ADEC % Payroll	Actual % Payroll
Teachers	$868	$967	$100	$5,015	17.30%	19.29%
OPERS	$117	$283	$166	$1,557	7.50%	18.19%
Firefighters	$150	$134	($16)	$327	45.98%	40.99%
Police	$36	$86	$50	$355	10.08%	24.23%
Law Enforcement	$36	$35	($1)	$87	41.07%	40.18%
Judges	($0)	$8	$8	$36	-1.16%	21.05%
Wildlife	$2	$3	$0	$11	19.91%	22.72%

ADEC stands for Actuarially Determined Employer Contribution.

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Individual Plan Highlights

Teachers

	2022	2021	Change
Assets (AV)	$20,469 M	$19,330 M	+ $1,139 M
Liability	$27,835 M	$27,034 M	+ $802 M
Funded Status (AV)	73.5%	71.5%	+ 2.0%
Assets (MV)	$19,669 M	$22,052 M	- $2,383 M
Funded Status (MV)	70.7%	81.6%	- 10.9%

Historical Funded Status

Assets (AV), Liability, Funded Status (AV)

Rate of Return (Annual)

Assumed, Actuarial, Actual

Historical Contributions

Required, Actual

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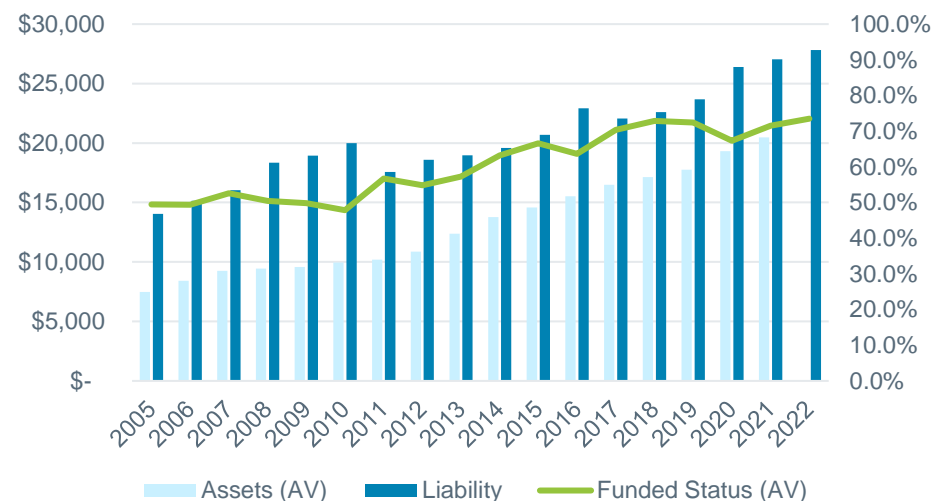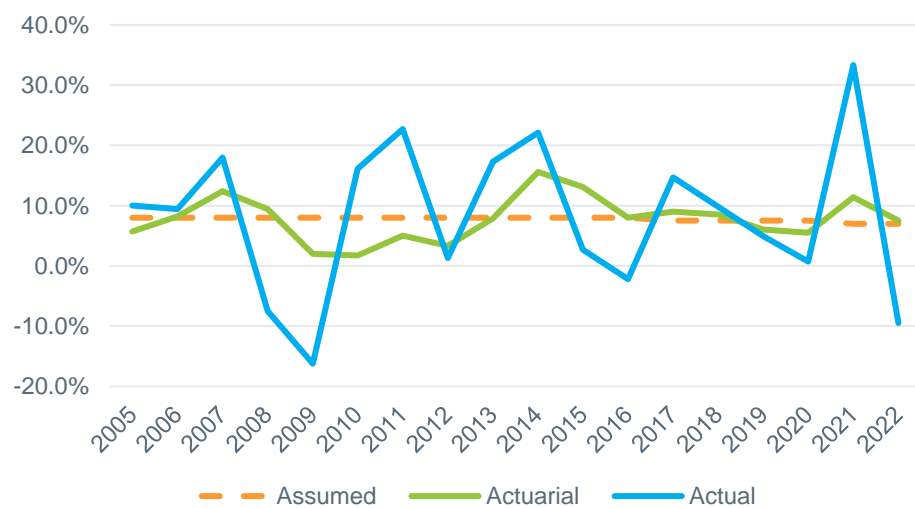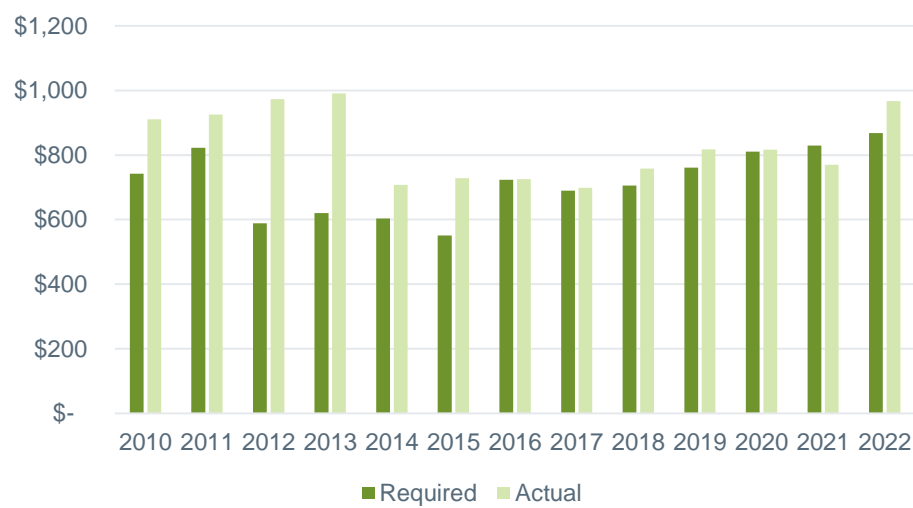
OPERS

	2022	2021	Change
Assets (AV)	$11,312 M	$10,991 M	+ $321 M
Liability	$11,140 M	$11,046 M	+ $94 M
Funded Status (AV)	101.5%	99.5%	+ 2.0%
Assets (MV)	$10,393 M	$12,526 M	- $2,133 M
Funded Status (MV)	93.3%	113.4%	- 20.1%

Historical Funded Status

Rate of Return (Annual)

Historical Contributions

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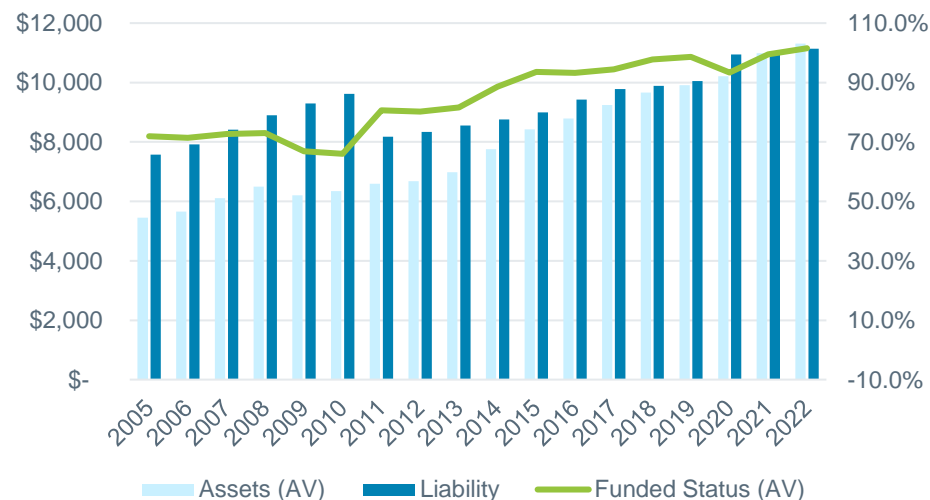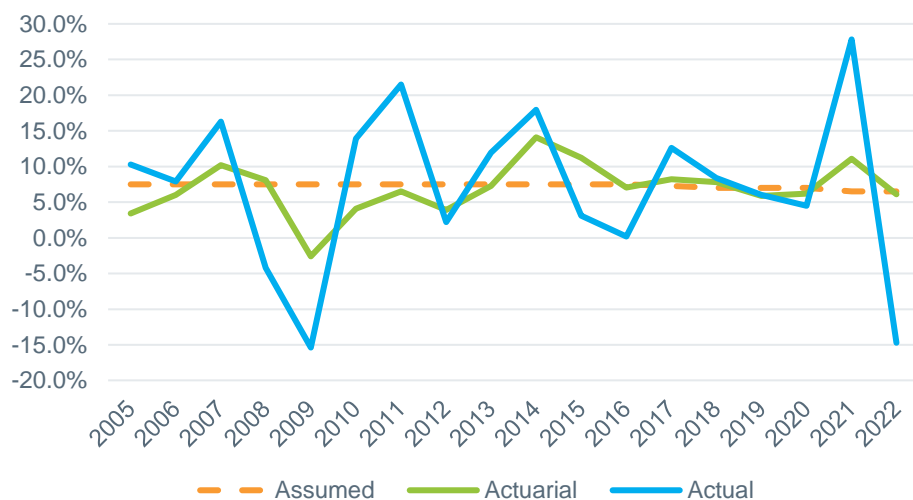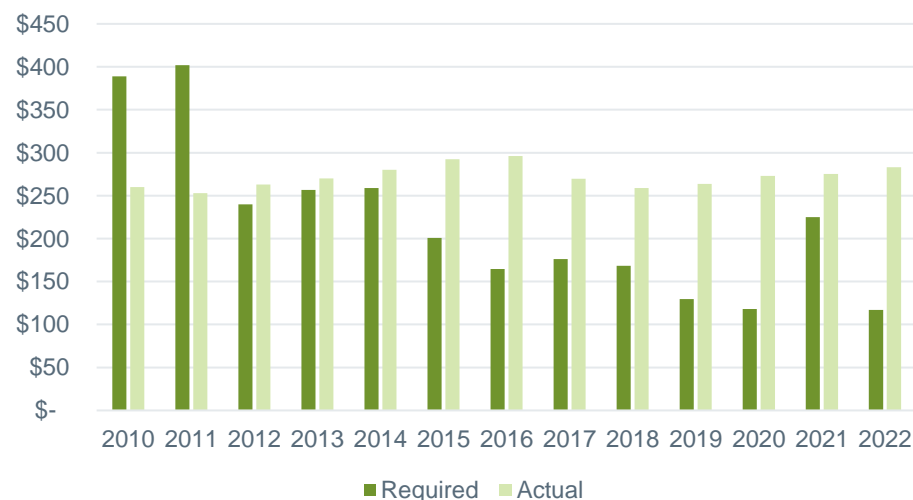
Firefighters

	2022	2021	Change
Assets (AV)	$3,130 M	$2,997 M	+ $133 M
Liability	$4,286 M	$4,179 M	+ $106 M
Funded Status (AV)	73.0%	71.7%	+ 1.3%
Assets (MV)	$2,978 M	$3,521 M	- $543 M
Funded Status (MV)	69.5%	84.2%	- 14.8%

Historical Funded Status
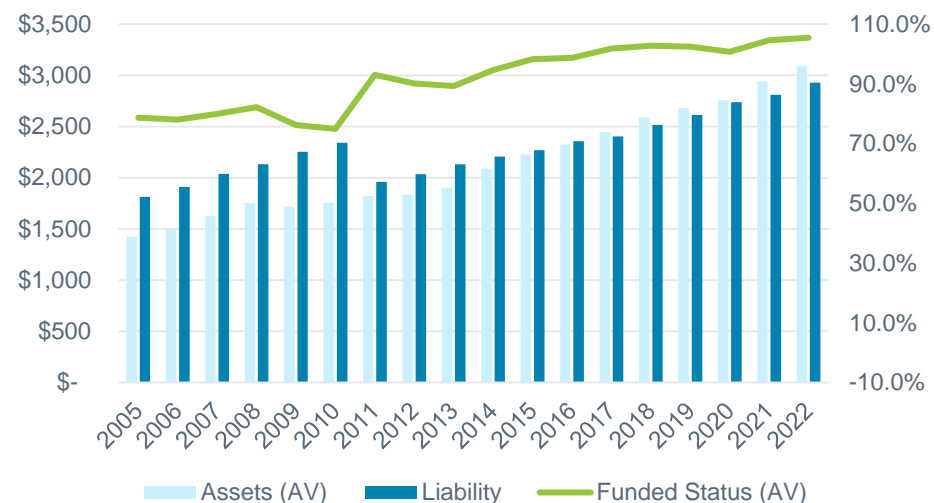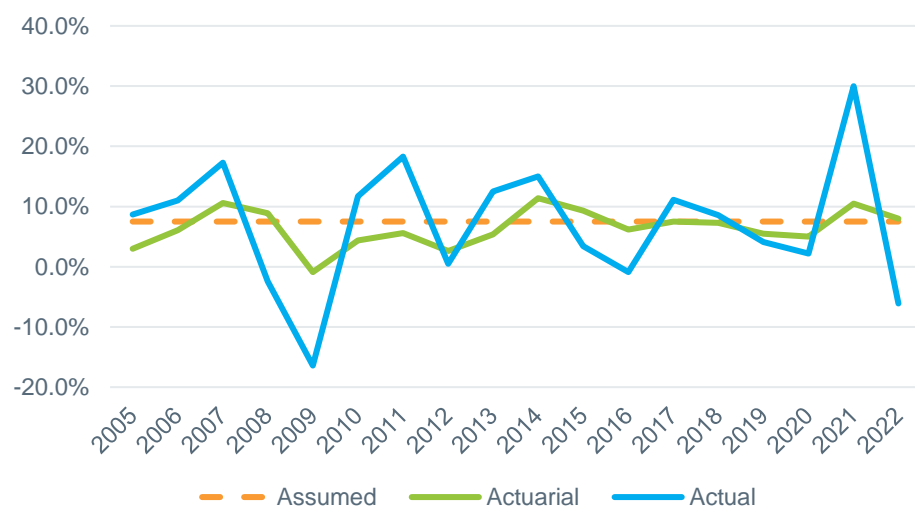

Rate of Return (Annual)

Historical Contributions

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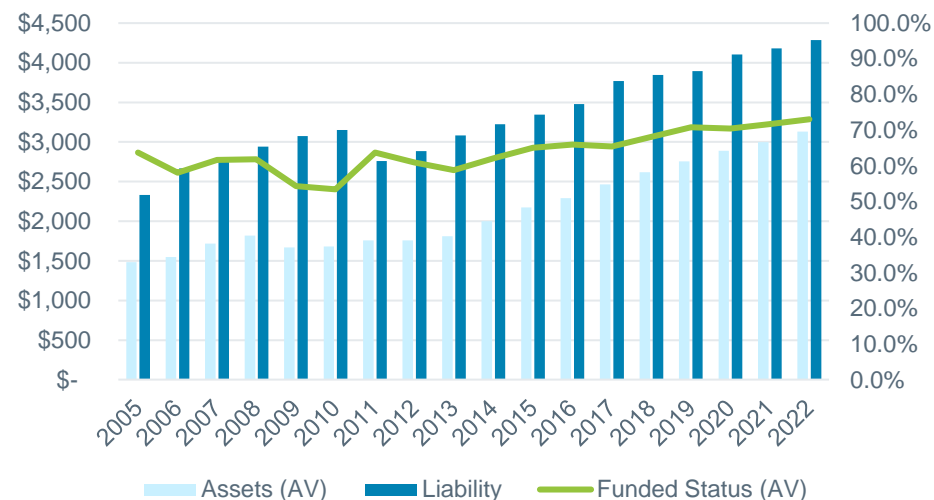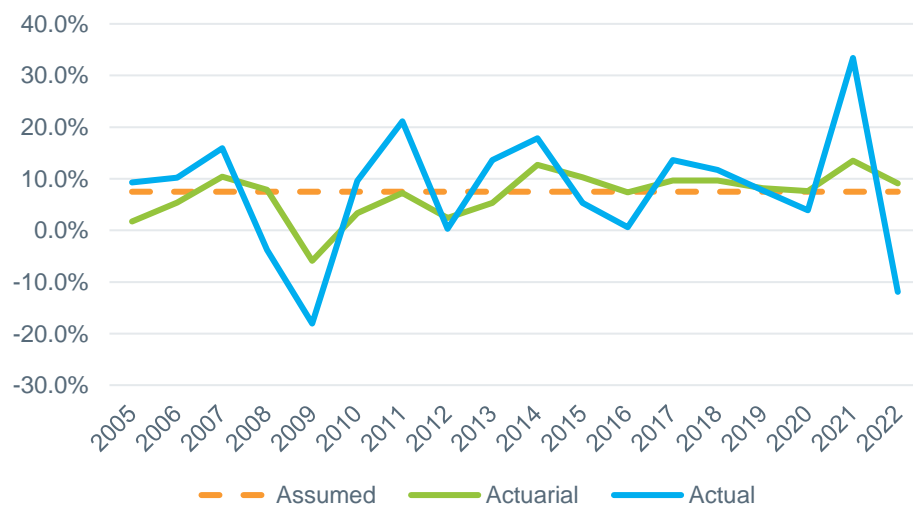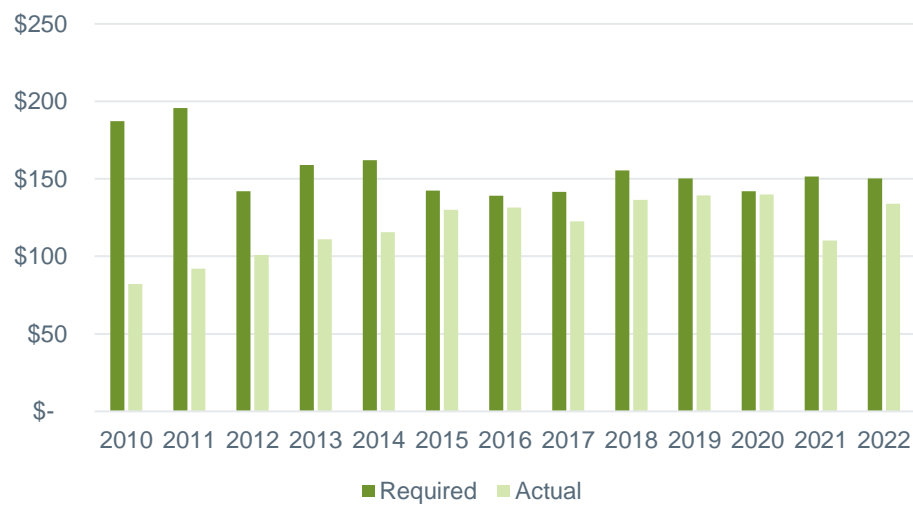
Police

	2022	2021	Change
Assets (AV)	$3,087 M	$2,940 M	+ $147 M
Liability	$2,929 M	$2,810 M	+ $119 M
Funded Status (AV)	105.4%	104.6%	+ .8%
Assets (MV)	$3,009 M	$3,290 M	- $281 M
Funded Status (MV)	102.7%	117.1%	- 14.3%

Historical Funded Status

Legend: Assets (AV), Liability, Funded Status (AV)

Rate of Return (Annual)

Legend: Assumed, Actuarial, Actual

Historical Contributions

Legend: Required, Actual

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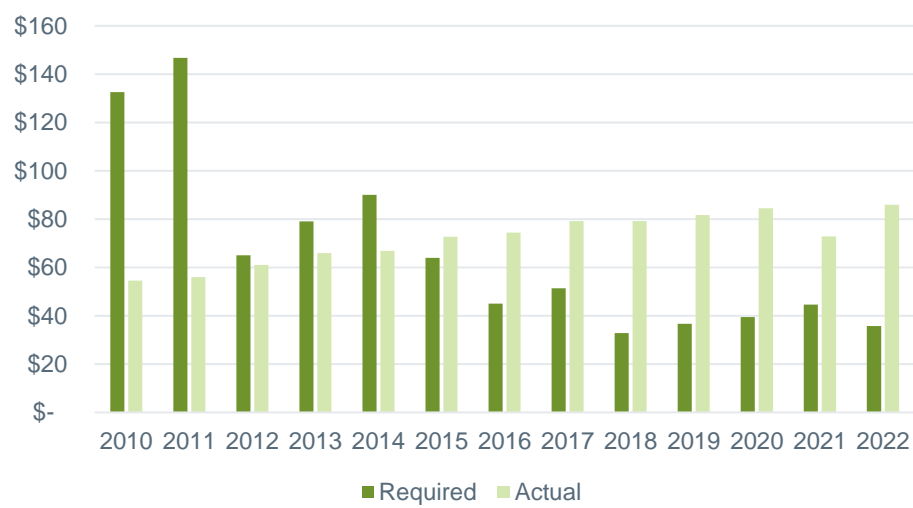
Law Enforcement

	2022	2021	Change
Assets (AV)	$1,174 M	$1,152 M	+ $22 M
Liability	$1,282 M	$1,272 M	+ $11 M
Funded Status (AV)	91.5%	90.6%	+ 1.0%
Assets (MV)	$1,077 M	$1,247 M	- $170 M
Funded Status (MV)	84.0%	98.1%	- 14.1%

Historical Funded Status

Legend: Assets (AV), Liability, Funded Status (AV)

Rate of Return (Annual)

Legend: Assumed, Actuarial, Actual

Historical Contributions

Legend: Required, Actual

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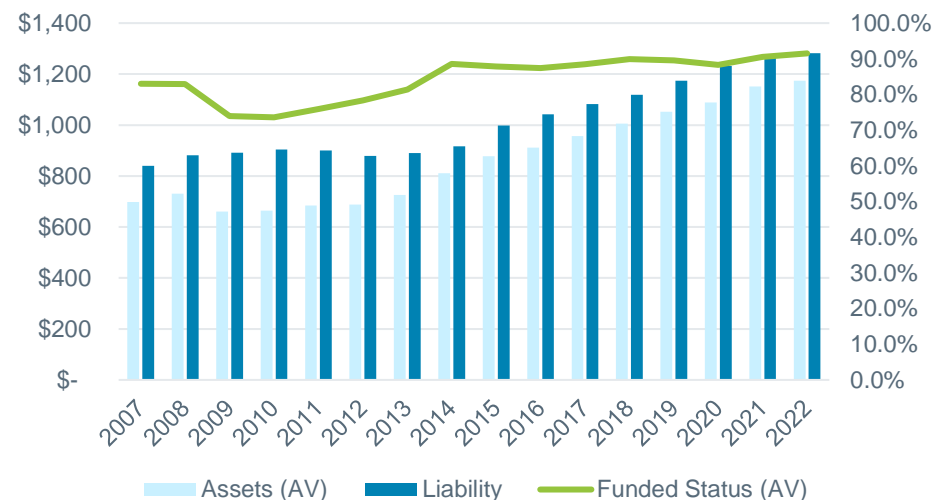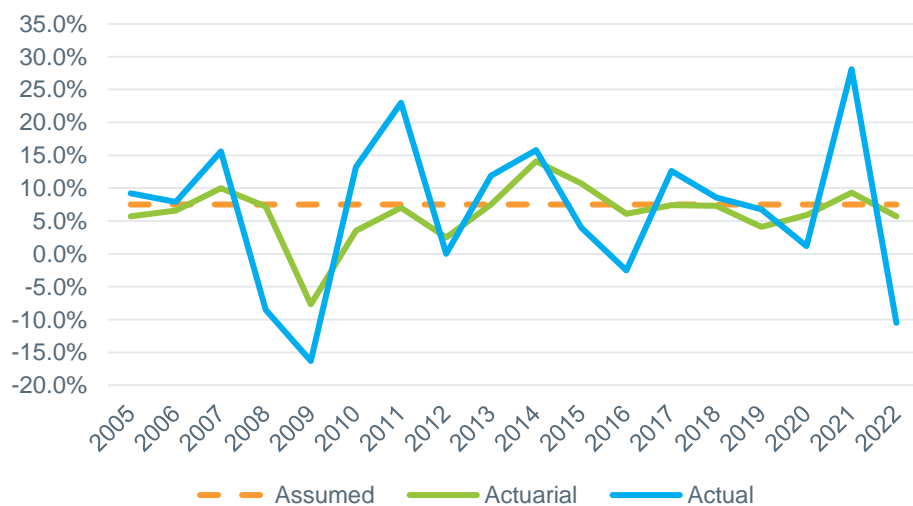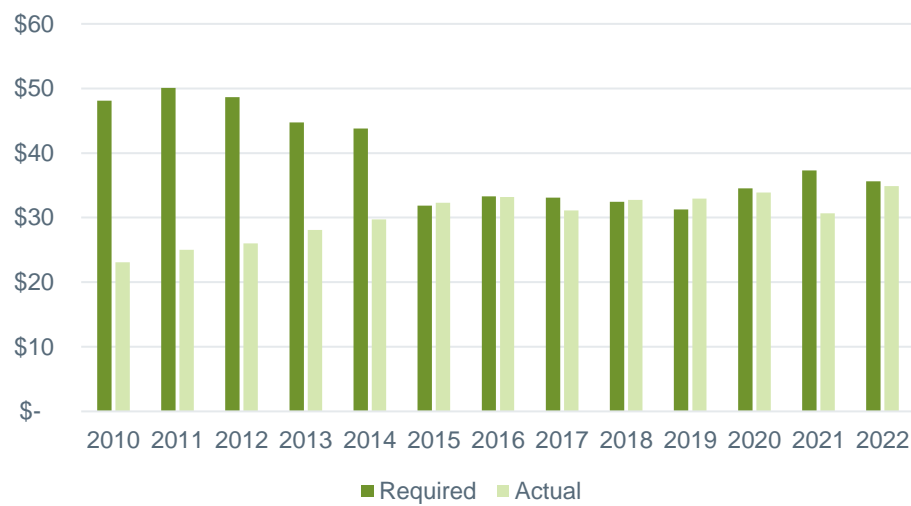
Judges

	2022	2021	Change
Assets (AV)	$390 M	$380 M	+ $10 M
Liability	$352 M	$342 M	+ $10 M
Funded Status (AV)	110.9%	111.3%	- .4%
Assets (MV)	$358 M	$434 M	- $76 M
Funded Status (MV)	101.6%	126.8%	- 25.1%

Historical Funded Status

Assets (AV) — Liability — Funded Status (AV)

Rate of Return (Annual)

Assumed — Actuarial — Actual

Historical Contributions

Required — Actual

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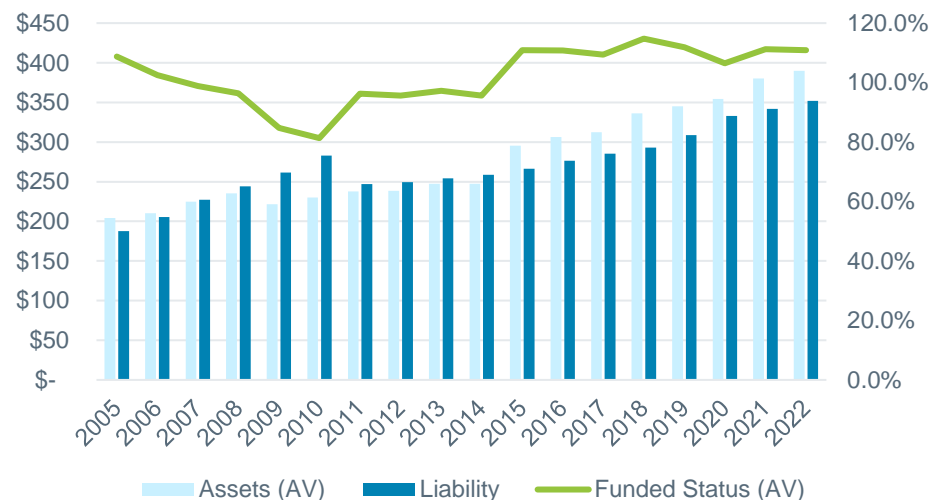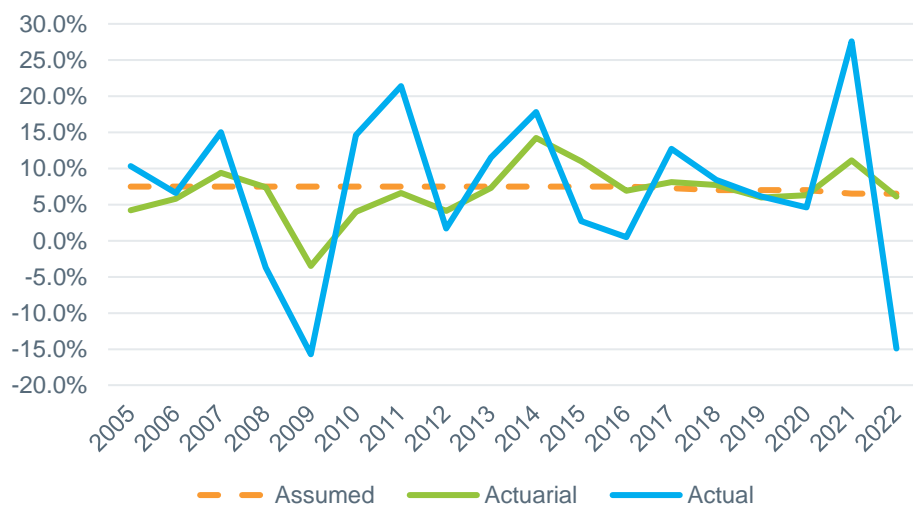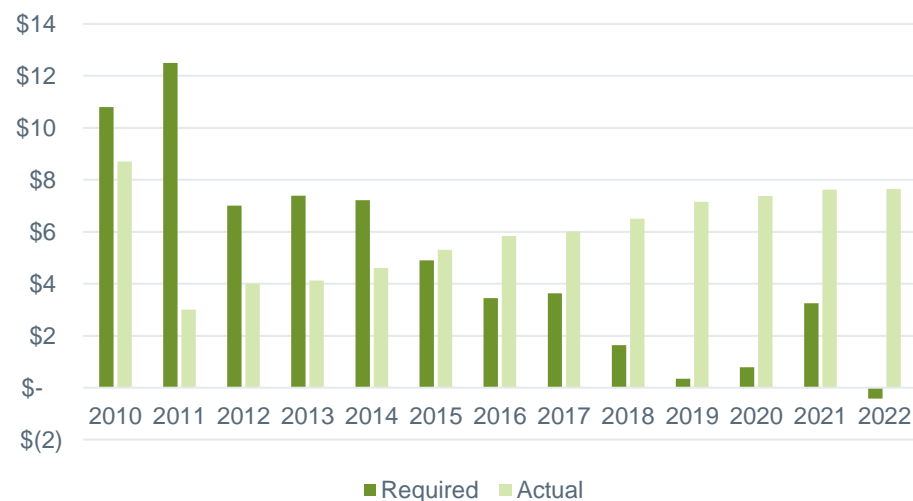
Appendix

RVK Public Funds Survey

RVK conducts a semi-annual survey of public pension plans, aggregating various portfolio and actuarial factors. Below is the list of participants from the latest edition:

Alameda County Employees' Retirement Association	Anchorage Police & Fire Retirement System
Arlington County Employees' Retirement System	California State Teachers' Retirement System
Chicago Teachers' Pension Fund	City of Austin Employees' Retirement System
City of Fresno Employees Retirement Systems	City of Fresno Fire & Police Retirement System
City of Jacksonville Police and Fire Retirement Fund	City of Jacksonville Retirement System
City of Milwaukee Employes' Retirement System	City of Plano Other Post-Employment Benefits Trust
City of Plano Retirement Security Plan	Civilian Employees' Retirement System of the Police Department of Kansas City, Missouri
Confederated Tribes of the Warm Springs Tribal Council Pension Fund	Employees Retirement System of Texas
Fire and Police Pension Association of Colorado	Fresno County Employees' Retirement Association
Gila River Indian Community Retirement Plan	Imperial County Employees' Retirement System
Iowa Public Employees' Retirement System	Kansas City, Missouri Employees' Retirement System
Kansas Public Employees' Retirement System	Los Angeles Fire and Police Pension System
Los Angeles Water & Power Employees Retirement Plan	Marin County Employees' Retirement Association
Maryland State Retirement and Pension System	Mendocino County Employees' Retirement Association
Merced County Employees' Retirement Association	Montana Public Employees' Retirement System
Montana Teachers' Retirement System	Municipality of Anchorage Pre-Funding Program
Nevada Public Employees' Retirement System	New York State Common Retirement Fund
North Carolina Retirement System	Ohio Public Employees' Retirement System
Oklahoma Firefighters Pension and Retirement System	**Oklahoma Law Enforcement Retirement System**
Oklahoma Police Pension and Retirement System	**Oklahoma Public Employees Retirement System**
Oklahoma Teachers' Retirement System	**Oklahoma Uniform Retirement System for Justices and Judges**
Oklahoma Wildlife Conservation Retirement System	Orange County Employees' Retirement System
Pennsylvania State Employees' Retirement System	Police Retirement System of Kansas City, Missouri
Public School and Education ERS of Missouri	Sacramento County Employees' Retirement System
San Diego City Employees' Retirement System	San Diego County Employees Retirement Association
San Diego Transit Corporation Employees Retirement	San Mateo County Employees' Retirement Association
Santa Barbara County Employees' Retirement System	Sonoma County Employees' Retirement Association
South Dakota Retirement System	Stanislaus County Employees' Retirement Association
State of Michigan Retirement Systems	State of New Jersey Pension Fund
State Teachers Retirement System of Ohio	Teachers' Retirement System of Louisiana
Teachers' Retirement System of the State of Illinois	Teachers' Retirement System of Kentucky
Texas Municipal Retirement System	The Navajo Nation Retirement Plan
Ventura County Employees' Retirement Association	Vermont Pension Investment Committee
Virginia Retirement System	West Virginia Investment Management Board
Wyoming Retirement System	

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