San Francisco Employees' Retirement System

Annual Report

For the Fiscal Year Ended June 30, 2022

SFERS
San Francisco Employees' Retirement System

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Introductory Section

SFERS AT A GLANCE

As of June 30, 2022

Plan Net Assets Market Value:	$32.8 billion
Annualized Return on Total Fund:	-2.90%
Total Benefits Paid *(during FY 2021-22)*:	$1.738 billion
Employer Contribution Rate *(during FY 2021-22)*:	24.41%
Average Member Contribution Rate:	7.62%

MEMBERSHIP					
Total Membership:	**77,003**				
Active:	**33,199**	**Retired:**	**31,719**	**Inactive:**	**12,085**
Miscellaneous:	29,266	Miscellaneous:	26,554	Miscellaneous:	11,609
Police:	1,908	Police:	2,880	Police:	311
Fire:	1,664	Fire:	2,272	Fire:	100
Miscellaneous Safety	102	Miscellaneous Safety	10	Miscellaneous Safety	30
Sheriff	259	Sheriff	3	Sheriff	35
Retirements *(during fiscal year 2021-22)*					
Total Retirements:	**1484**	**Average Service Credit at Service Retirement:**	**23.1 years**	**Average Age at Service Retirement:**	**61.8 Years**
Miscellaneous:	1249	Miscellaneous:	22.8 Years	Miscellaneous:	63.0 Years
Police:	131	Police:	24.2 years	Police:	55.2 Years
Fire:	102	Fire:	26.2 years	Fire:	57.2 Years
Miscellaneous Safety	2	Miscellaneous Safety	6.4 years	Miscellaneous Safety	59.8 Years
Sheriff	0	Sheriff	N/A	Sheriff	N/A

STATISTICS	2021-22	2020-21
Responses to Email Inquiries	10,322	7,257
Calculator Visits	66,515	51,072
Retirement Estimates Requests (prepared)	289	399
Retirement Appointments Scheduled	1,783	1,690
Retirement Appointments Attended	1,783	1,690
Buyback Appointments Scheduled	719	400
New Members Added:		
New Hires	1,702	857
1040 Hours Membership	845	741
Rehires	480	322
Police Recruits	50	95
Fire Recruits	243	47
Sheriff Recruits & Misc. Safety	48	58
Pre-retirement Webinars Presented	29	25
Pre-retirement Webinars Registered Attendees	6,014	5,448

Letter of Transmittal

April 20, 2023

San Francisco Employees' Retirement System 1145 Market Street, 5th Floor
San Francisco, CA 94103

To our members, retirees and other interested parties,

We are pleased to present the 2022 San Francisco Employees' Retirement System Annual Report for the fiscal year beginning July 1, 2021 and ending June 30, 2022.

The San Francisco Retirement System ("Retirement System" or "SFERS") is committed to serving the retirement needs of our members and today we serve more than 77,000 active, vested, and retired employees of the City and County of San Francisco and their survivors. Our members include teachers, firefighters, police officers, sheriffs, and many other civilian employees across the City and Country of San Francisco, the San Francisco Unified School District, the San Francisco Community College District, the San Francisco Trial Courts, the City's Police and Fire Departments, and the Sheriff's Department.

On behalf of these members, SFERS manages the System's pension plan, a defined benefit plan which as of June 30, 2022, held net assets of $32.8 billion, and administers the Deferred Compensation plan, with net assets of $4.2 billion. Together, these programs help provide retirement security.

In June 2022, the SFERS organization welcomed a new Chief Executive Officer & Chief Investment Officer, following the retirement of Executive Director Jay Huish. "I am humbled and honored to lead this tremendous organization and build upon its 101-year history of serving those who have served the fantastic City and County of San Francisco. The SFERS team remains steadfast in its mission to secure, protect and prudently invest the pension trust assets, administer mandated benefit programs and provide promised benefit payments" says Alison Romano.

FY2021-2022 HIGHLIGHTS

The focus on mission was especially critical in Fiscal Year 2022, as the COVID-19 pandemic persisted, and investment market volatility increased significantly. With a long-term investment horizon, a prudent investment approach, and a commitment to serving members, SFERS continued to deliver on its mission throughout the year. Here are some highlights:

Prudently Invest Trust Assets

The Pension Plan assets are invested across a diversified set of both public market and private assets with the objective of generating long-term returns while prudently managing market risk and volatility. Fiscal Year 2022 was a challenging year in the public markets, with the S&P 500 down -10.6%. Over the same time period, the portfolio generated a -2.90% return, net of fees. Diversification, investment in a wide range of asset types, and risk management enabled the fund to protect capital in this challenging market environment. Importantly, long-term returns remain intact and the Plan's funding status continues to be strong.

See the Investment section for more detailed information on the performance of the Pension Plan portfolio.

Administer Mandated Benefits

Amidst the COVID-19 pandemic, we have been focused on evolving our platform and ensuring we continue to provide high-quality service to our members.

- During the fiscal year, there were more than 1.6 million visits to the mysfers.org website and 45,962 SFERS members logged into the secure member portal.
- On the secure portal, members visited the benefits calculator 66,515 instances.
- The SFERS team responded to 10,322 email inquiries on the Sfersconnect platform.
- Member Services conducted 1,783 retirement appointments and 719 service purchase appointments.
- SFERS hosted 29 educational webinars, with a total of 6,014 attendees with an overall satisfaction rate of 4.6 out of 5.0.

Provide Promised Benefits

- During the fiscal year, SFERS paid $1.738 billion in benefits and processed 1,484 new retirements.

In addition to these accomplishments for the Pension Plan, we also continued to deliver on behalf of our Deferred Compensation participants. The percentage of City eligible employees who participate in the Deferred Compensation plan stands at 57%, representing 33,064 participants. The SFDCP remains committed to serving members through multiple channels including providing robust digital engagement online tools, with 19,546 participants logging into the website during the year. In addition, the call center handled 21,317 calls, with an average monthly customer satisfaction level of 97%. Local counselors conducted 5,701 one-on-one meetings.

REPORT CONTENT

The Financial Section provides a general overview of the finances and presents the financial statements and activities of the cost-sharing multiple employer defined benefit plan.

The Investment Section includes a discussion of asset allocation, overall investment performance, and performance by asset class, performance analysis, and investment strategy.

The Actuarial Section provides a review of the actuarial assumptions and methods, an analysis of the funding status, and an assessment of actuarial solvency. Actuarial valuation is a measure of the funding health of the pension plan.

The Statistical Section provides financial and operational information to assist readers in understanding the Financial Section.

Finally, the Deferred Compensation Plan Section provides a review of that program.

ACTUARIAL FUNDING STATUS

SFERS contracts with a third-party actuarial consulting firm to conduct annual actuarial valuations. These valuations are used to determine the funding requirements of the Retirement System. Over the long term, defined benefit obligations will be met through both contributions and investment income.

The consulting actuarial firm calculates the total pension liability and net pension liability as required by GASB Statement No. 67. At the June 30, 2022 fiscal year-end measurement date, the fiduciary net position as a percentage of total pension liability is 92.4% based on total pension liability of $35.5 billion and fiduciary net position of $32.8 billion. The net pension liability at June 30, 2022 is $2.7 billion.

FINANCIAL REPORTING

The accounting policies followed in preparing the SFERS financial statements by the City's auditors Marcias, Gini & O'Connell, LLP, conform to standards prescribed by the Governmental Accounting Standards Board (GASB). The audited Statements of Fiduciary Net Position and Statements of Changes in Fiduciary Net Position provide a general overview of the City and County of San Francisco Employees' Retirement System's finances for the fiscal year ended June 30, 2022.

Financial highlights and analysis can be found in the SFERS Discussion and Analysis preceding the financial statements. This transmittal letter, when taken into consideration with the Financial Section of this report, provides an enhanced picture of the activities of the organization.

Readers who have questions regarding the financial information provided in this report are encouraged to visit the SFERS website at www.mysfers.org to view the full set of audited Financial Statements and Required Supplemental Information as prepared by the City's independent auditors, Macias Gini & O'Connell, LLP.

ACKNOWLEDGEMENTS

Many thanks to all the individuals on the SFERS team who contributed to the development of this report. Each and every colleague plays an important role in ensuring we deliver on our mission. Finally, thank you to the Retirement Board whose dedication and leadership strengthen the SFERS organization and put it on a path for continued long-term success.

Respectfully submitted,

Alison Romano, Chief Executive Officer and Chief Investment Officer

Ahsha Safai, Retirement Board President

THE RETIREMENT SYSTEM

Initially established by approval of City voters on November 2, 1920 and the California State Legislature on January 12, 1921, the San Francisco Employees' Retirement System ("Retirement System" or "SFERS") is deeply rooted in the history and culture of the City and County of San Francisco and is committed to serving the retirement needs of its members. Originally established as a fund to assist families and orphans of firefighters and police, today the Retirement System serves more than 77,000 active, vested and retired employees of the City and County of San Francisco and their survivors.

Under the direction of the Chief Executive Officer and Chief Investment Officer, the System's management team administers two employee benefit programs for eligible City and County employees:

- City and County of San Francisco Employees' Retirement System pension plan, a defined benefit plan.
- San Francisco Deferred Compensation Plan, an IRC §457(b) deferred compensation plan.

Specific San Francisco City Charter sections and/or Administrative Code provisions mandate each of these benefit plans.

OUR MISSION

The San Francisco City and County Employees' Retirement System is dedicated to securing, protecting and prudently investing the pension trust assets, administering mandated benefit programs, and providing promised benefits to the active and retired members of the City and County of San Francisco.

THE PENSION PLAN

The SFERS Pension Plan is a tax-qualified defined benefit plan that provides for the following benefits upon separation: service and disability retirement, refund or vesting allowance, and pre and post-retirement death benefits to beneficiaries. Defined benefit plans are funded through employee and employer contributions and investment earnings.

SFERS has a reciprocity agreement with CalPERS, California county retirement systems covered by the 1937 Act Retirement Law, and certain other local, independent retirement systems that have a reciprocity contract with CalPERS (listed on the CalPERS website).

THE SAN FRANCISCO 457(B) DEFERRED COMPENSATION PLAN

The San Francisco Deferred Compensation Plan (SFDCP), a voluntary IRC §457(b) plan, was adopted in 1976, and allows eligible City employees to elect to voluntarily defer receipt and taxation of a portion of their regular earnings until after they retire or separate from service. The SFDCP also offers a Roth after-tax contribution option. These options offer eligible employees an opportunity to complement pension income during retirement.

OUR MEMBERS

During the fiscal year, SFERS enrolled 3,368 new members and added 1,484 new retirees.

SFERS members include eligible employees of the City and County of San Francisco, the San Francisco Unified School District, the San Francisco Community College District, and the San Francisco Trial Courts. Uniformed employees working for the City's Police and Fire Departments are covered by the SFERS Safety Plans. Eligible civilian (non- Safety) employees of the City are covered by the SFERS Miscellaneous Plan.

Sheriff, Undersheriff, and deputized personnel of the Sheriff's Department hired after January 7, 2012 are covered by the SFERS Sheriff's Plan. Probation Officers, District Attorney Investigators and Juvenile Court Counselors hired after January 7, 2012 are covered by the SFERS Miscellaneous Safety Plan.

SFERS ADMINISTRATION

The Chief Executive Officer & Chief Investment Officer leads a team of senior managers who oversee each of the functional areas in the department. The leadership team manages the day-to-day activities of the System including:

- Member services, communication, and benefits administration
- Retirement Board administration, including preparation of meeting materials, minutes and public notice requirements for Board and committee meetings
- Responding to Public Records Requests in accordance with the City's Sunshine Act, State of California Public Records Act, and Federal Freedom of Information Act
- Accounting and financial reporting
- Actuarial services
- Investment activities
- Quality assurance
- Recruitment and personnel management
- Records management and systems administration

THE RETIREMENT BOARD

The Retirement System and its members benefit greatly from the leadership of an experienced and knowledgeable Retirement Board. Within the scope of its fiduciary duties, the Board establishes and follows policies governing the administration, management, and operation of the City's retirement plans; manages the investment of the Retirement System's assets; approves disability benefit determinations; and approves actuarial assumptions used to fund long-term benefit promises of the SFERS Pension Plan.

The Retirement Board generally meets once each month to review and approve important elements of Retirement System business. The Retirement Board is composed of seven members: three members elected by the active and retired members of SFERS; three members appointed by the Mayor in accordance with §12.100, the San Francisco City Charter; and one member of the Board of Supervisors appointed by the President of the Board of Supervisors.

ACTUARIAL SERVICES AND FUNDING

The Retirement Board contracts with a consulting actuarial firm to produce and report to the Retirement Board and Retirement System staff, actuarial information related to the benefit structure and funding status of the Retirement System. The Retirement Board's current consulting actuarial firm is Cheiron, Inc. The Retirement Board also employs an Actuarial Services Coordinator to coordinate the work of the consulting actuary, participate in the presentation of actuarial reports to the Retirement Board, and provide other in-house actuarial services.

The consulting actuarial firm conducts annual actuarial valuations of the Retirement System's assets and liabilities in order to assess its funded status and to determine the appropriate level of employer contributions to the Fund.

Each year, the Retirement Board looks to the consulting actuary and staff Actuarial Services Coordinator to recommend appropriate actuarial assumptions to provide the required funding for the promised benefits. The recommendations are based on results from economic experience analyses conducted each year, as well as demographic experience analyses conducted approximately every five years. The actuarial assumptions are included in the Actuarial Section of this report.

Sponsoring employers of the Retirement System are required to contribute 100% of the actuarially determined contribution approved by the Retirement Board. A 10-year chart of employer contributions may be found in the Required Supplementary Information found in the Financial Section.

INVESTMENTS

The Retirement System's investment objective is to maximize long-term rates of return on investments within prudent guidelines. SFERS' Investment Staff plays a significant role in the management and oversight of the Trust's investment portfolio and is responsible for the timely implementation and administration of the Retirement Board's policy decisions.

The Retirement System Organization for Fiscal Year 2022

THE SFERS RETIREMENT BOARD

PRESIDENT
Ahsha Safai
Member, Board of Supervisors
Ex-Officio Member
Term Expires: 01/31/2023

VICE PRESIDENT
Scott Heldfond
Director, Aon Risk Services
Appointed Member
Term Expires: 02/20/2024

Leona M. Bridges
Former Managing Director
Barclays Global Investors
Appointed Member
Term Expires: 02/20/2023

Brian Stansbury
Active Member
City and County of San Francisco
Elected Member
Term Expires: 02/20/2025

Joseph D. Driscoll, CFA
Captain, San Francisco Fire Department
Elected Member
Term Expires: 02/20/2026

AJ Thomas
Active Member
City and County of San Francisco
Elected Member
Term Expires: 02/20/2027

Shruti Gandhi
Founder & Managing Partner
Array Ventures
Appointed Member
Term Expires: 02/20/2024

SFERS Leadership Team

Alison Romano
Chief Executive and Chief Investment Officer

Caryn Bortnick
Chief Operating Officer

Darlene Armanino
Board Secretary

Janet Brazelton, FSA, EA
Actuarial Services Coordinator

Kurt Braitberg
Managing Director, Public Markets

Derwin Brown
Quality Assurance Manager

Diane Chui Justen
Deferred Compensation Director

Ba Do
Investment Operations Manager

David Francl
Managing Director, Absolute Return

Alison Johnson
Communications Manager

Tanya Kemp
Managing Director, Private Markets

Anna Langs
Managing Director, Asset Allocation, Risk Management and Innovative Solutions

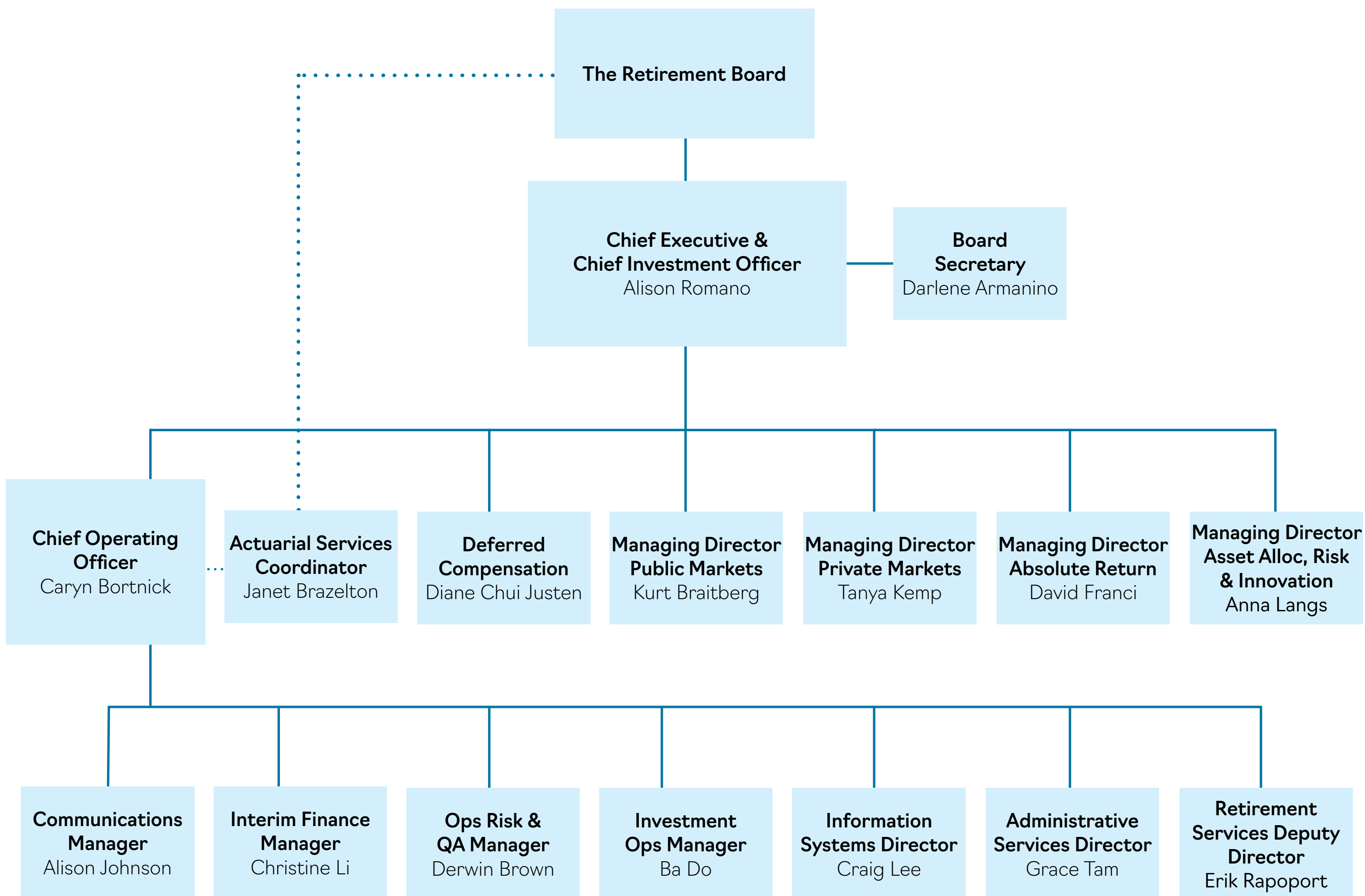
Craig Lee
Information Systems Director

Christine Li
Interim Finance Manager

Erik Rapoport
Deputy Director of Retirement Services

Grace Tam
Administrative Services Director

SFERS Organizational Chart - June 30, 2022



Professional Consultants

Consulting Actuary

- Cheiron, Inc.

Investment Consultants

- NEPC, LLC
- Callan Associates, Inc.
- Cambridge Associates, LLC
- Aksia LLC

Governance Consultants

- Glass Lewis & Co.
- Nossaman, LLP

Financial Section

SFERS DISCUSSION AND ANALYSIS

The management of the City and County of San Francisco Employees' Retirement System is pleased to provide this overview and analysis of the financial activities of its cost-sharing multiple-employer defined benefit pension plan (the "Plan") for the fiscal year ended June 30, 2022. We encourage readers to consider the information presented here in conjunction with the Basic Financial Statements and Required Supplementary Information which follow this discussion.

FINANCIAL HIGHLIGHTS OF FISCAL YEAR 2022

- At the close of the year ended June 30, 2022, the Plan held $32,798,524,000 of net position restricted for pension benefits. All of the fiduciary net position is available to meet the Retirement System's ongoing obligations to plan participants and their beneficiaries.
- The Retirement System's funding objective is to meet long term benefit obligations through contributions and investment income. The Retirement System's fiduciary net position as a percentage of the total pension liability should be considered when evaluating the Retirement System's financial health. Based on the June 30, 2022, measurement date, the fiduciary net position was 92.4% of the total pension liability.
- For the year ended June 30, 2022, the Retirement System's net investment loss of $2,308,320,000 represents a 6.5% decrease in fiduciary net position as of the beginning of the fiscal year.
- Total fiduciary net position held in trust for pension benefits decreased by $2,875,310,000, or 8.1%, primarily as a result of market declines and the net difference between contributions to the Plan and benefits, refunds, and administrative expenses incurred by the Plan.
- Members' contributions to the Plan totaled $423,471,000, an increase of $14,073,000 or 3.4% from the prior year, primarily as a result of a 3.3% increase in covered payroll. Employee contribution rates in fiscal year 2021-22 ranged from 7.5% - 13.0%, same as in fiscal year 2020-21.
- In order to maintain the fiscal soundness of the Plan, required employer contributions to the Plan totaled $768,463,000, a decrease of $68,096,000 or 8.1% from the prior year, primarily due to decreased employer contribution rates offset by a 3.3% increase in covered payroll. Employer contribution rates ranged from 19.91% to 24.41% in fiscal year 2021-22 and 22.40% to 26.90% in fiscal year 2020-21.
- Total deductions from the Plan were $1,758,924,000 an increase of 7.3% from the prior year due to an increase in benefits paid during the current fiscal year, as a result of an increase in the number of payees, higher average retirement benefits and an increase in the cost of living (COLA) adjustments.

OVERVIEW OF FINANCIAL STATEMENTS

The following discussion and analysis are intended to serve as an introduction to the Retirement System's financial statements, which are comprised of the following components:

1. Statements of Fiduciary Net Position are snapshots of account balances as of the close of the years – June 30, 2022 and 2021. They indicate the total assets, deferred outflows of resources, total liabilities, deferred inflows of resources, and the net position restricted for future payment of retirement benefits and operating expenses as of June 30, 2022 and 2021.
2. Statements of Changes in Fiduciary Net Position provide a view of additions to and deductions from the Plan during the years ended June 30, 2022 and 2021.
3. Notes to Financial Statements provide additional information that is essential to a full understanding of the data provided in the financial statements.

The statements of fiduciary net position and the statements of changes in fiduciary net position report information about the Retirement System's financial activities, prepared using the accrual basis of accounting. Contributions to the Plan are recognized when due pursuant to legal requirements and benefits and refunds are recognized when currently due and payable in accordance with the terms of the Plan.

Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Securities that do not have an established market are reported at estimated fair value derived from third party pricing services. Purchases and sales of investments are recorded on a trade date basis. The fair values of the Retirement System's partnership interests, which include private equity, real assets, private credit, absolute return, and some public equity investments, are based on net asset values provided by the general partners and investment managers.

Investments in forward currency contract investments are commitments to purchase and sell stated amounts of foreign currency. Changes in fair value of open contracts are immediately recognized as gains or losses. The fair value of forward currency contracts is determined by quoted currency prices from national exchanges.

Additional information on the Retirement System's investments can be found in Notes 4, 5, 6 and 7 of this report.

FINANCIAL ANALYSIS

The Plan's net position may serve over time as a useful indication of the Plan's financial position. The assets and deferred outflows of resources of the Plan exceeded its liabilities and deferred inflows of resources at June 30, 2022 and 2021. All of the Plan's fiduciary net position is restricted to meet the Retirement System's ongoing obligation to Plan participants and their beneficiaries.

The Plan's fiduciary net position as of June 30, 2022, 2021, and 2020 are represented in the table below:
(Dollars in thousands)

	2022	2021	2020
Other assets	$ 199,264	$ 330,508	$ 539,779
Investments at fair value	33,362,050	36,210,381	26,704,727
Total assets	33,561,314	36,540,889	27,244,506
Deferred outflows of resources	2,092	2,255	1,587
Total assets and deferred outflows of resources	33,563,406	36,543,144	27,246,093
Total liabilities	762,713	867,338	624,636
Deferred inflows of resources	2,169	1,972	1,239
Total liabilities and deferred inflows of resources	764,882	869,310	625,875
Fiduciary Net position	$ 32,798,524	$ 35,673,834	$ 26,620,218

As of June 30, 2022, the Plan's total fiduciary net position held in trust for pension benefits decreased by $2,875,310,000 or 8.1% for the year, primarily due to market declines. Payables to brokers decreased by $4,597,000 and payables to borrowers of securities decreased by $228,957,000 due to the timing of investments and lending activities.

The Retirement Board believes that the Plan remains in a strong financial position to meet its obligations to the Plan members and beneficiaries. Markets broadly declined in the year ended June 30, 2022. The U.S. economy, despite nominal growth, contracted in real terms over the first two quarters of calendar year 2022, meeting the traditional definition of an economic recession. The rolling 12-month seasonally-adjusted CPI was 9.1% at the end of the second quarter, the highest mark in 40 years. The Federal Reserve, in its efforts to combat rapidly rising inflation, began its quantitative tightening measures and raised the Fed Funds Rate to a targeted range of 1.50% - 1.75%. Similar actions were taken by central banks globally. The tightening measures undertaken by central banks globally resulted in negative performance for both stocks and bonds.

U.S. stocks posted their first year of negative returns in over a decade, but outperformed international equities, returning -10.6% as measured by the S&P 500 Index. International developed-markets equities (-17.8% for the year) also struggled as inflationary pressures, the ongoing conflict between Russia and Ukraine, and currency weakness led to underperformance relative to U.S. stocks. Emerging markets equities returned -25.3%, underperforming both U.S. equities and international-developed markets equities. U.S. high quality fixed income returns were also negative as yields rose substantially during the timeframe, returning -10.3% in the fiscal year as measured by the Bloomberg U.S. Aggregate Bond Index.

As fiduciaries to the Plan members and beneficiaries, the Retirement Board, Retirement System staff, and our investment consultants continuously monitor the Plan's investment strategies, which comply with a "prudent expert" standard, to secure and maintain the sustainability of the Plan.

Highlights of Changes in Fiduciary Net Position – Years ended June 30, 2022, 2021, and 2020
(Dollars in thousands)

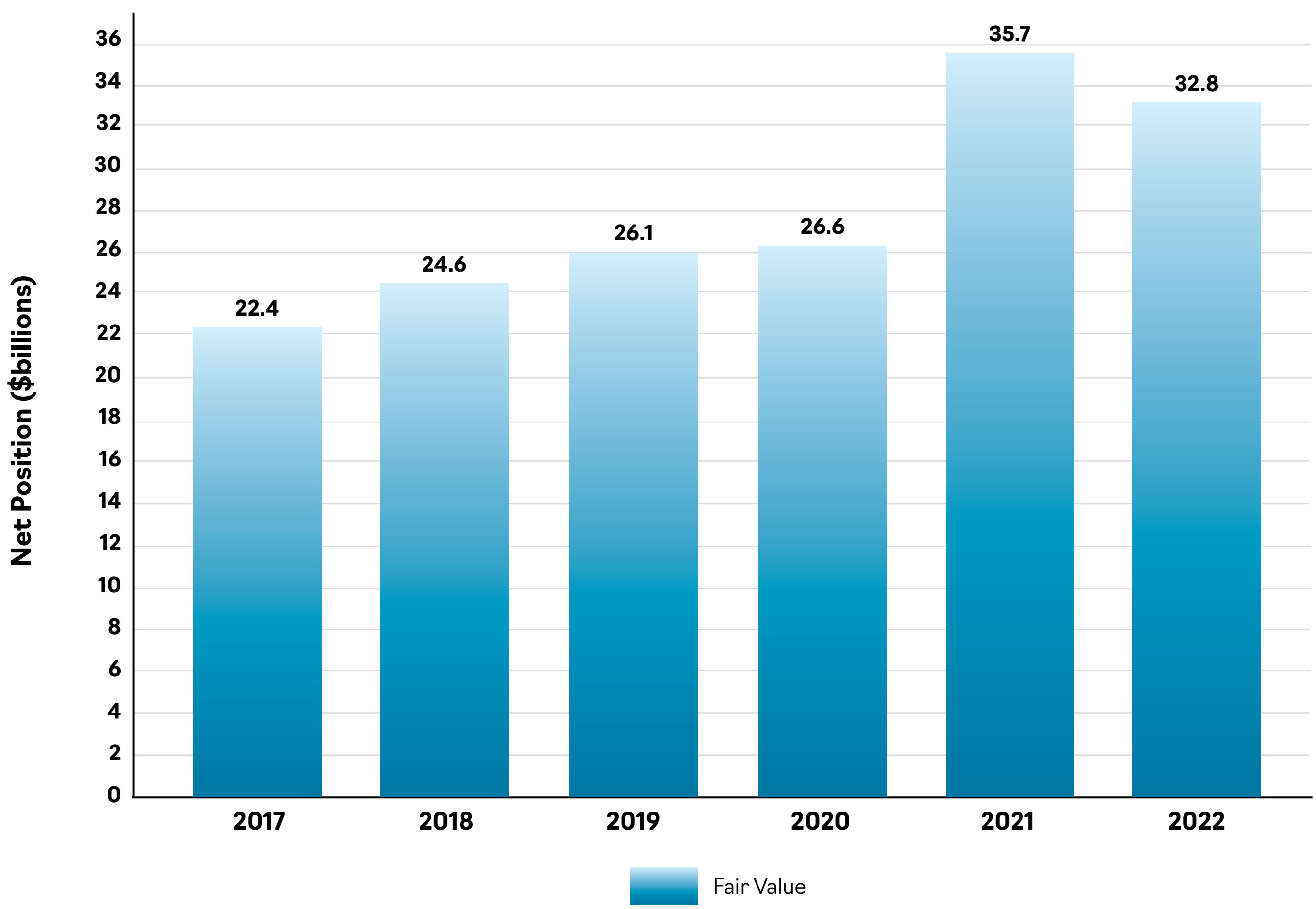
	2022	2021	2020
Additions:			
Member contributions	$ 423,471	$ 409,398	$ 400,649
Employer contributions	768,463	836,559	742,985
Interest	43,365	50,520	80,729
Dividends	106,986	84,514	108,344
Net appreciation (depreciation) in fair value of investments	(2,380,535)	9,372,334	822,342
Securities lending income	4,819	4,059	1,313
Investment expenses	(80,806)	(62,331)	(46,671)
Securities lending borrower rebates and expenses	(2,149)	(1,427)	225
Total additions	$ (1,116,386)	$ 10,693,626	$ 2,109,916
Deductions:			
Benefits	1,710,092	1,599,507	1,531,041
Refunds of contributions	27,658	20,254	17,036
Administrative expenses	21,364	20,995	19,670
Administrative expenses and offset - OPEB	(190)	(746)	600
Total deductions	$ 1,758,924	$ 1,640,010	$ 1,568,347
Net increase (decrease) in fiduciary net position	(2,875,310)	9,053,616	541,569
Fiduciary net position – restricted for pension benefits:			
Beginning of year	35,673,834	26,620,218	26,078,649
End of the year	$ 32,798,524	$ 35,673,834	$ 26,620,218

FISCAL YEAR 2022

- Members' contributions to the Plan totaled $423,471,000 an increase of $14,073,000 or 3.4% from the prior year, primarily as a result of a 3.3% increase in covered payroll. Employee contribution rates in fiscal year 2021-22 ranged from 7.5% - 13.0%, same as in fiscal year 2020-21.
- In order to maintain the fiscal soundness of the Plan, required employer contributions to the Plan totaled $768,463,000, a decrease of $68,096,000 or 8.1% from the prior year, primarily due to decreased employer contribution rates offset by a 3.3% increase in covered payroll. Employer contribution rates ranged from 19.91% to 24.41% in fiscal year 2021-22 and 22.40% to 26.90% in fiscal year 2020-21.
- Net investment income decreased by $11,755,989,000 on a year over year basis. The majority of the decrease is attributable to the decline in net appreciation of investments, primarily due to broad declines in the public markets and slowed appreciation in private equity. Interest income decreased by $7,155,000.
- Benefit payments to Plan participants increased by $110,585,000 or 6.9%, due to an increase in the number of payees, an increase in average retirement benefits and an increase in the COLA.

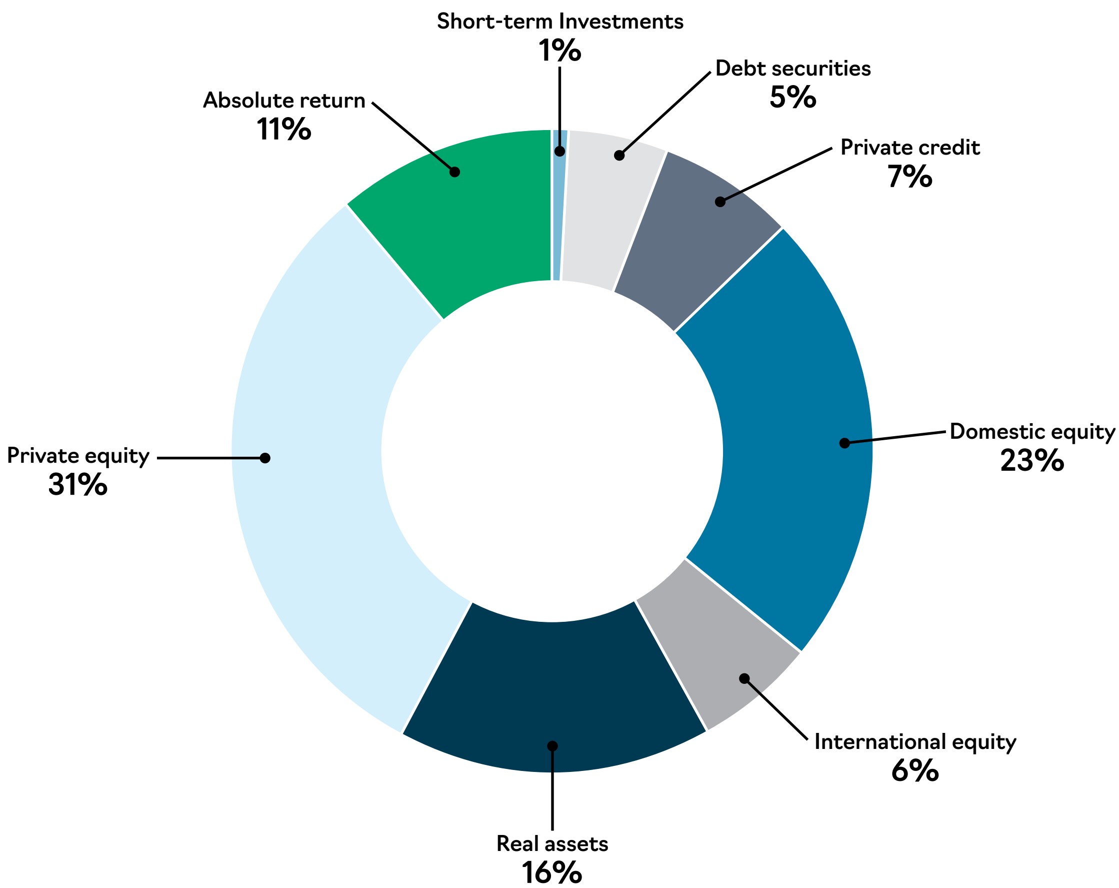
Fiduciary net position as of June 30, 2017 through 2022 expressed at fair value of investments are represented in the chart below:

PLAN NET POSITION AS OF JUNE 30 ($BILLIONS)



The investment allocation at fair value based on investment category (excluding securities lending collateral and foreign currency contracts) as of June 30, 2022, is represented in the chart below:

INVESTMENT ALLOCATION AS OF JUNE 30, 2022 - FAIR VALUE



CURRENTLY KNOWN FACTS AND EVENTS AFFECTING NEXT YEAR

The Retirement System's funding objective is to meet long-term benefit obligations through contributions and investment income. The Retirement Board believes that the Retirement System remains in a strong financial position to meet its obligations to Plan participants and beneficiaries.

REQUESTS FOR INFORMATION

This financial report is designed to provide a general overview of the Retirement System's finances for the year ended June 30, 2022. Questions regarding any of the information provided in this report or requests for additional financial information should be addressed to:

Alison Romano, Chief Executive Officer and Chief Investment Officer
San Francisco City and County Employees' Retirement System
1145 Market Street – 5th floor
San Francisco, CA 94103

BASIC FINANCIAL STATEMENTS
STATEMENTS OF FIDUCIARY NET POSITION

June 30, 2022 and 2021

(Dollars in thousands)

	2022	2021
Assets:		
Deposits	$ 131,252	$ 49,724
Contributions receivable – members	21,690	19,837
Investment income receivable:		
Interest	9,434	9,578
Dividends	2,680	2,154
Securities lending	182	275
Receivable from brokers, general partners, others	34,026	248,940
Investments at fair value:		
Short-term investments	369,099	651,504
City investment pool	15,352	9,184
Debt securities:		
U. S. Government and agency securities	875,900	1,090,034
Other debt securities	846,696	1,094,046
Equity securities:		
Domestic*	7,485,899	9,126,749
International*	2,093,752	3,530,581
Real assets	5,113,451	4,182,366
Private credit	2,171,037	1,818,240
Private equity	10,338,629	10,280,363
Absolute return	3,511,019	3,656,388
Foreign currency contracts, net	(197)	69
Invested securities lending collateral	541,413	770,857
Total investments	33,362,050	36,210,381
Total assets	33,561,314	36,540,889
Deferred outflows of resources:		
Other postemployment benefits (OPEB)	2,092	2,255
Total assets and deferred outflows of resources	33,563,406	36,543,144
Liabilities:		
Payable to brokers	37,250	41,847
Custodian line of credit	120,000	-
Other	63,906	54,977
Payable to borrowers of securities	541,557	770,514
Total liabilities	762,713	867,338
Deferred inflows of resources:		
Other postemployment benefits (OPEB)	2,169	1,972
Total liabilities and deferred inflows of resources	764,882	869,310
Fiduciary net position – restricted for pension benefits	$ 32,798,524	$ 35,673,834

The accompanying Notes are an integral part of these financial statements.

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION

Years Ended June 30, 2022 and 2021

(Dollars in thousands)

	2022	2021
Additions:		
Member contributions		
Miscellaneous	$ 352,731	$ 338,135
Police	41,334	42,304
Fire	29,406	28,959
Total member contributions	423,471	409,398
Employer contributions:		
Miscellaneous	649,819	709,918
Police	70,116	73,398
Fire	48,528	53,243
Total employer contributions	768,463	836,559
Investment income (expenses)		
Interest	43,365	50,520
Dividends	106,986	84,514
Net appreciation (depreciation) in fair value of investments	(2,380,535)	9,372,334
Securities lending income	4,819	4,059
Investment expenses	(80,806)	(62,331)
Securities lending borrower rebates and expenses	(2,149)	(1,427)
Net investment income (loss)	(2,308,320)	9,447,669
Total additions	(1,116,386)	10,693,626
Deductions:		
Benefits	1,710,092	1,599,507
Refunds of contributions	27,658	20,254
Administrative expenses	21,364	20,995
Administrative expenses and offset - OPEB	(190)	(746)
Total deductions	1,758,924	1,640,010
Net increase (decrease) in fiduciary net position	(2,875,310)	9,053,616
Fiduciary net position – restricted for pension benefits		
Beginning of year	35,673,834	26,620,218
End of year	$ 32,798,524	$ 35,673,834

The accompanying Notes are an integral part of these financial statements.

NOTES TO THE BASIC FINANCIAL STATEMENTS

The Notes below provide a summary of the complete Notes found in SFERS' 2022 audited financial statements dated February 3, 2023.

(1) Plan Description

(a) General

The San Francisco City and County Employees' Retirement System (the Retirement System) administers a cost-sharing multiple employer defined benefit pension plan (the Plan) established to provide pension benefits for substantially all employees of the City and County of San Francisco (the City and County), certain classified and certificated employees of the Community College and Unified School Districts, and San Francisco Trial Court employees other than judges. The Retirement System provides service retirement, disability, and death benefits based on specified percentages of defined final average monthly salary and annual cost of living adjustments after retirement. While the Plan is not subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA), it is a tax-qualified plan under Internal Revenue Code provisions. The City and County Charter (the Charter) and the Administrative Code are the authorities that establish and amend the benefit provisions and employer and member contributions to the Plan.

The Retirement System is considered to be a part of the City and County's financial reporting entity and is included in the City and County's basic financial statements as a pension trust fund. The financial statements of the Retirement System are intended to present only the fiduciary net position and changes in fiduciary net position of the Retirement System. They do not purport to, and do not, present fairly the financial position of the City and County as of June 30, 2022 and 2021, the changes in its financial position, or, where applicable, its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. The City and County's Annual Comprehensive Financial Report can be obtained from City Hall, Room 316, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

The Retirement System is administered by the Chief Executive Officer and Chief Investment Officer, an employee of the City and County, in accordance with the provisions of the Charter and Administrative Code, and the policies and regulations of the Retirement Board. The Retirement Board is composed of seven members: three members elected by the active and retired members of the Retirement System; three members appointed by the Mayor in accordance with Section 12.100 of the Charter; and one member of the Board of Supervisors appointed by the President of the Board of Supervisors.

The Retirement System pays benefits according to the category of employment and the type of benefit coverage provided by the City and County. The four main categories of Plan membership are:

a. **Miscellaneous Non-Safety Members** – staff, operational, supervisory, and all other eligible employees who are not in special membership categories.

b. **Sheriff's Department and Miscellaneous Safety Members** – sheriffs assuming office on and after January 7, 2012, and undersheriffs, deputized personnel of the sheriff's department, and miscellaneous safety employees hired on or after January 7, 2012.

c. **Firefighter Members** – firefighters and other employees whose principal duties are in fire prevention and suppression work or who occupy positions designated by law as firefighter member positions.

d. **Police Members** – police officers and other employees whose principal duties are in active law enforcement or who occupy positions designated by law as police member positions.

(b) Service Retirement

Membership Group	Service Retirement Benefit
Miscellaneous Old Plan A8.509 - Miscellaneous employees who became members before November 2, 1976	2.3% @ age 62; maximum benefit 75% of average monthly compensation (12 mo. avg.)
Miscellaneous New Plan Tier I A8.587 - Miscellaneous employees who became members on or after November 2, 1976	2.3% @ age 62; maximum benefit 75% of average monthly compensation (12 mo. avg.)
Miscellaneous New Plan Tier II Plan A8.600 - Miscellaneous employees who became members on or after July 1, 2010 and before January 7, 2012	2.3% @ age 62; maximum benefit 75% of average monthly compensation (24 mo. avg.)
Miscellaneous New Plan Tier III Plan A8.603 - Miscellaneous employees who became members on or after January 7, 2012	2.3% @ age 65; maximum benefit 75% of average monthly compensation (36 mo. avg.)
Police Old Plan A8.595 - Police officers who became members before November 2, 1976 and elected Proposition H benefits effective January 1, 2003	3.0% @ age 55; maximum benefit 90% of average monthly compensation (12 mo. avg.)
Police New Plan Tier I A8.597 - Police officers who became members on or after November 2, 1976 and were eligible for Proposition H benefits effective January 1, 2003	3.0% @ age 55; maximum benefit 90% of average monthly compensation (12 mo. avg.)
Police New Plan Tier II A8.602 - Police officers who became members on or after July 1, 2010 and before January 7, 2012	3.0% @ age 55; maximum benefit 90% of average monthly compensation (24 mo. avg.)
Police New Plan Tier III A8.605 - Police officers who became members on or after January 7, 2012	3.0% @ age 58; maximum benefit 90% of average monthly compensation (36 mo. avg.)
Firefighter Old Plan A8.585 - Firefighters who were members on January 1, 2003, who did not elect Proposition H	2.7% @ age 55; maximum benefit 75% of average monthly compensation (12 mo. avg.)
Firefighter Old Plan A8.596 - Firefighters who became members before November 2, 1976 and elected Proposition H benefits effective January 1, 2003	3.0% @ age 55; maximum benefit 90% of average monthly compensation (12 mo. avg.)
Firefighter New Plan Tier I A8.598 - Firefighters who became members on or after November 2, 1976 and were eligible for 2002 Proposition H benefits effective January 1, 2003	3.0% @ age 55; maximum benefit 90% of average monthly compensation (12 mo. avg.)
Firefighter New Plan Tier II A8.601 - Firefighters who became members on or after July 1, 2010 and before January 7, 2012	3.0% @ age 55; maximum benefit 90% of average monthly compensation (24 mo. avg.)
Firefighter New Plan Tier III A8.604 - Firefighters who became members on or after January 7, 2012	3.0% @ age 58; maximum benefit 90% of average monthly compensation (36 mo. avg.)
Sheriffs Plan A8.608 - Sheriffs, undersheriffs and all deputized personnel of the Sheriff's Department hired on or after January 7, 2012	3.0% @ age 58; maximum benefit 90% of average monthly compensation (36 mo. avg.)
Miscellaneous Safety Plan A8.610 - Probation Officers, District Attorney Investigators and Juvenile Court Counselors who hired on or after January 7, 2012	2.7% @ age 58; maximum benefit 90% of average monthly compensation (36 mo. avg.)

(c) Disability Retirement

All members are eligible to apply for a disability retirement benefit, regardless of age, when they have 10 or more years of credited service and they sustain an injury or illness that prevents them from performing their duties. Safety members are eligible to apply for an industrial disability retirement benefit from their first day on the job if their disability is caused by an illness or injury that they receive while performing their duties.

(d) Separation and Death Benefits

Upon separation from employment, members may either withdraw their accumulated contributions from the Plan or, if they have 5 or more years of credited service, elect to leave their accumulated contribution in the Plan. Safety members who so elect will receive a deferred benefit that is first payable at or after age 50. Miscellaneous members who so elect will receive a vesting benefit that is first payable at or after age 50 for members hired prior to January 7, 2012 or at or after age 53 for those hired on or after January 7, 2012.

Generally, upon the death of an active member who is eligible for a service retirement, qualified surviving spouses or qualified domestic partners receive death benefits based upon a percentage (50 – 100%) of the service retirement benefit. Prior to eligibility for service retirement, a lump sum death payment equal to 6 months' earnable salary plus the member's accumulated contributions is payable to the members' named beneficiary or estate. For Safety members whose death is due to injury or illness caused by performance of duty, salary continuance is provided until the date member would have been eligible for service retirement at which time a continuation benefit equal to 100% of the member's service retirement allowance is provided to the qualified survivor.

Death benefits after retirement are contingent upon the form of annuity payment selected by the member.

(e) Cost of Living Adjustments (COLA)

<u>Basic COLA:</u> All retired members receive a benefit adjustment each July 1. The majority of adjustments are determined by changes in CPI with increases capped at 2%. Police and Firefighter members who became members of the Plan before November 2, 1976 receive benefit adjustments based upon 50% of either the actual dollar or the percentage change in the salary of the rank or position on which the member's retirement benefit is based. Although decreases are possible in a given year, a negative adjustment cannot reduce a member's monthly benefit below the initial pension amount.

<u>Supplemental COLA:</u> The Plan provides for a Supplemental COLA in years when there are sufficient "excess" investment earnings in the Plan. The Supplemental COLA is capped at 3.5% less the Basic COLA. Effective July 1, 2012, SFERS members who retired before November 6, 1996 will receive a Supplemental COLA when there are sufficient "excess" investment earnings in the Plan and the Plan is also fully funded on a market value of assets basis. The "full funding" requirement does not apply to SFERS members who retired on or after November 6, 1996 and were hired before January 7, 2012. For members who were hired before January 7, 2012, all Supplemental COLAs paid to them in retirement benefits will continue into the future even where an additional Supplemental COLA is not payable in any given year. For members who are hired on and after January 7, 2012, a Supplemental COLA will be paid to retirees when there are sufficient "excess" investment earnings in the Plan and the Plan is also fully funded on a market value of assets basis. For this group, Supplemental COLAs will not be permanent adjustments to retirement benefits. In years when a Supplemental COLA is not paid, all previously paid Supplemental COLAs will expire.

<u>Ad-hoc COLA:</u> There is no authority for granting ad-hoc COLA increases.

(f) Membership

Membership of the Retirement System consisted of the following as of June 30, 2022:

	Police[1]	Fire	Miscellaneous	Total
Retirees and beneficiaries currently receiving benefits	2,893	2,272	26,554	31,719
Active members	2,269	1,664	29,266	33,199
Terminated members entitled to but not yet receiving benefits	376	100	11,609	12,085
Total	5,538	4,036	67,429	77,003

1 Police counts include Sheriff and Miscellaneous Safety.

(2) Summary of Significant Accounting Policies

(a) Basis of Presentation

The accompanying financial statements are prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America as promulgated by the Governmental Accounting Standards Board (GASB).

Member contributions are recognized in the period in which the contributions are due. Employer contributions and member contributions made by the employer to the Plan are recognized when due pursuant to legal requirements. Benefits and refunds are recognized when currently due and payable in accordance with the terms of the Plan.

(b) Investments

Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Securities that do not have an established market are reported at estimated fair value derived from third party pricing services. Purchases and sales of investments are recorded on a trade date basis.

The fair values of the Retirement System's partnership interests, which include private equity, real assets, private credit, and some public equity investments, are based on net asset values (NAV) provided by the general partners and investment managers. Partnership financial statements are audited annually as of December 31 and NAV is adjusted monthly or quarterly for cash flows to/from the Retirement System, investment earnings and changes in fair value. Such fair value estimates involve subjective judgments of unrealized gains and losses, and the actual market price of the investments can only be determined by negotiation between independent third parties in a purchase and sale transaction.

Fair valuation for public equity investments is reported as domestic or international based on individual investment's country of registration, although commingled funds may have underlying investments in both domestic and international markets.

The Absolute Return Program invests in limited partnerships and other alternative investment vehicles. The most common investment strategies include, but are not limited to, equity, credit, macro, emerging markets, quantitative, multi-strategy, special situations/other, co-investments and commodities. These investments are valued using their respective NAV, and are audited annually. The most significant input into the NAV of such an entity is the fair value of its investment holdings. These holdings are typically valued on a monthly basis by each fund's independent administrator and for certain illiquid investments, where no market exists, the General Partner may provide pricing input. The management assumptions are based upon the nature of the investment and the underlying business. Investments have the potential to become illiquid under stressed market conditions and, in certain circumstances, investors may be subject to redemption restrictions which can impede the timely return of capital. The valuation techniques vary based upon underlying investment type, but are predominantly derived from observed market prices.

At its January 8, 2020 Board Meeting, the Retirement Board approved reinstating a securities lending program through the Retirement System's custodian bank. The Charter and Retirement Board policies permit the Retirement System to use investments of the Plan to enter into securities lending transactions – loans of securities to broker dealers and other entities for collateral with a simultaneous agreement to return the collateral for the same securities in the future. The collateral guidelines allow for both cash or non-cash collateral; non-cash collateral includes equity security baskets, investment grade corporate bonds, and sovereign debt issued by Organization for Economic Co-operation and Development (OECD) member countries.

The Retirement System's custodian, BNY Mellon, is the agent in lending the Plan's securities for cash and non-cash collateral. Contracts with the lending agent indemnify the Retirement System if the borrowers fail to return the securities (and if the collateral were inadequate to replace the securities lent) or fail to pay the Retirement System for income distributions by the securities' issuers while the securities are on loan. BNY Mellon also indemnifies Retirement System from loss on all repurchase agreements held in the securities lending cash collateral account. If, with respect to investments of cash collateral in repurchase transactions, the counterparty fails to deliver the repurchase price upon termination, BNY Mellon will sell the purchased securities and deposit the proceeds to Retirement System's collateral account. If the proceeds are less than the repurchase price, BNY Mellon will credit the amount of such difference to Retirement System's collateral account.

To manage its counterparty risk, BNY Mellon requires additional collateral ranging between 102% and 110% depending on collateral type. As of June 30, 2022, BNY Mellon collected 103.07% for cash loans and 109.59% for non-cash loans, resulting in 107.08% over collateralization on extended loans.

Non-cash collateral cannot be pledged or sold unless the borrower defaults, and therefore, is not reported in the Retirement System's financial statements.

All securities loans can be terminated on demand by either the Retirement System or the borrower, although the average term of the loans as of June 30, 2022 was 87 days. All cash collateral received was invested in a separately managed account by the lending agent using investment guidelines developed and approved by the Retirement System. As of June 30, 2022, the weighted average maturity of the reinvested cash collateral account was 4 days. The term to maturity of the loaned securities is generally not matched with the term to maturity of the investment of said collateral.

Cash collateral invested in the separate account managed by the lending agent is reported at fair value. Payable to borrowers of securities in the statements of fiduciary net position represents the cash collateral received from borrowers. Additionally, the income and costs of securities lending transactions, such as borrower rebates and fees, are recorded respectively as revenues and expenses in the statements of changes in fiduciary net position.

(c) Administrative Expenses

All costs to administer the Retirement System are borne by the Retirement System.

(d) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, and deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Actual results could differ from those estimates.

(e) Other Postemployment Benefits Other Than Pensions

The Retirement System adopted GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions. As prescribed under GASB Statement No. 75, net other postemployment benefits (OPEB) liability, deferred outflows/inflows of resources related to OPEB, and OPEB expense are actuarially determined on a citywide basis. Net OPEB liability is measured as the portion of the present value of projected benefit payments to be provided to current active and inactive employees attributed to those employees' past service, less the amount of the Retiree Health Care Trust Fund investments measured at fair value.

(3) Deposits

Deposits are carried at cost, which approximates fair value. Deposits in bank accounts were $131,252,000 as of June 30, 2022.

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, a government may not be able to recover its deposits or may not be able to recover collateral securities that are in the possession of an outside party. The Retirement System does not have a specific policy addressing custodial credit risk for deposits. As of June 30, 2022, the Retirement System's deposits in bank accounts were not exposed to custodial credit risk.

(4) Investments

The Retirement System's investments are invested pursuant to investment policy guidelines as established by the Retirement Board. The objective of the policy is to maximize the expected return of the fund at an acceptable level of risk. The Retirement Board has established percentage guidelines for types of investments to ensure the portfolio is diversified.

Investment managers retained by the Retirement System follow specific investment guidelines and are evaluated against specific market benchmarks that represent their investment style. Any exemption from general guidelines requires approval from the Retirement Board. The Retirement System invests in securities with contractual cash flows, such as asset-backed securities, commercial mortgage-backed securities, and collateralized mortgage obligations. The value, liquidity, and related income of these securities are sensitive to changes in economic conditions, including real estate values, delinquencies or defaults, or both, and may be affected by shifts in the market's perception of the issuers and changes in interest rates.

The investment policy permits investments in domestic and international debt and equity securities, securities lending, foreign currency contracts, derivative instruments, private equity, real assets, private credit, and absolute return investments, which include investments in a variety of commingled partnership vehicles.

The Retirement Board's asset allocation policies for the year ended June 30, 2022 is as follows:

Asset Class	Target Allocation since November 2020
Global Equity	37.0%
Treasuries	8.0%
Liquid Credit	5.0%
Private Credit	10.0%
Private Equity	23.0%
Real Assets	10.0%
Absolute Return	10.0%
Leverage	-3.0%
	100.0%

The Retirement System is not directly involved in repurchase or reverse repurchase agreements. However, external investment managers retained by the Retirement System may employ repurchase arrangements if the securities purchased or sold comply with the manager's investment guidelines. The Retirement System monitors the investment activity of its investment managers to ensure compliance with guidelines. In addition, the Retirement System's securities lending cash collateral separately managed account is authorized to use repurchase arrangements. As of June 30, 2022, $83,444,000 (or 15.4% of reinvested cash collateral) consisted of such agreements.

The Retirement System maintains its operating fund cash in the City and County's investment pool. The City and County's pool is invested pursuant to investment policy guidelines established by the City Treasurer, subject to review by the Treasury Oversight Committee. The Treasury Oversight Committee, established under California Government Code Sections 27130 to 27137, is composed of various City and County officials and representatives of agencies with large cash balances in the pool. The investment policy addresses soundness of financial institutions in which the City and County will deposit funds, types of investment instruments as permitted by the California Government Code, and the percentage of the portfolio which may be invested in certain instruments with longer terms to maturity. The provisions of the City and County's investment policy also address interest rate risk, credit risk, and concentration of credit risk and provide for additional restrictions related to investments. The notes to the basic financial statements of the City and County provide more detailed information concerning deposit and investment risks associated with the City and County's pool of cash and investments at June 30, 2022.

(a) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates may adversely affect the fair value of an investment. The Retirement System does not have a specific policy to manage interest rate risk. The Retirement System employs a diversified asset allocation approach to manage interest rate (and other) risks. Assets with the highest sensitivity to interest rates are most commonly found in the Retirement System's Public Fixed Income portfolio which allocates to U.S. Treasuries and other long duration assets including corporate bonds and non-U.S. sovereign bonds. Other asset classes have varied, but more limited exposure to interest rates. With respect to interest rate (and other) risks, investment managers are required to follow investment guidelines approved by the Retirement Board. Investment managers in the Public Fixed Income portfolio manage portfolios to mandates that target either an interest rate exposure within a specific range or an interest rate exposure relative to a benchmark within a more limited, specific range.

The table below depicts the segmented time distribution for fixed income investments based upon the expected maturity (in years) as of June 30, 2022.

Investments at Fair Value as of June 30, 2022
(Dollars in thousands)

		Maturities			
Investment Type	**Fair Value**	**Less than 1 year**	**1-5 years**	**6-10 years**	**10+ years**
Asset-Backed Securities	$ 8,516	$ -	$ 697	$ 897	$ 6,922
Bank Loans	111,655	1,835	54,566	55,254	-
City Investment Pool	15,352	7,532	7,820	-	-
Collateralized Bonds	6,576	-	-	1,594	4,982
Commercial Mortgage-Backed	82,457	387	1,762	1,962	78,346
Commingled and Other Fixed Income Funds	186,996	(7,406)	-	53,204	141,198
Corporate Bonds	244,913	2,295	80,655	123,347	38,616
Corporate Convertible Bonds	119,864	5,187	97,177	11,966	5,534
Government Bonds	920,331	2,045	589,061	298,137	31,088
Government Mortgage Backed Securities	2	-	-	-	2
Municipal/Provincial Bonds	963	-	607	356	-
Non-Government Backed Collateralized Mortgage Obligations	32,811	-	-	-	32,811
Options	(2)	(12)	10	-	-
Short-Term Investment Funds	374,407	374,407	-	-	-
Swaps*	2,310	2,999	(198)	(370)	(121)
Total	$ 2,107,151	$ 389,269	$ 832,157	$ 546,347	$ 339,378

* ($104) Credit default swaps are excluded because they are not subject to interest rate risk.

(b) Credit Risk – Investments

Credit risk is the risk that an issuer or other counterparty to an investment may not fulfill its obligations. Fixed income investment managers retained by the Retirement System follow specific investment guidelines and are evaluated against specific market benchmarks that represent their investment style. Fixed income managers typically are limited within their portfolios to no more than 5% exposure in any single security, with the exception of United States Treasury and government agency securities. The Retirement System's credit risk policy is embedded in the individual investment manager agreements as prescribed and approved by the Retirement Board.

Investments are classified and rated using the lower of (1) S&P Global Ratings (S&P) rating or (2) Moody's Investors Service (Moody's) rating corresponding to the equivalent S&P rating. If only a Moody's rating is available, the rating equivalent to S&P is used for the purpose of this disclosure.

The credit rating of the United States remains a point of concern for some investors. In 2011, S&P lowered the credit rating for U.S. long-term debt to AA+ from AAA and continues to maintain that posture. Moody's and Fitch, the other two large credit rating agencies, continue to maintain a AAA rating for U.S. long-term debt. Additional ratings changes by the credit rating agencies would likely have a material impact on the credit risk and value of the Retirement System's investments in U.S. government agency securities, U.S. government bonds, and U.S. government mortgage-backed securities.

The following table illustrates the Retirement System's exposure to credit risk as of June 30, 2022. Investments issued or explicitly guaranteed by the U.S. government of $874,934,000 as of June 30, 2022, are exempt from the credit rating disclosures and are excluded from the table below.

Credit Ratings of Fixed Income Investments as of June 30, 2022
(Dollars in thousands)

Credit Rating	Fair Value	Fair Value as a Percentage of Total
AAA	$ 352,514	28.6%
AA	5,392	0.4%
A	20,668	1.7%
BBB	78,622	6.4%
BB	104,296	8.5%
B	194,604	15.8%
CCC	30,458	2.5%
CC	5,089	0.4%
D	7,053	0.6%
Not Rated	433,417	35.1%
Total	$ 1,232,113	100.0%

The securities listed as "Not Rated" include short-term investment funds, government mortgage-backed securities, and investments that invest primarily in rated securities, such as commingled funds and money market funds, but do not themselves have a specific credit rating. Excluding these investments, the "not rated" component of credit would be approximately 10.1% for 2022.

(c) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the Retirement System's investment in a single issuer. Securities issued or guaranteed by the U.S. government or its agencies are exempt from this limit.

As of June 30, 2022, the Retirement System had no investments of a single issuer that equaled or exceeded 5% of total Retirement System's investments or net position.

(d) Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government may not be able to recover the value of investment or collateral securities that are in the possession of an outside party. The Retirement System does not have a specific policy addressing custodial credit risk for investments, but investments are generally insured, registered, or held by the Retirement System or its agent in the Retirement System's name. As of June 30, 2022, $210,091,000 of the Retirement System's investments were exposed to custodial credit risk because they were not insured or registered in the name of the Retirement System, and were held by the counterparty's trust department or agent but not in the Retirement System's name.

(e) Foreign Currency Risk

The Retirement System's exposure to foreign currency risk derives from its positions in foreign currency denominated cash, equity, fixed income, private equity, real assets, and private credit. The Retirement System's investment policy allows international managers to enter into foreign exchange contracts, which are limited to hedging currency exposure existing in the portfolio.

The Retirement System's net exposures to foreign currency risk as of June 30, 2022, are as follows:

Foreign Currency Risk Analysis as of June 30, 2022
(Dollars in thousands)

Currency	Cash	Equities	Fixed Income	Private Equities	Real Assets	Private Credit	Foreign Currency Contracts	Total
Argentina peso	$ -	$ -	$ (134)	$ -	$ -	$ -	$ -	$ (134)
Australian dollar	-	12,130	97	25,264	-	-	3,869	41,360
Brazil real	-	16,100	768	-	-	-	3,279	20,147
Canadian dollar	-	25,678	170	-	-	-	8,124	33,972
Chilean peso	-	998	1,019	-	-	-	123	2,140
Chinese r yuan HK	-	-	-	-	-	-	(5,674)	(5,674)
Chinese yuan renminbi	3,253	339,021	5,997	-	-	-	(23,261)	325,010
Colombian peso	-	-	4,254	-	-	-	(2,949)	1,305
Czech koruna	-	-	(343)	-	-	-	1,686	1,343
Danish krone	-	45,936	-	-	-	-	-	45,936
Euro	-	411,136	33,248	106,757	419,877	86,851	(32,625)	1,025,244
Hong Kong dollar	-	84,706	-	-	-	-	-	84,706
Hungarian forint	-	1,838	352	-	-	-	625	2,815
Indian rupee	-	20,025	-	-	-	-	-	20,025
Indonesian rupiah	-	4,481	3,931	-	-	-	298	8,710
Israeli shekel	-	-	-	-	-	-	(17)	(17)
Japanese yen	-	67,479	-	-	43,652	-	17,290	128,421
Kazakhstan tenge	-	-	198	-	-	-	-	198
Malaysian ringgit	-	1,990	3,786	-	-	-	14	5,790
Mexican peso	-	1,729	3,096	-	-	-	1,968	6,793
New Taiwan dollar	-	29,109	-	-	-	-	-	29,109
Norwegian krone	-	3,149	-	-	-	-	(44)	3,105
Peruvian sol	-	-	2,618	-	-	-	(1,857)	761
Philippines peso	-	1,151	177	-	-	-	(139)	1,189
Polish zloty	-	3,844	(268)	-	-	-	2,662	6,238
Pound sterling	-	125,915	6,699	73,274	61,717	-	(14,275)	253,330
Romanian leu	-	-	621	-	-	-	460	1,081
New Russian ruble	-	1,525	-	-	-	-	-	1,525
Serbian dinar	-	-	113	-	-	-	-	113
Singapore dollar	-	1,843	-	-	-	-	-	1,843
South African rand	-	5,319	8,361	-	-	-	(4,318)	9,362
South Korean won	-	15,587	-	-	-	-	-	15,587
Swedish krona	-	22,147	-	-	-	-	(43)	22,104
Swiss franc	-	71,783	-	-	-	-	(78)	71,705
Thailand baht	-	6,386	2,100	-	-	-	1,745	10,231
Turkish lira	-	-	-	-	-	-	235	235
Total	**$ 3,253**	**$ 1,321,005**	**$ 76,860**	**$ 205,295**	**$ 525,246**	**$ 86,851**	**$ (42,902)**	**$ 2,175,608**

(f) Unfunded Investments Commitments

The Retirement System has unfunded commitments to contribute capital for real assets in the amount of $2,221,906,000, private equity in the amount of $3,464,725,000, private credit in the amount of $2,143,957,000 and absolute return in the amount of $55,741,000 totaling $7,886,329,000 as of June 30, 2022.

(g) Derivative Instruments

The Retirement System reports its derivative instruments under the provisions of GASB Statement No. 53, Accounting and Financial Reporting for Derivative Instruments. Pursuant to the requirements of this statement, the Retirement System has provided a summary of derivative instrument activities during the reporting periods presented and the related risks.

As of June 30, 2022, the derivative instruments held by the Retirement System are considered investments and not hedges for accounting purposes. The gains and losses arising from this activity are recognized as incurred in the statement of changes in fiduciary net position. All investment derivatives discussed below are included within the investment risk schedules, which precede this subsection. Investment derivative instruments are disclosed separately to provide a comprehensive and distinct view of this activity and its impact on the overall investment portfolio.

Valuation methods used by the Retirement System are described in more detail in Note 2(b). The fair value of the exchange traded derivative instruments, such as futures, options, rights, and warrants are based on quoted market prices. The fair values of forward foreign currency contracts are determined using a pricing service, which uses published foreign exchange rates as the primary source. The fair values of swaps are determined by the Retirement System's investment managers based on quoted market prices of the underlying investment instruments or by an external pricing service using various proprietary methods.

The table below presents the notional amounts, the fair values, and the related net appreciation (depreciation) in the fair value of derivative instruments that were outstanding at June 30, 2022:

(Dollars in thousands)

Derivative Type / Contracts	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Forwards			
Foreign Exchange Contracts	$ 204,130	$ (197)	$ (266)
Futures			
Bond Futures Long	7,398	(82)	(166)
Equity Index Futures Long	947	(1)	(1,073)
Treasury Futures Long	520,671	(4,894)	(6,368)
Treasury Futures Short	(5,215)	33	80
Options			
Credit Contracts	-	(12)	(13)
Foreign Exchange Contracts	200	10	(2)
Swaps			
Credit Contracts	5,554	(104)	(317)
Currency Contracts	440	309	62
Interest Rate Contracts	87,275	(1,200)	(951)
Total Return Contracts	185,719	3,201	3,201
Rights/Warrants			
Equity Contracts	62,912 shares	147,592	(6,429)
Total		$ 144,655	$ (12,242)

All investment derivatives are reported as investments at fair value in the statements of fiduciary net position. Rights, warrants, and equity index futures are reported in equity securities. Foreign exchange contracts are reported in foreign currency contracts, which also include spot contracts that are not derivatives. All other derivative contracts are reported in other debt securities. All changes in fair value are reported as net appreciation (depreciation) in fair value of investments in the statements of changes in fiduciary net position.

Counterparty Credit Risk

The Retirement System is exposed to credit risk on non-exchange traded derivative instruments that are in asset positions. The table below presents those investments being classified and rated using the lower of (1) S&P Global Ratings (S&P) rating or (2) Moody's Investors Service (Moody's) rating corresponding to the equivalent S&P rating. If only a Moody's rating is available, the rating equivalent to S&P is used for the purpose of this disclosure.

Derivative Instruments Subject to Counterparty Credit Risk as of June 30, 2022

(Dollars in thousands)

Credit Rating	Fair Value
AA	$ 302
A	4,325
BBB	5,907
Total	$ 10,534

Custodial Credit Risk

The custodial credit risk disclosure for exchange traded derivative instruments is made in accordance with the custodial credit risk disclosure requirements of GASB Statement No. 40. At June 30, 2022, all of the Retirement System's investments in derivative instruments are held in the Retirement System's name and are not exposed to custodial credit risk.

Interest Rate Risk

The table below describes the maturity periods of the derivative instruments exposed to interest rate risk at June 30, 2022.

(Dollars in thousands)

		Maturities			
Derivative Type / Contracts	**Fair Value**	**Less than 1 year**	**1-5 years**	**6-10 years**	**10+ years**
Futures					
Treasury Futures Long	$ (4,894)	$ (4,894)	$ -	$ -	$ -
Treasury Futures Short	33	33	-	-	-
Options					
Foreign Exchange Contracts	10	-	10	-	-
Swaps					
Currency Contracts	309	-	309		-
Interest Rate Contracts	(1,200)	(202)	(507)	(370)	(121)
Total Return Contracts	3,201	3,201	-	-	-
Total	$ (2,541)	$ (1,862)	$ (188)	$ (370)	$ (121)

The following table details the reference rate, notional amount, and fair value of interest rate swaps that are highly sensitive to changes in interest rates as of June 30, 2022:

Derivative Instruments Highly Sensitive to Interest Rate Changes as of June 30, 2022
(Dollars in thousands)

Investment Type	Reference Rate	Notional Value	Fair Value
Interest Rate Swap	Receive Fixed 0.25%, Pay Variable 3-Month BBA	$ 46,800	$ (1,273)
Interest Rate Swap	Receive Fixed 0.48%, Pay Variable 6-Month PRIBOR	630	(91)
Interest Rate Swap	Receive Fixed 0.57%, Pay Variable 6-Month WIBOR	1,491	(269)
Interest Rate Swap	Receive Fixed 1.48%, Pay Variable 6-Month PRIBOR	1,124	(252)
Interest Rate Swap	Receive Fixed 2.00%, Pay Variable 6-Month BUBOR	903	(93)
Interest Rate Swap	Receive Fixed 2.39%, Pay Variable 6-Month THB	542	(17)
Interest Rate Swap	Receive Fixed 2.42%, Pay Variable 6-Month THB	542	(16)
Interest Rate Swap	Receive Fixed 2.56%, Pay Variable 6-Month BUBOR	622	(128)
Interest Rate Swap	Receive Fixed 2.81%, Pay Variable 6-Month THB	521	5
Interest Rate Swap	Receive Fixed 3.34%, Pay Variable 3-Month KLIBOR	227	(9)
Interest Rate Swap	Receive Fixed 4.10%, Pay Variable 1-Day BIDOR	803	(57)
Interest Rate Swap	Receive Fixed 4.87%, Pay Variable 1-Day BIDOR	1,702	(196)
Interest Rate Swap	Receive Fixed 5.25%, Pay Variable 1-Day BIDOR	3,977	(144)
Interest Rate Swap	Receive Fixed 5.26%, Pay Variable 3-Month JIBAR	702	(48)
Interest Rate Swap	Receive Fixed 5.60%, Pay Variable 1-Day COOVIBR	81	(20)
Interest Rate Swap	Receive Fixed 6.71%, Pay Variable 28-Day MXIBR	649	(77)
Interest Rate Swap	Receive Fixed 7.13%, Pay Variable 28-Day MXIBR	605	(101)
Interest Rate Swap	Receive Variable 1-Day COOVIBR, Pay Fixed 1.20%	1,521	147
Interest Rate Swap	Receive Variable 1-Day COOVIBR, Pay Fixed 4.20%	1,033	155
Interest Rate Swap	Receive Variable 3-Month BBA, Pay Fixed 0.36%	22,800	1,284
Total Interest Rate Swaps		$ 87,275	$ (1,200)

Foreign Currency Risk

At June 30, 2022, the Retirement System is exposed to foreign currency risk on its derivative investments denominated in foreign currencies.

Derivative Instruments Foreign Currency Risk Analysis as of June 30, 2022
(Dollars in thousands)

Currency	Forwards	Options	Rights/ Warrants	Swaps	Futures	Total
Argentina peso	$ -	$ -	$ -	$ (134)	$ -	$ (134)
Australian dollar	3,869	-	-	-	-	3,869
Brazil real	3,279	-	-	(398)	-	2,881
Canadian dollar	8,124	-	-	-	(27)	8,097
Chilean peso	123	-	-	-	-	123
Chinese r yuan HK	(5,674)	-	-	-	-	(5,674)
Chinese yuan renminbi	(23,261)	-	-	-	-	(23,261)
Colombian peso	(2,949)	-	-	282	-	(2,667)
Czech koruna	1,686	-	-	(343)	-	1,343
Euro	(32,625)	(10)	87	(35)	(54)	(32,637)
Hungarian forint	625	-	-	(221)	-	404
Indonesian rupiah	298	-	-	-	-	298
Israeli shekel	(17)	-	-	-	-	(17)
Japanese yen	17,290	-	-	-	-	17,290
Malaysian ringgit	14	-	-	(9)	-	5
Mexican peso	1,968	-	-	(178)	-	1,790
Norwegian krone	(44)	-	-	-	-	(44)
Peruvian sol	(1,857)	-	-	-	-	(1,857)
Philippines peso	(139)	-	-	-	-	(139)
Polish zloty	2,662	-	-	(268)	-	2,394
Pound sterling	(14,275)	-	-	-	-	(14,275)
Romanian leu	460	-	-	-	-	460
South African rand	(4,318)	-	-	(48)	-	(4,366)
Swedish krona	(43)	-	-	-	-	(43)
Swiss franc	(78)	-	4	-	-	(74)
Thailand baht	1,745	-	-	(27)	-	1,718
Turkish lira	235	-	-	-	-	235
Total	$ (42,902)	(10)	91	$ (1,379)	(81)	$ (44,281)

Contingent Features

At June 30, 2022, the Retirement System held no positions in derivatives containing contingent features.

(5) Fair Value Measurement of Investment

The Retirement System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles.

The Retirement System has the following recurring fair value measurements as of June 30, 2022:
(Dollars in thousands)

As of June 30, 202	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Investments by fair value level				
Short-term investments	$ 353,250	$ 349,997	$ -	$3,253
Debt securities:				
U.S. government and agency securities	875,900	874,935	965	-
Other debt securities	745,912	88,122	542,813	114,977
Equity securities:				
Domestic	2,821,840	2,814,575	4,326	2,939
International	1,649,505	1,648,544	961	-
Foreign currency contracts, net	(197)	-	-	(197)
Invested securities lending collateral	541,413	-	541,614	(201)
Total investments by fair value level	6,987,623	$ 5,776,173	$ 1,090,679	$ 120,771
Investments measured at the net asset value (NAV)				
Short-term investments	15,849			
Fixed income funds invested in:				
Other debt Securities	100,784			
Equity funds invested in:				
Domestic	4,664,059			
International	444,247			
Real assets	5,113,451			
Private Credit	2,171,037			
Private Equity	10,338,629			
Absolute return	3,511,019			
Total investments measured at the NAV	26,359,075			
Investments not subject to the fair value hierarchy				
City investment pool	15,352			
Total investments measured at fair value	$ 33,362,050			

Investments, at Fair Value

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In some cases, a valuation technique may have multiple inputs used to measure fair value, and each input might fall into a different level of the fair value hierarchy. The level in the fair value hierarchy within which a fair value measurement falls in its entirety is determined based on the lowest level input that is significant to the measurement. The prices used in determining the fair value hierarchy are obtained from various pricing sources by the Retirement System's custodian bank.

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets. Debt and equity securities classified in Level 2 of the fair value hierarchy are valued using prices determined by the use of matrix pricing techniques maintained by the various pricing vendors for these securities. Debt securities including short-term instruments are priced based on evaluated prices. Such evaluated prices may be determined by factors which include, but are not limited to, market quotations, yields, maturities, call features, ratings, institutional size trading in similar groups of securities and developments related to specific securities. For equity securities not traded on an active exchange, or if the closing price is not available, corroborated indicative quotes obtained from pricing vendors are generally used. Debt and equity securities classified in Level 3 of the fair value hierarchy are securities whose stated market prices are unobservable by the market place. Many of these securities are priced using uncorroborated indicative quotes, adjusted prices based on inputs from different sources, or evaluated prices using unobservable inputs, such as extrapolated data, proprietary models, and indicative quotes from pricing vendors.

Investments, at Net Asset Value (NAV)

The equity and debt funds are commingled funds that are priced at net asset value by industry vendors and fund families. NAV is the fair value of all securities owned by a fund, minus its total liabilities, divided by the number of shares issued and outstanding. The NAV of an open-end fund is its price.

The fair value of the Retirement System's investments in private equity, real assets, private credit, absolute return, and some public equity investments are based on NAV provided by the investment managers and general partners (hereinafter collectively referred to as the "General Partners"). Such value generally represents the Retirement System's proportionate share of the net assets of the limited partnerships. The partnership financial statements are audited annually as of December 31 and the NAV is adjusted by additional contributions to and distributions from the partnership, the Retirement System's share of net earnings and losses, and unrealized gains and losses resulting from changes in fair value, as determined by the General Partners.

The General Partners may use one or more valuation methodologies outlined in FASB ASC 820, Fair Value Measurement. For some investments, little market activity may exist. The General Partners' determination of fair value is then based on the best information available in the circumstances and may involve subjective assumptions and estimates, including the General Partners' assessment of the information that market participants would use in valuing the investments. The General Partners may take into consideration a combination of internal and external factors, including but not limit to, appropriate risk adjustments for nonperformance and liquidity. Such fair value estimates involve subjective judgments of unrealized gains and losses.

The values provided by the General Partners may differ significantly from the values that would have been used had a ready market existed for these investments.

Private credit investment strategies include capital preservation, return maximization and opportunistic. Investments in the asset class are achieved through commingled funds and separate account partnerships. Private credit investments are mostly illiquid and distributions are received over the life of the investments. These investments are not typically redeemed, nor do they have set redemption schedules. There are seventeen public equity investments held in commingled funds valued at NAV. These investments may be subject to varying lock-up provisions and redemption schedules. The real asset holdings are illiquid. Distributions are received over the life of the investments, which could equal or exceed ten years. They are not redeemed, nor do they have set redemption schedules. Private equity investment strategies include buyout, venture capital, growth capital, and special situations. Investments in the asset class are achieved primarily through commingled funds and separate account partnerships, but may also include direct and co-investment opportunities. Private equity investments are illiquid and distributions are received over the life of the investments, which could equal or exceed ten years. These investments are not typically redeemed, nor do they have set redemption schedules.

Absolute return investment strategies include equity, credit, macro, emerging markets, quantitative, multi-strategy, special situations/other, co-investments and commodities. Investments are achieved through limited partnerships. Investments have the potential to become illiquid under stressed market conditions and, in certain circumstances, investors may be subject to redemption restrictions that differ from the standard terms and conditions summarized here, which can impede the return of capital according to those terms and conditions.

The table below provides a summary of the terms and conditions upon which the Retirement System may redeem its debt and equity commingled funds, and absolute return investments.

(Dollars in thousands)

Investment Type	NAV as of June 30, 2022	Unfunded Commitment	Redemption Frequency	Redemption Notice Period	NAV Lock Up and Years
Debt securities	$ 46,798	N/A	Monthly	On a business day (BD) at least 15 days prior to the last BD of the month	
	49,825		Daily	2 business days	
	4,161		N/A	N/A	
Total:	**$ 100,784**				
Domestic equity securities	590,616	N/A	Monthly	30 calendar days	
	280,236		Semi-monthly	6 business days	
	757,082		Semi-monthly	9 business days	
	292,413		Quarterly	30 calendar days	
	613,488		Quarterly	45 calendar days	
	54,509		Quarterly	60 calendar days	
	977,076		Quarterly	90 calendar days	
	310,585		Semi-annually	60 calendar days	
	408,389		Semi-annually	90 calendar days	
	379,665		Annually	60 calendar days	
Total:	**$ 4,664,059**				
International equity securities	444,247	N/A	Monthly	30 calendar days	
Absolute return	1,425,012	55,741	Monthly	5-95 Days	
	1,368,472		Quarterly	45-180 Days	"$ 1,204,714 / No Lock Up $ 61,572 / Less than 1 Year $ 102,186 / 1-2 Years"
	632,709		Semi-annually	60-180 Days	"$ 352,351 / No Lock Up $ 54,343 / Less than 1 Year $ 226,015 / 1-2 Years"
	84,826		N/A	N/A	
Total:	**$ 3,511,019**				

(6) Securities Lending

The Retirement System lends U.S. government obligations, domestic and international bonds, and equities to various brokers with a simultaneous agreement to return collateral for the same securities plus a fee in the future. The securities lending agent manages the securities lending program and receives securities and cash as collateral. Cash and non-cash collateral is pledged at 102% to 110% depending on security type. There are no restrictions on the number of securities that can be lent at one time. The term to maturity of the loaned securities is generally not matched with the term to maturity of the investment of the corresponding collateral.

The Retirement System does not have the ability to pledge or sell collateral securities unless a borrower defaults. The securities collateral is not reported on the statements of fiduciary net position. As of June 30, 2022, the Retirement System has no credit risk exposure to borrowers because the amounts the Retirement System owes them exceed the amounts they owe the Retirement System. As with other extensions of credit, the Retirement System may bear the risk of delay in recovery or of rights in the collateral should the borrower of securities fail financially. However, the lending agent indemnifies the Retirement System against all borrower defaults.

As of June 30, 2022, the Retirement System has lent $1,364,036,000 in securities and received collateral of $541,557,000 and $919,041,000 in cash and securities, respectively, from borrowers. The cash collateral is invested in a separate account managed by the lending agent using investment guidelines approved by the Retirement Board. Due to the decrease in the fair value of assets held in the separately managed account, the Retirement System's invested cash collateral was valued at $541,413,000. The net unrealized loss of $144,000 is presented as part of the net appreciation (depreciation) in fair value of investments in the statement of changes in fiduciary net position in the year in which the unrealized gains and losses occur. The Retirement System is exposed to investment risk including the possible loss of principal value in the separately managed cash collateral reinvestment account due to the fluctuation in the fair value of the assets held in the account.

The Retirement System's securities lending transactions as of June 30, 2022 are summarized in the following table.

Securities Lending as of June 30, 2022

(Dollars in thousands)

Investment Type	Fair Value of Loaned Securities	Cash Collateral	Fair Value of Non-Cash Collateral
Securities on Loan for Cash Collateral			
U.S. Corporate Fixed Income	$ 66,931	$ 69,333	$ -
U.S. Equities	197,936	205,922	-
U.S. Government Fixed Income	229,851	232,412	-
International Fixed Income	4,275	5,082	-
International Equities	26,408	28,808	-
Securities on Loan for Non-Cash Collateral			
U.S. Corporate Fixed Income	1,826	-	1,870
U.S. Equities	230,306	-	249,613
U.S. Government Fixed Income	484,796	-	529,252
International Fixed Income	3,973	-	4,334
International Equities	117,734	-	133,972
	$ 1,364,036	$ 541,557	$ 919,041

The following table presents the segmented time distribution for the reinvested cash collateral account based upon the expected maturity (in years) as of June 30, 2022.

Fair Value of Cash Collateral Account as of June 30, 2022
(Dollars in thousands)

Investment Type	Fair Value	Maturity Less Than 1 Year
Floating Rate Notes	$ 338,170	$ 338,170
Money Market Funds	120,000	120,000
Repurchase Agreements	83,444	83,444
Payable/Receivable	(201)	(201)
Total	$ 541,413	$ 541,413

The Retirement System's exposure to credit risk in its reinvested cash collateral account as of June 30, 2022 is as follows:

Credit Rating of Cash Collateral Account as of June 30, 2022
(Dollars in thousands)

Credit Rating	Fair Value	Fair Value as a Percentage of Total
A-1	$ 27,646	5.1%
AA	124,312	23.0%
A	186,212	34.4%
Not Rated *	203,243	37.5%
Total	$ 541,413	100.0%

* This figure includes $83,444 in repurchase agreements.

(7) Investments in Real Assets

Real assets investments represent the Retirement System's interests in real assets limited partnerships and separate accounts. The changes in these investments during the year ended June 30, 2022 is summarized as follows:
(Dollars in thousands)

Investments	2022
Beginning of the year	$ 4,182,366
Capital investments	758,934
Equity in net earnings	82,352
Net appreciation in fair value	971,153
Capital distributions	(881,354)
End of the year	$ 5,113,451

(8) Benefits

Allowances and benefits incurred during the year are summarized as follows:
(Dollars in thousands)

	2022
Service retirement benefits	$ 1,356,728
Disability retirement benefits	211,292
Death benefits	10,705
COLA benefit adjustments	131,367
Total	$ 1,710,092

(9) Funding Policy

Employer and employee (member) contributions are mandated by the Charter. The Charter specifies that employer contributions are determined as normal cost plus an amortization of the unfunded liability over a period not to exceed 20 years. Retirement Board policy determines the actual amortization period subject to the Charter limitation. Schedules of both employer and employee contribution rates may be found in the Statistical Section of this report. A ten-year schedule of funding progress may be found in the Actuarial Section, while a ten-year schedule of actuarially determined employer contributions is in the Required Supplemental Information subsection of this Financial Section.

(10) Net Pension Liability of Employers

The components of the employers' net pension liability at June 30, 2022 was as follows:

(Dollars in thousands)

	June 30, 2022
Total pension liability	35,489,639
Fiduciary net position	32,798,524
Net pension liability/(asset)	2,691,115
Fiduciary net position as a percentage of total pension liability	92.4%

(a) Actuarial Assumptions

The total pension liability as of June 30, 2022 was determined by an actuarial valuation as of July 1, 2021 which was rolled forward to June 30, 2022 using standard roll forward procedures.

The following is a summary of actuarial methods and assumptions used at the June 30, 2022 measurement date:

Inflation	2.50%
Salary increases	3.25% plus merit component based on employee classification and years of service
Investment rate of return	7.20%, net of pension plan investment expense, including inflation

Mortality rates for healthy Miscellaneous members were based upon adjusted PubG-2010 Employee and Retiree tables for non-annuitants and retirees, respectively. Mortality rates for Safety members were based upon adjusted PubS-2010 Employee and Retiree tables for non-annuitants and retirees, respectively. Mortality rates were then projected generationally from the base year using the MP-2019 projection scale.

The actuarial assumptions used at the June 30, 2022, measurement date are based upon the results of a demographic experience study for the period July 1, 2014 through June 30, 2019, and an economic experience study as of July 1, 2021.

The Supplemental COLA assumption as of June 30, 2022, was developed based upon the probability and amount of Supplemental COLA for each future year. The tables below show the net assumed Supplemental COLA for members at sample years.

Assumed Future Supplemental COLA for Members Retiring Before 11/6/1996 or Hired After Prop C

July 1	Old Miscellaneous and all New Plans	Old Police & Fire, pre-7/1/75 Retirements	Old Police & Fire A8.595, A8.596, Retirements
2022	0.00%	0.00%	0.00%
2023	0.70%	0.80%	0.50%
2024	0.60%	0.60%	0.40%
2025	0.60%	0.60%	0.40%
2026	0.50%	0.60%	0.30%
2027+	0.50%	0.50%	0.30%

Assumed Future Supplemental COLA for Members Retiring After 11/6/1996 and Hired Before Prop C

July 1	Old Miscellaneous and all New Plans	Old Police & Fire
2022	0.00%	0.00%
2023	0.75%	½ x (3.5% less assumed Basic COLA), not less than zero

The long-term expected rate of return on pension plan investments was 7.20%. It was set by the Retirement Board after consideration of both expected future returns and historical returns experienced by the Retirement System. Expected future returns were based on a building-block method in which best-estimate ranges of expected future real rates of return were developed for each major asset class. These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target allocation and best estimates of geometric long-term expected real rates of return (expected returns, net of pension plan investment expense and inflation) for each major asset class as of June 30, 2022, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity	37.0%	4.8%
Treasuries	8.0%	0.6%
Liquid Credit	5.0%	3.5%
Private Credit	10.0%	5.8%
Private Equity	23.0%	7.9%
Real Assets	10.0%	4.7%
Absolute Return	10.0%	3.4%
Leverage	-3.0%	0.6%
	100.0%	

(b) Discount Rate

The discount rate used to measure the total pension liability at June 30, 2022, was 7.20%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will continue to be made at the rates specified in the Charter of the City and County of San Francisco. Employer contributions were assumed to be made in accordance with the contribution policy in effect for the July 1, 2021 actuarial valuation. While the contributions and measure of actuarial liability in the funding valuation do not anticipate any future Supplemental COLAs, the projected contributions for the determination of the discount rate include the anticipated future amortization payments on future Supplemental COLAs for current members when they are expected to be granted. The projection of benefit payments to current members for determining the discount rate includes the payment of anticipated future Supplemental COLAs.

As of June 30, 2022, the System's fiduciary net position was projected to be available to make all projected future benefit payments for current members. Projected benefit payments are discounted at the long-term expected return on assets of 7.20% to the extent the fiduciary net position is available to make the payments and at the municipal bond rate of 3.54% to the extent that they are not available. The single equivalent percentage rate used to determine the total pension liability as of June 30, 2022, rounded to two decimals is 7.20%.

The municipal bond rate of 3.54% used to determine the above discount rate represents the yield available at June 30, 2022 on the Bond Buyer 20-Bond GO Index.

(c) Sensitivity of the net pension liability to changes in the discount rate

The following presents the net pension liability/(asset), calculated using the discount rate of 7.20%, as well as what the total net pension liability would be if it were calculated using a discount rate that is one percentage-point lower (6.20%) or one -percentage-point higher (8.20%) than the current rate:

Sensitivity of the net pension liability to changes in the discount rate

(Dollars in thousands)

	Net Pension Liability/(Asset) June 30, 2022
1% Decrease	$ 7,369,281
Current Discount Rate	$ 2,691,115
1% Increase	$ (1,165,469)

(d) Money Weighted Rate of Return

For the year ended June 30, 2022, the annual money-weighted rate of return on pension plan investments, net of investment expenses, adjusted for the changing amounts actually invested, was -6.24%.

(11) Postemployment Healthcare Plan

(a) Other Postemployment Benefits (OPEB)

The Retirement System participates in the City's multiple-employer defined benefit other postemployment benefits plan (the OPEB Plan). The OPEB Plan is maintained by the City and is administered through the City's Health Service System. It provides postemployment medical, dental and vision insurance benefits to eligible employees, retired employees, surviving spouses, and domestic partners. Health benefit provisions are established and may be amended through negotiations between the City and the respective bargaining units. The City does not issue a separate report on its other postemployment benefit plan.

GASB Statement No. 75 requires that reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used.

San Francisco Health Service System Retiree Plan – Agent Multiple-Employer	
Valuation Date (VD)	June 30, 2020, updated to June 30, 2021
Measurement Date (MD)	June 30, 2021
Measurement Period (MP)	July 1, 2020 to June 30, 2021

The Retirement System's proportionate share percentage of the OPEB Plan was determined based on its percentage of citywide "pay-as-you-go" contributions for the year ended June 30, 2020. The Retirement System's net OPEB liability, deferred outflows/inflows of resources related to OPEB, amortization of deferred outflows/inflows and OPEB expense to each department is based on the Retirement System's allocated percentage. The Retirement System's proportionate share of the City's OPEB elements was 0.31% as of the measurement date.

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN COLLECTIVE NET PENSION LIABILITY

(Dollars in thousands)

Year ended June 30	2022	2021	2020	2019	2018
Total pension liability					
Service cost	$ 781,610	$ 718,771	$ 704,637	$ 675,065	$ 632,118
Interest	2,471,994	2,302,075	2,230,441	2,131,847	2,041,110
Changes of benefit terms	-	-	-	-	-
Differences between expected and actual experience	98,920	136,097	205,869	12,484	(42,382)
Changes of assumptions	786,100	(479,435)	(117,141)	351,902	170,699
Benefit payments, including refunds of member contributions	(1,737,750)	(1,619,761)	(1,548,077)	(1,456,682)	(1,364,587)
Net change in total pension liability	**2,400,874**	**1,057,747**	**1,475,729**	**1,714,616**	**1,436,958**
Total pension liability—beginning	**33,088,765**	**32,031,018**	**30,555,289**	**28,840,673**	**27,403,715**
Total pension liability—ending, (a)	**35,489,639**	**33,088,765**	**32,031,018**	**30,555,289**	**28,840,673**
Plan fiduciary net position					
Contributions—member	423,471	409,398	400,649	380,980	364,696
Contributions—employer	768,463	836,559	742,985	645,056	619,067
Net investment income	(2,308,320)	9,447,669	966,282	1,970,312	2,549,674
Benefit payments, including refunds of member contributions	(1,737,750)	(1,619,761)	(1,548,077)	(1,456,682)	(1,364,587)
Administrative expenses	(21,174)	(20,249)	(20,270)	(18,983)	(18,238)
Net change in plan fiduciary net position	**(2,875,310)**	**9,053,616**	**541,569**	**1,520,683**	**2,150,612**
Plan fiduciary net position—beginning					
Beginning of year (as reported)	35,673,834	26,620,218	26,078,649	24,557,966	22,410,350
Restatement due to adoption of GASB 75	-	-	-	-	(2,996)
Beginning of year (as restated)	**35,673,834**	**26,620,218**	**26,078,649**	**24,557,966**	**22,407,354**
Plan fiduciary net position—ending, (b)	**32,798,524**	**35,673,834**	**26,620,218**	**26,078,649**	**24,557,966**
Net pension liability—ending, (a) – (b)	**$ 2,691,115**	**$ (2,585,069)**	**$ 5,410,800**	**$ 4,476,640**	**$ 4,282,707**

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE OF CHANGES IN COLLECTIVE NET PENSION LIABILITY (CONTINUED)

(Dollars in thousands)

Year ended June 30	2017	2016	2015	2014
Total pension liability				
Service cost	$ 644,277	$ 567,576	$ 523,644	$ 509,200
Interest	1,924,206	1,669,996	1,621,582	1,542,266
Changes of benefit terms	-	1,293,714	-	-
Differences between expected and actual experience	57,911	(119,270)	(197,981)	0
Changes of assumptions	88,180	1,087,309	216,845	(73,315)
Benefit payments, including refunds of member contributions	(1,278,140)	(1,256,146)	(1,131,030)	(1,072,526)
Net change in total pension liability	**1,436,434**	**3,243,179**	**1,033,060**	**905,625**
Total pension liability—beginning	**25,967,281**	**22,724,102**	**21,691,042**	**20,785,417**
Total pension liability—ending, (a)	**27,403,715**	**25,967,281**	**22,724,102**	**21,691,042**
Plan fiduciary net position				
Contributions—member	316,844	322,764	301,682	289,020
Contributions—employer	551,809	526,805	592,643	532,882
Net investment income	2,683,468	150,190	763,429	3,175,431
Benefit payments, including refunds of member contributions	(1,278,140)	(1,256,146)	(1,131,030)	(1,072,526)
Administrative expenses	(18,134)	(17,179)	(19,262)	(15,745)
Net change in plan fiduciary net position	**2,255,847**	**(273,566)**	**507,462**	**2,909,062**
Plan fiduciary net position—beginning				
Beginning of year (as reported)	20,154,503	20,428,069	19,920,607	17,011,545
Restatement due to adoption of GASB 75	-	-	-	-
Beginning of year (as restated)	**20,154,503**	**20,428,069**	**19,920,607**	**17,011,545**
Plan fiduciary net position—ending, (b)	**22,410,350**	**20,154,503**	**20,428,069**	**19,920,607**
Net pension liability—ending, (a) – (b)	**$ 4,993,365**	**$ 5,812,778**	**$ 2,296,033**	**$ 1,770,435**

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE OF COLLECTIVE NET PENSION LIABILITY

(Dollars in thousands)

	6/30/2022	6/30/2021	6/30/2020	6/30/2019	6/30/2018
Total pension liability	$ 35,489,639	$ 33,088,765	$ 32,031,018	$ 30,555,289	$ 28,840,673
Plan fiduciary net position	(32,798,524)	(35,673,834)	(26,620,218)	(26,078,649)	(24,557,966)
Net pension liability/(asset) - end of year (a) - (b)	$ 2,691,115	$ (2,585,069)	$ 5,410,800	$ 4,476,640	$ 4,282,707
Plan fiduciary net position as a percentage of the total pension liability	92.4%	107.8%	83.1%	85.3%	85.2%
Covered employee payroll	$ 3,742,459	$ 3,623,898	$ 3,566,991	$ 3,375,447	$ 3,221,544
Net pension liability/(asset) as a percentage of covered-employee payroll	71.9%	-71.3%	151.7%	132.6%	132.9%

	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total pension liability	$ 27,403,715	$ 25,967,281	$ 22,724,102	$ 21,691,042
Plan fiduciary net position	(22,410,350)	(20,154,503)	(20,428,069)	(19,920,607)
Net pension liability/(asset) - end of year (a) - (b)	$ 4,993,365	$ 5,812,778	$ 2,296,033	$ 1,770,435
Plan fiduciary net position as a percentage of the total pension liability	81.8%	77.6%	89.9%	91.8%
Covered employee payroll	$ 3,041,818	$ 2,836,498	$ 2,642,752	$ 2,507,162
Net pension liability/(asset) as a percentage of covered-employee payroll	164.2%	204.9%	86.9%	70.6%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

(Dollars in thousands)

Year Ended June 30	Actuarially Determined Contribution (ADC)	Contributions in Relation to the ADC	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2013	442,870	442,870	-	2,448,734	18.1%
2014	532,882	532,882	-	2,507,162	21.3%
2015	592,643	592,643	-	2,642,752	22.4%
2016	526,805	526,805	-	2,836,498	18.6%
2017	551,809	551,809	-	3,041,818	18.1%
2018	619,067	619,067	-	3,221,544	19.2%
2019	645,056	645,056	-	3,375,447	19.1%
2020	742,985	742,985	-	3,566,991	20.8%
2021	836,559	836,559	-	3,623,898	23.1%
2022	768,463	768,463	-	3,742,459	20.5%

* Covered compensation from actuarial projection.

SCHEDULE OF MONEY-WEIGHTED RATE OF RETURN

Year Ended June 30	Money-Weighted Rate of Return
2013	13.91%
2014	19.10%
2015	4.03%
2016	0.96%
2017	13.52%
2018	11.55%
2019	8.19%
2020	3.86%
2021	35.45%
2022	-6.24%

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

Note to Schedules of Changes in Collective Net Pension Liability and Schedules of Collective Net Pension Liability

The total pension liability contained in the schedules was determined by the Retirement System's actuary, Cheiron, Inc. The collective net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the Retirement System.

A summary of assumptions may be found in Note 10 to the financial statements. A complete description of methods and assumptions may be found in the Retirement System's *GASB 67/68* Report for the corresponding fiscal years. The discount rates were as follows:

Year Ended June 30	Discount Rate for Total Pension Liability
2022	7.20%
2021	7.40%
2020	7.40%
2019	7.40%
2018	7.50%
2017	7.50%
2016	7.50%
2015	7.46%
2014	7.58%
2013	7.52%

NOTE TO SCHEDULE OF EMPLOYER CONTRIBUTIONS

Actuarially determined contribution rates are calculated based on the actuarial valuation one year prior to the beginning of the fiscal year in which contributions are reported. Assumptions used to determine contribution rates are:

Year Ended June 30	Valuation Date	Investment return	Salary Increase/ Amortization Growth	Mortality	Change in Funding Methods or Assumption from Prior Year
2013	7/1/2011	7.66%	3.91%	RP2000 Mortality projected with Scale AA	Investment return and wage inflation assumptions
2014	7/1/2012	7.58%	3.83%	RP2000 Mortality projected with Scale AA	Investment return and wage inflation assumptions
2015	7/1/2013	7.58%	3.83%	RP2000 Mortality projected with Scale AA	None
2016	7/1/2014	7.50%	3.75%	RP2000 Mortality projected with Scale AA	Investment return and wage inflation assumptions
2017	7/1/2015	7.50%	3.75%	Adj. 2009 CalPERS Mortality Tables projected generationally with mod. MP-2015	Demographic assumptions including rates of retirement, termination, refund, disability and mortality and salary merit based upon experience study
2018	7/1/2016	7.50%	3.75%	Adj. 2009 CalPERS Mortality Tables projected generationally with mod. MP-2015	None
2019	7/1/2017	7.50%	3.50%	Adj. 2009 CalPERS Mortality Tables projected generationally with mod. MP-2015	Wage inflation assumption
2020	7/1/2018	7.40%	3.50%	Adj. 2009 CalPERS Mortality Tables projected generationally with mod. MP-2015	Discount rate
2021	7/1/2019	7.40%	3.50%	Adj. 2009 CalPERS Mortality Tables projected generationally with mod. MP-2015	None
2022	7/1/2020	7.40%	3.25%	Adj. Pub-2010 General and Safety Mortality Tables projected generationally with MP-2019	Wage inflation and demographic assumptions including rates of retirement, termination, refund, disability and mortality and salary merit based upon experience study

Complete descriptions of the methods and assumptions used to determine contribution rates can be found in the corresponding actuarial valuation reports.

Salary increase assumptions in above table are shown before the addition of merit components based upon employee classification and years of service.

Summaries of plan provisions used in each valuation can be found in each applicable actuarial valuation report.

OTHER SUPPLEMENTARY INFORMATION

COMPARISON OF CONTRIBUTIONS

Employer Contributions

(Dollars in thousands)

Member Plan	Plan Year 2021-22	Plan Year 2020-21	Plan Year 2019-20
Miscellaneous Plans	$ 649,819	$ 709,918	$ 630,730
Police Plans	70,116	73,398	65,059
Firefighter Plans	48,528	53,243	47,196
Total	**$ 768,463**	**$ 836,559**	**$ 742,985**

Employee Contributions

(Dollars in thousands)

Member Plan	Plan Year 2021-22	Plan Year 2020-21	Plan Year 2019-20
Miscellaneous Plans	$ 352,731	$ 338,135	$ 330,197
Police Plans	41,334	42,304	41,514
Firefighter Plans	29,406	28,959	28,938
Total	**$ 423,471**	**$ 409,398**	**$ 400,649**

PENSION FUND NET INVESTMENT INCOME

Fiscal Year 2021-22

(Dollars in thousands)

	Income[1]	Realized Gain/Loss	Unrealized Gain/Loss	Total
Interest Earned	$ 43,365	$ -	$ -	$ 43,365
Dividends Earned	106,986	-	-	106,986
Net Appreciation in Fair Value of Investments:				
Recaptured Commission Income	3	-	-	3
Short-term Securities	-	(800)	(347)	(1,147)
Equities	-	398,071	(3,576,893)	(3,178,822)
Debt Securities	-	(48,334)	(224,575)	(272,909)
Real Assets	82,352	298,672	673,246	1,054,270
Private Credit	97,993	118,705	(74,686)	142,012
Private Equities	(57,649)	1,067,264	(898,132)	111,483
Absolute Returns	-	-	(49,748)	(49,748)
Other Assets	-	(33,442)	(151,747)	(185,189)
Securities Lending Income - Net	2,670	-	(488)	2,182
Investment Expenses	(80,806)	-	-	(80,806)
Total Net Investment Income (including Net Appreciation)	**$ 194,914**	**$ 1,800,136**	**$ (4,303,370)**	**$ (2,308,320)**

1 Total investment income excludes employee and employer contributions.

PENSION FUND DISBURSEMENTS

Plan Year 2021-22

(Dollars in thousands)

Payments/Expenses	Amount
Service Retirement Payments	$ 1,356,728
Disability Retirement Payments	211,292
Cost of Living Adjustments	131,367
Death Allowance Payments	5,539
Death Benefits	3,226
Retired Annuitant Rolls (Option 1 Death Benefit)	1,940
Refunds of Contributions – Death Benefits	5,157
Refunds of Contributions – Other than Death Benefits	22,501
Administrative Expenses: Retirement Services/Administration	21,174
Total Payments & Expenses, FY2021-22	$ 1,758,924
Total Payments & Expenses, FY2020-21	$ 1,640,010
Increase from FY 2020-21:	$ 118,914

COMPARISON OF ACTUAL ADMINISTRATIVE EXPENDITURES

Retirement Services & Administration Divisions

(Dollars in thousands)

Description of Expenditures	2021-22	2020-21	2019-20
Personnel Services	$ 14,655	$ 14,277	$ 13,125
Equipment Purchase	18	0	0
Materials and Supplies	119	127	121
Services of Other Departments	3,935	3,999	3,763
Other Services	2,447	1,846	3,261
Total	**$ 21,174**	**$ 20,249**	**$ 20,270**

Investment Division

(Dollars in thousands)

Description of Expenditures	2021-22	2020-21	2019-20
Personnel Services	$ 8,260	$ 8,235	$ 8,024
Equipment Purchase	0	0	0
Materials and Supplies	5	9	32
Services of Other Departments	2,333	2,618	3,038
Recaptured Commission Expense	1,927	1,577	1,471
Other Services	68,281	49,892	34,106
Total	**$ 80,806**	**$ 62,331**	**$ 46,671**

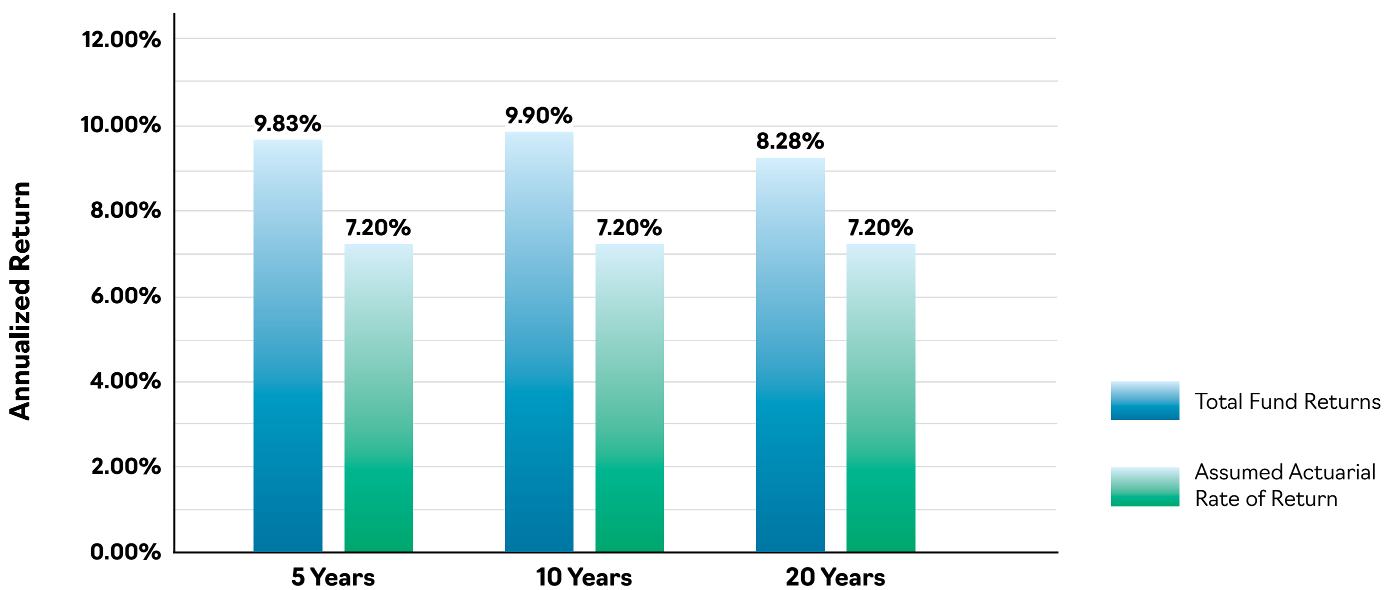
STATEMENT FROM THE CHIEF INVESTMENT OFFICER

1 - Overview

The investment policy objective for the Pension Plan portfolio is to generate long-term investment returns, with prudent levels of risk, in order to secure benefit payments for current and future retirees. To meet this objective, SFERS invests with two goals: exceeding the assumed actuarial rate of return on a net fee basis over a full market cycle and exceeding the benchmark return based on SFERS' asset allocation policy over rolling five-year periods. The long-term assumed actuarial rate of return is currently 7.2%. The Board conducts an Asset-Liability Study (ALS) at least every three years and sets an asset allocation that considers the long-term return, liquidity needs, the structure of SFERS liabilities and risk tolerance. Both the actuarial return and the asset allocation are established with a long-term investment horizon, taking into account that over shorter periods markets may outperform or underperform.

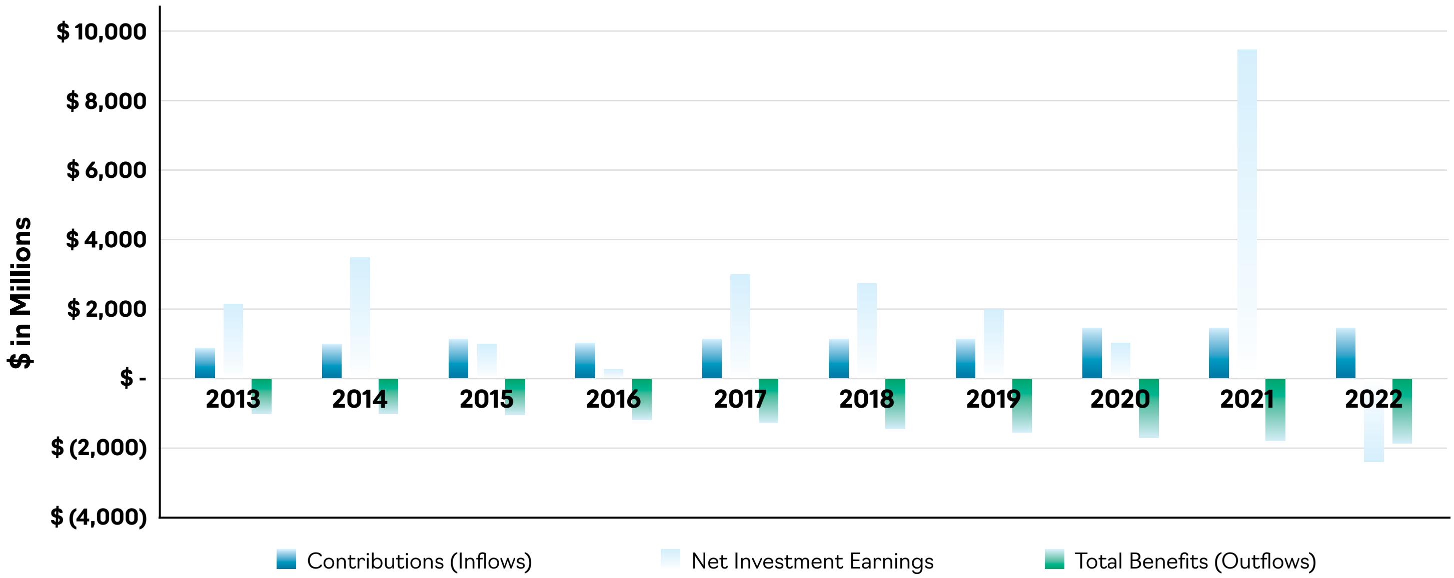
As of June 30, 2022, SFERS met the first return goal over 5, 10, and 20 years, as shown in Chart 1.

Chart 1: Total Fund Performance vs. Current Long-Term Assumed Rate of Return



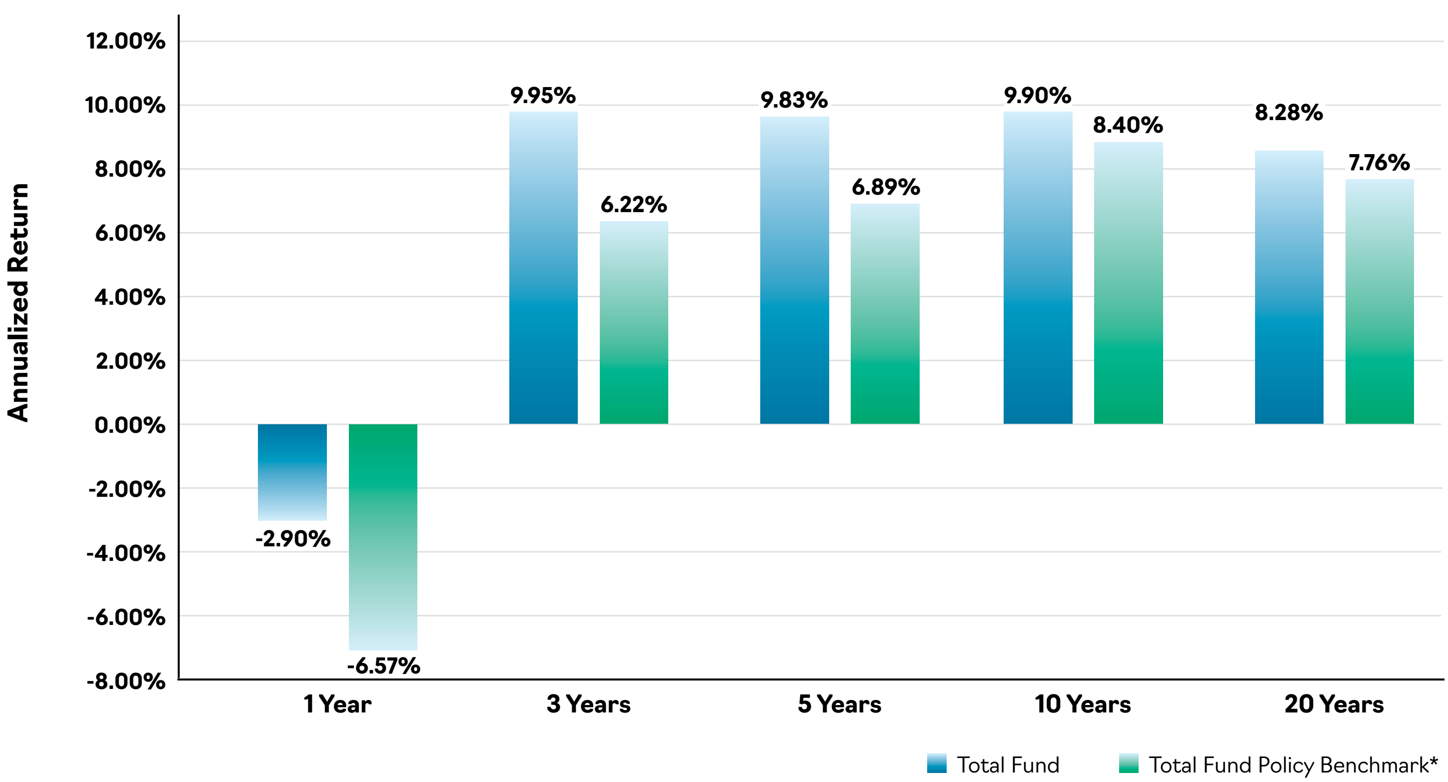
Long-term investment returns combined with employee and employer contributions support the fund and enable the Plan to meet current and future beneficiary payments.

Chart 2: Annual Contributions, Investment Earnings and Benefit Payments



The total fund investment returns have also exceeded the policy benchmark, the second return goal, as shown in Chart 3.

Chart 3: Total Fund Performance vs Total Fund Policy Benchmark



*The current SFERS policy benchmark (starting 12/1/2020) consists of 37% Public Equity Policy, 6% Bloomberg Barclays Intermediate US Treasury, 5% Liquid Credit Policy Benchmark, 5% Private Credit Policy, 12% Real Assets Policy, 23% Private Equity Policy and 12% 90-day Treasury Bill plus 500 bps.

2 - Asset Allocation

One of the key elements of SFERS' investment strategy is to set asset allocation policy in a manner that incorporates a strategic, long-term perspective of the capital markets, the nature and structure of SFERS' liabilities and future cash flows and liquidity needs. SFERS recognizes that a strategic long-term asset allocation implemented in a consistent and disciplined manner is the primary determinant of the Trust's risk and return. SFERS, in collaboration with Retirement Board's investment consultant, conducts an extensive Asset-Liability Study (ALS) every three years.

In November 2020, the Retirement Board approved a strategic asset allocation policy summarized in Table 1.

Table 1 - Strategic Asset Allocation					
Public Equity	37%	Real Assets	10%	Private Credit	10%
Private Equity	23%	Absolute Return	10%	Fixed Income	13%
Growth Assets	**60%**	**Diversifying Assets**	**20%**	**Income Assets**	**23%**

The asset allocation policy reflects the Retirements Board's return objective, risk tolerance, time horizon, and the expected liquidity demands from the Trust. Notably, the asset allocation policy shown above includes a meaningful exposure to Growth Assets (Public and Private Equity) coupled with Diversifying Assets (Real Assets and Absolute Return) and provides the ability to apply modest Plan-level leverage (3%) to manage liquidity and rebalancing.

From time to time, actual asset allocation may deviate from the long-term strategic asset allocation targets given public market values may shift quickly, private market asset values change less quickly and have less liquidity and re-investing the portfolio to meet updated strategic asset allocation targets takes time in private market investments like private credit. Chart 4 shows current asset allocation relative to the strategic asset allocation targets.

Chart 4: Strategic and Current Asset Allocation

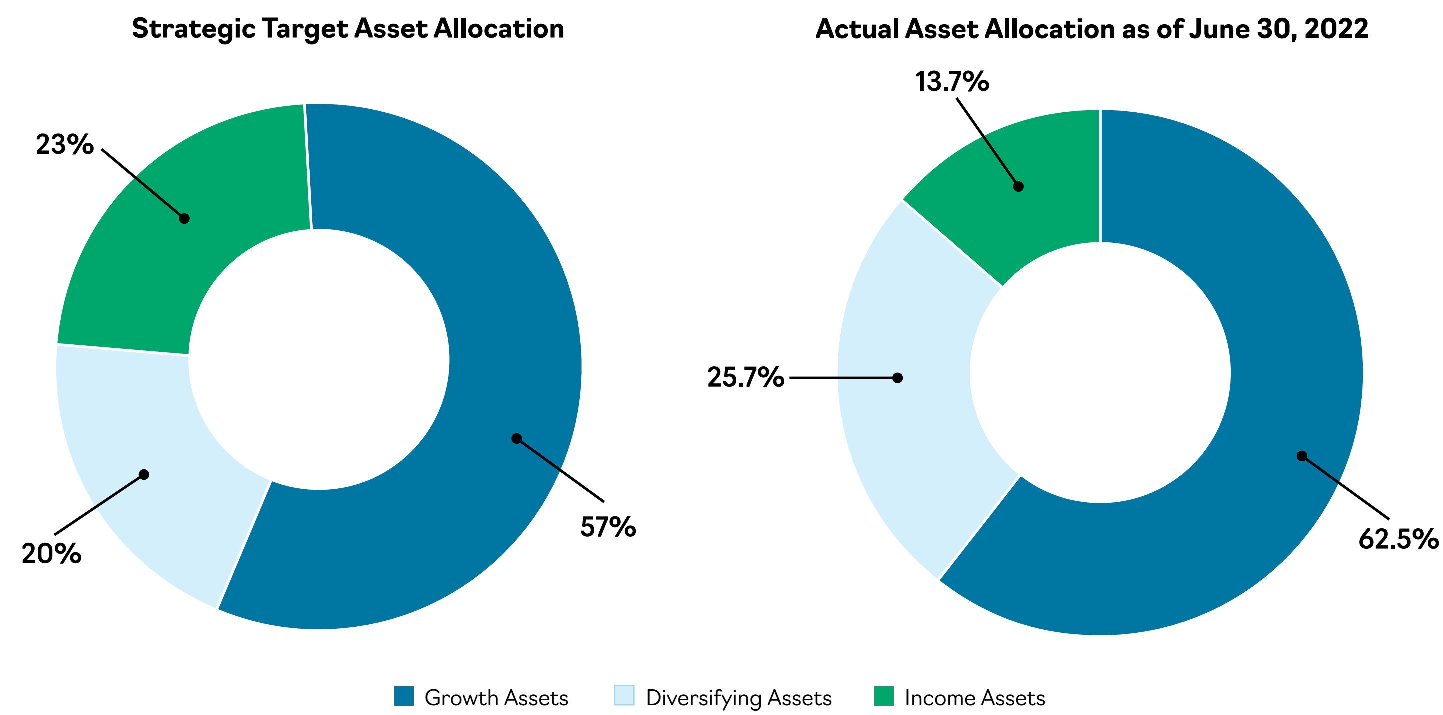


Table 2 shows the asset allocation as of June 30, 2022 versus June 30, 2021. Growth in exposure to Real Assets and Private Equity over the year was driven primarily by strong returns relative to the public market asset classes. The increase in Private Credit exposure was a result of both returns and funding additional strategies to work toward the long-term target allocation of 10%.

Table 2 - Asset Allocation as of June 30, 2022 and June 30, 2021				
	2022		**2021**	
	Market Value ($ thousands)	Weight (%)	Market Value ($ thousands)	Weight (%)
Public Equity	9,923,302	29.9	13,031,825	37.7
Private Equity	10,811,985	32.6	9,533,064	27.5
GROWTH ASSETS	*20,735,288*	*62.5*	*22,564,889*	*65.2*
Real Assets	5,009,496	15.1	3,995,013	11.5
Absolute Return	3,510,514	10.6	3,662,820	10.6
DIVERSIFYING ASSETS	*8,520,010*	*25.7*	*7,657,833*	*22.1*
Fixed Income	2,363,533	7.1	2,103,425	6.1
Private Credit	2,175,105	6.6	1,775,379	5.1
INCOME GENERATING ASSETS	*4,538,638*	*13.7*	*3,878,804*	*11.2*
Cash*	-625,699	-1.9	436,319	1.3
TOTAL INVESTMENT PORTFOLIO	33,168,237	100.0	34,605,951	100.0

* Includes leverage exposure:
Note: Investment portfolio asset values shown here are net of management fees and expenses and based on valuation data available at the end of the fiscal year. This may differ from the SFERS audited financial statements, which takes into account information on Level 2 and Level 3 assets that becomes available during the audit.

3 – Performance Overview

The 2021-2022 fiscal year was a challenging and volatile period for financial markets. Favorable monetary and fiscal policy implemented to support the economy during the height of the COVID-19 pandemic drove economic growth. As that growth continued and interest rates remained low, supply chain disruptions persisted and geopolitical risks became elevated, resulting in inflation rising faster than expected. Central banks took action to control inflation by raising interest rates. Investor uncertainty about future central bank action, the level and persistence of inflation, geopolitical risk and the potential for a recession resulted in pressure on both the Equity and Fixed Income markets and led to increased market volatility. Global Equity markets, as represented by the MSCI ACWI IMI index, declined 16.52%. During this same period, SFERS investments returned -2.90%. Through diversified asset allocation, SFERS protected capital during this period. Longer-term, returns remain positive. SFERS ended the fiscal year with assets of $33.2 billion, down $1.4 billion from the previous fiscal year. Importantly, long term returns and funded status of approximately 98% based on market values remain strong.

Table 3 shows 1-, 3-, 5-, 10- and 20-year absolute performance.

Table 3 - Total Fund Returns for Periods Ending June 30, 2022

	SFERS (%)
1 Year	-2.90
3 Years	9.95
5 Years	9.83
10 Years	9.90
20 Years	8.28

4 – Performance Analysis

SFERS investments are managed to meet or exceed the 7.2% long term return objective within prudent risk guidelines. Generally, investment performance is driven by three factors, including market returns, asset allocation which is established based on risk tolerances, return objectives and liquidity needs, and selection of investment strategies. This Performance Analysis section highlights SFERS investment returns, net of fees, compared to a standard passive 60% Public Equity / 40% Fixed Income portfolio (60/40 Portfolio) and to the SFERS policy benchmark.

The 60/40 Portfolio represents a passive investment implementation in liquid public markets. This is a measure of general market return assuming a classic portfolio asset allocation. The SFERS policy benchmark represents a passive investment implementation based on the Board's established asset allocation. Passive investing seeks to approximate the return of market indices. Active management seeks to construct portfolios that will exceed the benchmark market index. SFERS invests in active management strategies in segments of the market where there is greater probability of generating returns, net of fees, in excess of a passive portfolio.

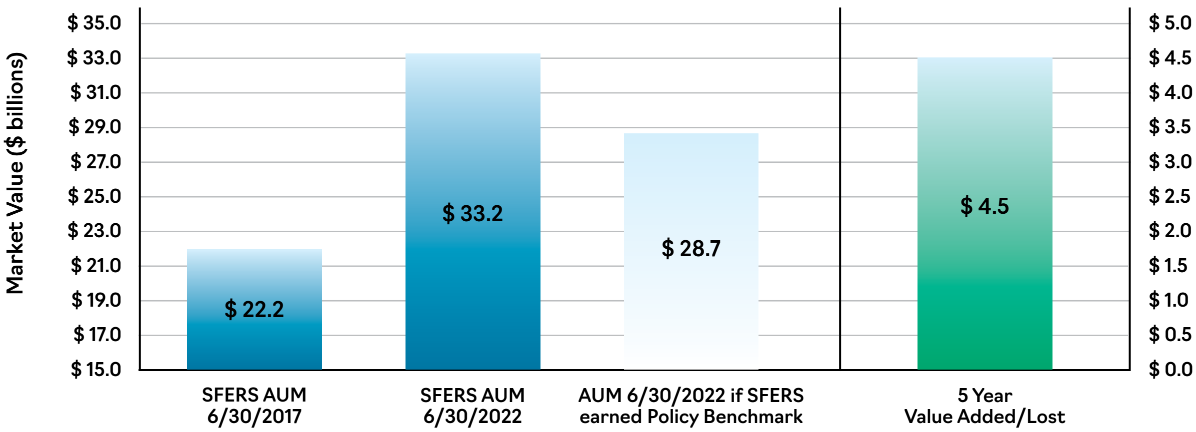
Fiscal Year 2021 – 2022

For the fiscal year, SFERS investment returns exceeded that of a 60/40 Portfolio of -16.47% and the policy benchmark of -6.57%. The excess returns were generated by thoughtful asset allocation, portfolio construction and manager selection across the portfolio. Returns for the period were led by diversifying Real Assets which returned 28.92%, followed by Private Equity and Private Credit, which returned 13.90% and 10.07%, respectively.

The Past Five Years

Over the past five years, SFERS has generated annualized returns of 9.83% while a 60/40 portfolio returned 3.80% and the policy benchmark returned 6.89%. In terms of dollars, returns generated through the selection and sizing of actively managed strategies the past five years have added $4.5 billion in value compared to if SFERS had earned the return of the policy benchmark. In other words, if SFERS had earned the benchmark return over the past five years, assets under management (AUM) at fiscal year-end would have totaled just $28.7 billion.

Chart 5: Assets Generated in Excess of Policy Benchmark Return



* Includes leverage exposure:
Notes: Investment portfolio asset values shown here are net of management fees and expenses and based on valuation data available at the end of the fiscal year. This may differ from the SFERS audited financial statements, which takes into account information on Level 2 and Level 3 assets that becomes available during the audit.

Longer Term Performance Relative to a 60/40 Portfolio

As shown in Table 4, over the past five and ten years SFERS has outperformed a 60/40 Portfolio by 6.03% and 4.82% annualized, respectively. A primary driver of the outperformance relative to the 60/40 Portfolio is the asset allocation established by the Board, which provides for more diversified exposures and significant exposure to private market asset classes.

Table 4 - SFERS Value Added vs. 60% Stock and 40% Bonds

	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years
SFERS Total Fund	-2.90	9.95	9.83	9.90	8.28	8.75
60/40 Portfolio*	-16.47	2.11	3.80	5.08	5.97	6.74
Excess Returns	13.57	7.84	6.03	4.82	2.31	2.01

*60/40 portfolio comprises 60% MSCI ACWI IMI (Net) and 40% FTSE WGBI. Prior to February 1997, S&P 500 is used instead of MSCI ACWI IMI.

Longer Term Performance Relative to Policy Benchmark

SFERS investment returns exceeded that of the policy benchmark by 3.67% over fiscal year ending June 30, 2022. Table 5 shows 1-, 3-, 5-, 10- and 20-year absolute performance, net of fees, relative to the policy benchmark. The primary driver of the value added is the selection and allocation to investment strategies.

Table 5 - Total Fund Returns Compared to Policy Benchmark for Periods Ending June 30, 2022

	SFERS (%)	Policy Benchmark	Value Added (%)
1 Year	-2.90	-6.57	3.67
3 Years	9.95	6.22	3.73
5 Years	9.83	6.89	2.94
10 Years	9.90	8.40	1.50
20 Years	8.28	7.76	0.52

Source: BNY Mellon for SFERS returns; NEPC for benchmark returns. The current SFERS policy benchmark (starting 12/1/2020) consists of 37% Public Equity Policy, 6% Bloomberg Barclays Intermediate US Treasury, 5% Liquid Credit Policy Benchmark, 5% Private Credit Policy, 12% Real Assets Policy, 23% Private Equity Policy and 12% 90-day Treasury Bill plus 500 bps.

Performance By Asset Class

SFERS manages and monitors the overall portfolio by asset class. Table 6 summarizes the return performance of asset class and the relevant benchmark and is followed by a discussion of each asset class.

Table 6 - Investment Performance vs. Benchmarks for periods ending June 30, 2022	1 Year	3 Years	5 Years	10 Years	20 Years
Public Equity	-24.86	5.23	6.70	9.09	6.95
Public Equity Policy Benchmark[1]	*-16.52*	*5.98*	*6.70*	*8.71*	*7.41*
Private Equity	13.90	26.46	22.95	18.93	14.87
Private Equity Policy Benchmark[2]	*-12.66*	*10.88*	*12.05*	*16.10*	*13.33*
Real Assets	28.92	10.09	10.91	11.94	8.82
Real Assets Policy Benchmark[3]	*30.90*	*8.25*	*7.37*	*7.68*	*8.60*
Absolute Return	-1.48	2.87	3.27		
Absolute Return Policy Benchmark[4]	*5.20*	*5.64*	*6.14*		
Fixed Income	-11.23	-1.56	0.47	2.29	4.44
Fixed Income Policy Benchmark[5]	*-8.15*	*-0.58*	*1.02*	*1.87*	*3.85*
Private Credit	10.07	9.31	10.53	11.09	
Private Credit Policy Benchmark[6]	*-6.11*	*2.58*	*4.08*	*5.70*	
Total Fund	**-2.90**	**9.95**	**9.83**	**9.90**	**8.28**
Total Fund Policy Benchmark[7]	***-6.57***	***6.22***	***6.89***	***8.40***	***7.76***

1 The current Public Equity Policy (starting 10/1/2012) consists of 100% MSCI ACWI IMI (ND).

2 The current Private Equity Policy (starting 1/1/2018) consists of 25% MSCI ACWI Ex-US (ND) and 75% Russell 3000 plus 300 bps.

3 The current Real Assets Policy (starting 1/1/2018) consists of 67% NCREIF ODCE and 33% Cambridge Associates NR Quarter Lag.

4 The Absolute Return Policy consists of the 90-day Treasury Bill plus 500 bps.

5 The current Fixed Income Policy (starting 7/1/2019) consists of 45% Bloomberg Barclays US Aggregate and 55% Bloomberg Barclays Intermediate Treasury.

6 The Private Credit Policy consists of 50% Bank of America Merrill Lynch US High Yield BB/B Constrained Index and 50% Credit Suisse Leveraged Loan Index plus 150bps.

7 The current SFERS policy benchmark (starting 12/1/2020) consists of 37% Public Equity Policy, 6% Bloomberg Barclays Intermediate US Treasury, 5% Liquid Credit Policy Benchmark, 5% Private Credit Policy, 12% Real Assets Policy, 23% Private Equity Policy and 12% 90-day Treasury Bill plus 500 bps.

Public Equity

The objectives of SFERS' Public Equity Portfolio are to provide long-term growth and capital appreciation and to be a source of liquidity for the Trust. Over the past several years, SFERS has sought to increase the excess returns in the Public Equity portfolio by investing with specialized managers with unique, significant, and sustainable competitive advantages. These specialist managers have an emphasis on Technology, Healthcare/Biotechnology, China, and sustainability-focused strategies. During this past fiscal year as market volatility increased, investors moved away from risk globally and concerns grew with respect to China equities given economic conditions and COVID-19 policies. As a result, stocks with growth exposure such as those in Technology and stocks in China, were under significant pressure. Thus, exposure to these themes in the SFERS portfolio detracted from performance. However, exposure to these themes has added value over the benchmark in the last 3 and 5 years. Underweights to Energy and Financials also negatively impacted performance this fiscal year as energy rallied on higher oil prices and many financials benefited from rising rates.

In the fiscal year ended June 30, 2022, SFERS Public Equity Portfolio returned -24.86%, while the benchmark returned -16.52%. For the 10 years ended June 30, 2023, SFERS Public Equity Portfolio returned 9.09%, while the benchmark returned 8.71%.

Private Equity

The role of Private Equity is to provide long-term, risk-adjusted returns superior to those of Public Equity strategies. Private Equity primarily consists of buyouts, venture capital, and growth capital. Additional strategies include special situations, co-investments and secondary transactions.

Similar to efforts in Public Equity, the Private Equity portfolio has evolved from large, generalist managers to managers with unique, niche, or specialist skill. The Private Equity portfolio has meaningful tilts to Venture/Growth, Technology, and Asia. In the fiscal year ended June 30, 2022, SFERS' Private Equity Portfolio returned 13.90%. Given the illiquid nature of private equity investments, returns are best evaluated over longer time periods. Current performance is the result of investment decisions established five to ten years ago through careful manager selection and portfolio construction. For the 10 years ended June 30, 2022, SFERS' Private Equity Portfolio returned 18.93%, exceeding the policy benchmark return of 16.10%.

Real Assets

The role of Real Assets is to provide diversification, current income, and inflation protection through alpha generating, higher returning private investment strategies. SFERS' Real Assets portfolio is divided between two distinct sub-components, Real Estate and Natural Resources.

For the fiscal year ended June 30, 2022, the Real Assets Portfolio returned 28.92%. Like Private Equity, given the illiquid nature of the assets, performance is best evaluated over longer time periods. For the 10 years ended June 30, 2022, SFERS' Real Asset Portfolio returned 11.94% versus the policy benchmark of 7.68%.

Absolute Return

The role of Absolute Return is to protect on the downside when stocks experience a large loss, outperform bonds, provide better liquidity than private investments, incur low systematic risk to the market, and post high risk-adjusted returns. Overall, its role is to reduce total portfolio volatility and provide more steady returns.

For the fiscal year ended June 30, 2022, SFERS' Absolute Return portfolio returns were -1.48%, underperforming the policy benchmark of 5.2%. SFERS has been evolving the portfolio to reduce exposure to equity and credit and increase exposure to assets with sources of returns different from that of other asset classes. The equity-oriented strategies in the portfolio this past year detracted from performance. However, consistent with the Absolute Return portfolio objective, returns exceeded that of bonds and provided some protection when both Equity and Fixed Income markets experienced losses.

Private Credit

The objectives of SFERS' Private Credit portfolio are to generate returns that are superior to Liquid Credit while providing both downside protection and diversification to the Trust. The portfolio emphasizes current income over capital appreciation with a focus on senior debt strategies complemented by allocations to junior debt, distressed, specialty finance, and other opportunistic strategies. For the fiscal year ended June 30, 2022, SFERS Private Credit portfolio returned 10.07%, outperforming the policy benchmark by 16.18%. For the 10 years ended June 30, 2022, SFERS Private Credit portfolio returned 11.09%, outperforming the policy benchmark by 5.39%.

Fixed Income

The objectives of SFERS' Fixed Income portfolio are to provide liquidity, diversification, capital preservation, and income. In 2018, SFERS' Public Fixed Income portfolio was divided between two sub-components, Treasuries and Liquid Credit. As of June 30, 2022, these two sub-components represented 62% and 38% of the Fixed Income portfolio, respectively.

The Treasuries allocation is viewed as the primary source of liquidity for the Trust in the event of a market dislocation. This portfolio is passively managed thus not a source of outperformance. For the fiscal year, returns kept pace with the benchmark. While over the longer-term treasuries are expected return less than the Liquid Credit strategies, in this past year, treasuries outperformed, declining less than Liquid Credit.

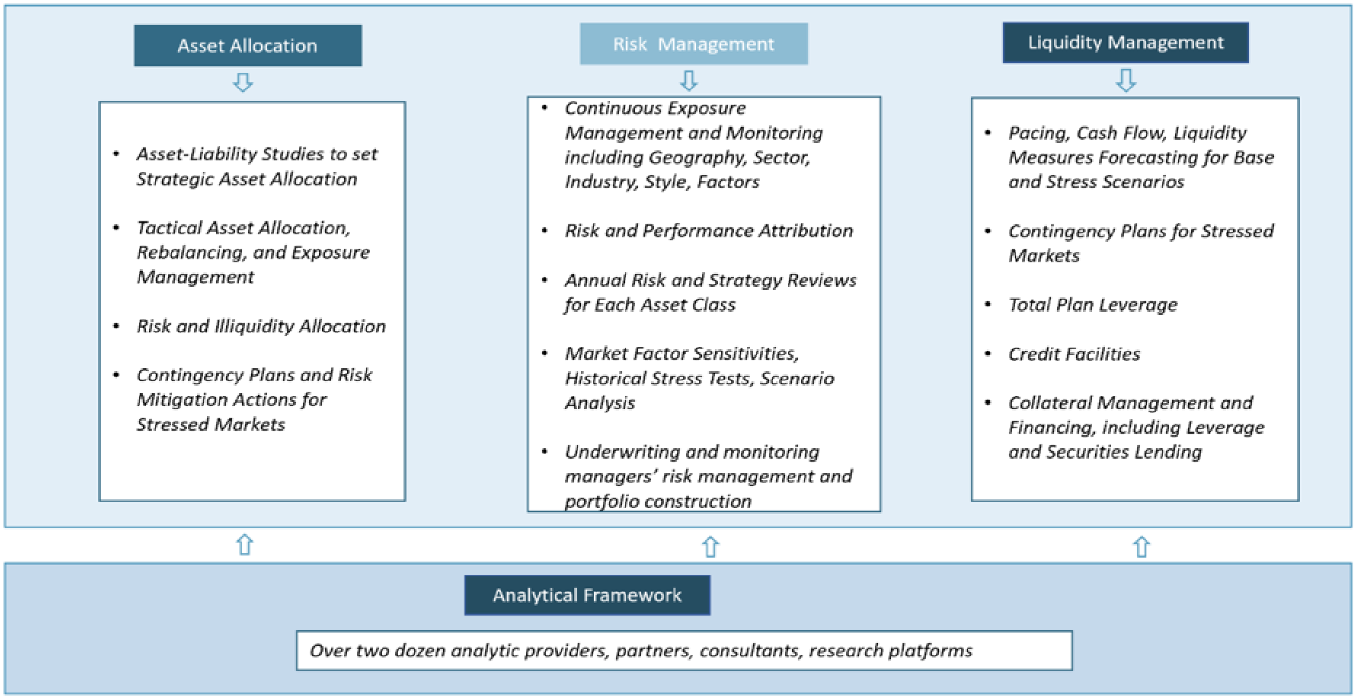
The Liquid Credit portfolio is viewed as a secondary source of liquidity for the Trust with a dual mandate of seeking excess returns. The Liquid Credit portfolio's allocation to emerging market debt, which in the long-term is expected to drive higher returns, was a drag on performance as the market favored assets with the lowest perceived risk.

5 – Investment Strategy

To meet the return objectives and manage risk, including the impact caused by a potential large short-term market decline, SFERS has established a holistic investment strategy that includes a framework for asset allocation, risk management, manager selection and ESG.

- **Asset Allocation and Risk Management**

SFERS' asset allocation and risk management framework consist of three elements:



Risk Management

SFERS' Staff continuously monitors and manages the Trust's risks, including geographic, sector, industry, and factor exposures. Each asset class undergoes a rigorous risk and strategy review at least annually, covering diverse investment analytics from multiple sources and portfolio construction techniques. Risk management is an integral part of the selection and monitoring of external investment managers. Additionally, a thorough Trust-level risk review is discussed with the Retirement Board each year focusing on key risks and performance attribution, as well as sensitivities to various market factors, historical stress tests, and forward-looking scenario analyses.

Liquidity Management

SFERS' asset allocation and risk management framework includes a focus on liquidity management. As a long-term investor, SFERS relies heavily on harvesting illiquidity risk premium to enhance returns, allocating 43% to illiquid asset classes such as private equity, private credit, and real assets. Staff reviews pacing schedules, cash flow projections, and proprietary liquidity measures to plan for the base case and multiple stressed liquidity scenarios. Asset classes that are considered potential sources of liquidity – Public Fixed Income, Public Equities, and Absolute Return – develop plans to raise cash under stressed markets and liquidity. To further support liquidity, SFERS has put into place a credit facility with SFERS' custodian and allows for modest Trust-level leverage as part of SFERS' strategic asset allocation.

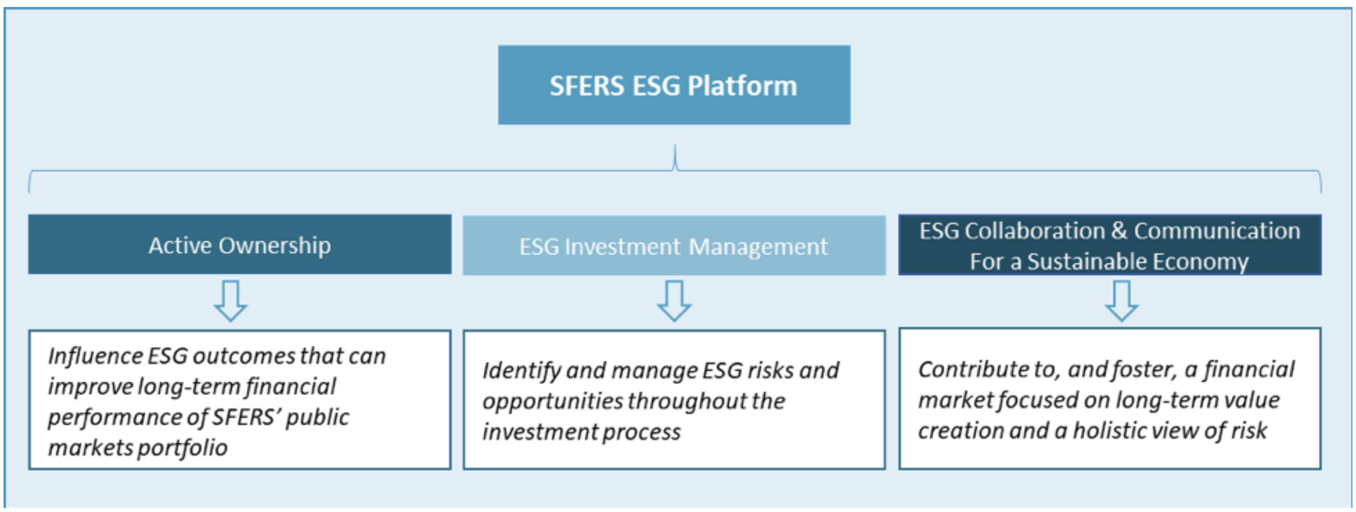
- **Manager Selection**

SFERS seeks higher excess returns through manager selection by emphasizing managers with unique or niche strategies and specialist skill. The focus on seeking higher excess returns than traditional index approaches provide an additional return source beyond market returns.

- **Environmental, Social and Governance (ESG) Platform**

SFERS believes that ESG factors can have a material impact on the value of companies and securities, as well as affect the macroeconomic environment more broadly. The consideration of these factors alongside traditional financial factors provides a better understanding of the risk and return characteristics of investments. SFERS, therefore, incorporates ESG factors into its management of the Trust. At all times, ESG factors are considered in a manner that is consistent with the Retirement Board and Staff's fiduciary responsibilities to act in the best interests of the active members, retirees, and beneficiaries of the Retirement System and consistent with SFERS' role as a prudent, long-term investor.

SFERS acknowledges that the relevance of ESG issues may differ and vary in degree across companies, sectors, regions, asset classes and over time. Therefore, SFERS takes a differentiated and materiality-based approach to integrating ESG considerations into its investment process. SFERS does so by implementing a three-pillar ESG Platform that consists of:



Active Ownership

1. Engagement – Engaging directly with companies in SFERS' underlying portfolio to encourage them to incorporate ESG considerations into their strategy, governance, and operational management.
2. Proxy Voting – Executing proxy votes according to SFERS' Proxy Voting Guidelines and supporting shareholder proposals on material environmental and social topics.

ESG Investment Management

- Manager Due Diligence & Monitoring – Engaging with existing and potential external managers across asset classes to understand their process for incorporating ESG considerations into their investment process.
- Investment – Investing in sustainability focused strategies across asset classes that meet SFERS' risk and return expectations.
- Divestment – Restricting investment in companies and/or industries that have high, unmitigated investment risks due to ESG factors.
- Analytics, Metrics, and Modeling – Utilizing quantitative and qualitative tools to assess ESG risks and opportunities across the SFERS portfolio.

ESG Collaboration & Communication

- Partnerships – Actively participating in ESG-related investor initiatives such as Principles for Responsible Investment, Ceres Investor Network, Council of Institutional Investors, Thirty Percent Coalition, Taskforce for Climate-related Financial Disclosures, and the Principles for a Responsible Civilian Firearms Industry.
- Reporting – Annually responding to the PRI Framework, providing regular updates to the SFERS Board, and responding to stakeholder inquiries around ESG matters.

In support of its ESG efforts, SFERS maintains a formal set of Environmental, Social, and Governance Investment Policies and Procedures and Proxy Voting Guidelines.

Alison Romano
Chief Executive Officer & Chief Investment Officer

Actuarial Section

Actuarial valuations are conducted annually to determine the funding requirements of the Retirement System. San Francisco City Charter specifies that the Retirement Board determines the employer contribution as a normal cost rate plus an amortization of the unfunded actuarial liability over a period not to exceed 20 years. Sponsoring employers are required to contribute 100% of the Board-approved actuarially determined contribution. Member contribution rates are also specified in City Charter.

Actuarial assumptions and methods are adopted by the Retirement Board with input from the consulting actuary. Key economic assumptions are reviewed annually, while demographic assumptions are studied every five years. The current demographic assumptions were adopted at the December 9, 2020 Board meeting for the July 1, 2020 actuarial valuation and are based upon the August 2020 Demographic Experience Study for the period covering July 1, 2014 through June 30, 2019. The study covered rates of retirement, termination, refund, disability, and mortality in addition to merit salary increases, final year salary increases, administrative expenses, and family composition. The current price and wage inflation assumptions were adopted at the December 9, 2020 Board meeting, while the current discount rate was adopted at the November 10, 2021 Board meeting.

A brief summary of the plan provisions may be found in the Notes to the Basic Financial Statements found in the Financial Section. A detailed summary of plan provisions may be found in the July 1, 2021 actuarial funding report dated January 2022.

The pension plan is a cost-sharing multiple-employer defined benefit pension plan as the plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan. Here the term "cost-sharing" refers to the sharing of costs between the employers: plan assets are pooled and individual employer contributions are not segregated from each other. The Introductory Section contains more details of the Retirement System, the Board, and its members.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

July 1, 2021 Actuarial Valuation

Actuarial Asset Valuation Method for Funding Policy

The actuarial value of assets is used to determine the employers' contribution to SFERS. The asset adjustment method dampens the volatility in asset values that occur due to fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

The actuarial value is calculated by recognizing 20% of each of the past five years of actual investment returns compared to the expected return (7.40% for the plan years ending 2019-2021 and 7.50% for the years ending 2017-2018) on the actuarial asset value. The expected return on actuarial value of assets is determined using actual cash flows and the assumed return. The balance of the actual investment experience is recognized in a similar fashion in future years.

This asset smoothing method started with the market value as of July 1, 2004. The Retirement Board adopted the method upon recommendation from the actuarial audit of 2005.

Actuarial Cost Method

The individual Entry Age Normal actuarial cost method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member's date of hire and assumed termination of employment. The normal costs calculated relate only to current member payroll. The actuarial liability is the difference between the present value of future benefits and the present value of future normal costs. Actuarial gains or losses which arise from the deviation of actual experience from expected experience lead to decreases or increases in the unfunded actuarial liability.

This cost method meets the Charter requirement that normal cost be determined as a level percent of pay.

Amortization Method for Funding Policy

The Retirement Board's funding policy specifies the various periods over which different components of the unfunded actuarial liability must be amortized subject to the Charter requirement that amortization periods not exceed 20 years.

The Retirement Board adopted the following amortization methods beginning with the July 1, 2014 actuarial funding valuation:

- 20-year closed periods for net actuarial gains and losses
- 20-year closed periods for assumption or method changes
- 15-year closed periods for Charter amendments (five-year closed periods for retirement incentive programs and amendments for inactive members)
- 5-year closed periods for supplemental COLAs
- The portion of the unfunded actuarial liability not attributable to Charter amendments as of July 1, 2013 was re-amortized over a closed 19-year period as of July 1, 2014.

If the System becomes 100% funded based on the Actuarial Value of Assets, any subsequent unexpected changes in the UAL are amortized over a rolling 20-year period until the System is no longer 100% funded.

Effective with the July 1, 2021 valuation, the remaining amortization periods for assumption changes prior to July 1, 2021 and all prior actuarial gains and losses (including the gain for 2021) are reduced to 5 years.

Any Charter amendment prior to July 1, 2014 has been amortized over 20 years from the date it was first recognized in the valuation. Prior to July 1, 2014, the portion of the unfunded actuarial liability not attributable to Charter amendments was amortized over a rolling 15-year period.

All amortization schedules are determined on a level percent of pay basis which means that for the duration of the amortization schedule, payment amounts increase each year at the assumed wage inflation rate.

Investment Return Assumption

SFERS' assets are assumed to earn 7.20% net of investment expenses. This assumption was adopted beginning with the July 1, 2021 valuation. For funding purposes, the discount rate used to calculate the actuarial liabilities and normal costs is set equal to the assumed investment return.

Inflation

Wage inflation is assumed to be 3.25% compounded annually. This assumption was adopted effective July 1, 2020. Consumer price inflation is assumed to be 2.50% compounded annually effective July 1, 2020.

Cost-of-Living Increase in Benefits

The following cost-of-living assumptions were adopted at the July 1, 2020 actuarial valuation:

Old Plans - Police and Fire, Charters 8.559 and 8.585	3.6% per year
Old Plans - Police and Fire, Charters 8.595 and 8.596	2.5% per year
Old Plans - Police and Fire, pre-7/1/75 retirement	1.9% per year
Old Plans - Miscellaneous	2.00% per year
New Plans - Police, Fire and Miscellaneous	2.00% per year

Supplemental Cost-of-Living Increases

Future supplemental COLAs are assumed to be 0% in the actuarial funding valuation. An assumption for future supplemental COLAs is included in the financial reporting valuation; see Note 10 to the financial statements.

Salary Increase Rate

- Wage inflation component: Bargained increases through July 1, 2022 followed by 3.25% compounded annually thereafter (adopted July 1, 2020)
- The additional merit component at selected years of service:

Years of Service	Police	Fire	Muni Drivers	Craft	Other Misc.
0	7.50%	14.00%	16.00%	3.75%	5.50%
5	3.75	4.00	1.25	1.20	2.25
10	1.50	1.50	0.30	0.50	1.10
15	0.50	0.50	0.00	0.50	0.55

Extra covered wages in the last year before service retirement are assumed to be as follows:

Safety	3.0% per year
Muni Drivers	4.5% per year
Craft Workers	3.0% per year
Other Miscellaneous	2.0% per year

Future Interest Crediting Rate on Member Contributions

4.50% compounded annually.

Administrative Expense Assumption

There is a 0.60% of Payroll assumption included in the normal cost rates for administrative expenses.

Member Refunds

Non-vested terminated members are assumed to receive a refund of their contributions with interest. The rates of refund for vested terminated members in the year of termination are shown below at selected years of service.

	Rates of Refund for Vested Terminated Members	
Service	**Police & Fire**	**Misc.**
5	24.0%	20.0%
7	16.0	12.0
10	4.0	8.5
15	0.0	6.0

In estimating refund amounts, it is assumed that employee contribution rates are, on average, not changed by the cost-sharing provisions of the November 2011 Proposition C.

Family Composition

The percentage assumed to be married (including assumption for Domestic Partners, 1994 Proposition H) is shown in the table below. Spouses of male members are assumed to be three years younger than the member and spouses of female members are assumed to be two years older than the member.

	Percentage Married
Safety Males	80%
Safety Females	60
Miscellaneous Males	75
Miscellaneous Females	55

Rates of Termination of Employment

Sample rates of termination by age and service for Miscellaneous (excluding Muni drivers and Craft) members are shown below:

	Age		
Service	**Under 30**	**30 to 39**	**40 & over**
0	38.00%	24.00%	20.00%
5	6.75	6.00	4.40
10	3.75	3.75	3.75
15	2.25	2.25	2.25
20+	1.00	1.00	1.00

Sample rates of termination by service for Police, Fire, Muni Drivers and Craft members are shown below:

Service	Police	Fire	Muni Drivers	Craft
0	8.00%	2.50%	12.00%	9.50%
5	1.00	1.00	3.00	3.25
10	0.75	0.50	2.50	1.75
15	0.50	0.25	2.50	1.75
20+	0.50	0.25	2.50	1.75

Termination rates are zero when members are eligible to retire. 20% of Miscellaneous and 40% of Safety terminating employees are assumed to subsequently work for a reciprocal employer and receive pay increases equal to the wage inflation assumption.

In estimating termination benefits for Miscellaneous members, it is assumed that employee contribution rates are, on average, not changed by the cost-sharing provisions of the November 2011 Proposition C.

Rates of Disability

Sample disability rates of active participants are provided below:

Age	Police	Fire	Muni Drivers	Craft	Other Misc. Females	Other Misc. Males
30	0.05%	0.04%	0.01%	0.01%	0.01%	0.01%
40	0.35	0.24	0.11	0.11	0.07	0.08
50	0.90	0.84	0.45	0.40	0.40	0.28
60	5.75	7.30	0.00	0.00	0.00	0.00

100% of safety and 0% of miscellaneous disabilities are assumed to be duty related. If projected disability occurs prior to service retirement eligibility, the level of duty disability is assumed to 55% of pay for Police and 55% of pay for Fire.

Rates of Retirement

Rates of retirement are based upon years of service and age. Members hired on or after January 7, 2012 (Tier III Plans) reach the highest benefit multiplier at later ages than the other members and have separate assumed rates of retirement. Sample retirement rates for active participants are provided in the following two tables:

Old Plans and New Plans' Tiers I and II

	Years of Service		
Age	19 or less (24 or less for Safety)	20-29 (25-29 for Safety)	30 or more
Muni Drivers			
55	0.00%	4.00%	5.00%
60	10.00%	10.00%	20.00%
65	27.50%	30.00%	35.00%
Craft			
55	0.00%	2.50%	5.00%
60	7.50%	12.00%	32.50%
65	25.00%	27.50%	30.00%
Other Misc.			
55	0.00%	4.00%	5.50%
60	9.00%	11.50%	30.00%
65	20.00%	30.00%	30.00%
Police			
55	7.50%	35.00%	50.00%
60	20.00%	34.00%	45.00%
65	100.00%	100.00%	100.00%
Fire			
55	7.50%	25.00%	35.00%
60	15.00%	25.00%	35.00%
65	100.00%	100.00%	100.00%

Tier III Plans (includes Sheriffs Plan and Miscellaneous Safety Plan)

	Years of Service		
Age	19 or less (24 or less for Safety)	20-29 (25-29 for Safety)	30 or more
Muni Drivers			
55	0.00%	1.00%	5.00%
60	5.00%	10.00%	15.00%
65	27.50%	30.00%	40.00%
Craft			
55	0.00%	1.50%	2.50%
60	5.00%	7.50%	15.00%
65	25.00%	30.00%	40.00%
Other Misc.			
55	0.00%	4.00%	4.00%
60	7.50%	10.00%	12.50%
65	25.00%	40.00%	40.00%
Police			
55	7.50%	20.00%	35.00%
60	20.00%	34.00%	45.00%
65	100.00%	100.00%	100.00%
Fire			
55	7.50%	15.00%	25.00%
60	15.00%	25.00%	35.00%
65	100.00%	100.00%	100.00%

The assumed retirement age for inactive terminated vested members and actives who are expected to terminate is shown below:

	Tier I and II Plans	Tier III Plans
Safety	51	55
	Non-Reciprocal	**Reciprocal**
Miscellaneous	55	60

Rates of Mortality for Healthy Lives

Mortality rates used in the valuation are developed from a base table that is projected generationally from the base year of that table using the mortality projection scale described below. Base mortality tables are developed by multiplying a published table by an adjustment factor that was developed in the experience study for the period ending June 30, 2019. The base mortality tables for healthy lives are as follows:

Age	Published Table	Adjustment Factor Male	Adjustment Factor Female
Non-Annuitants			
Miscellaneous	PubG-2010 Employee	0.834	0.866
Safety	PubS-2010 Employee	1.011	0.979
Retirees			
Miscellaneous	PubG-2010 Retiree	1.031	0.977
Safety	PubS-2010 Retiree	0.947	1.044
Beneficiaries			
Miscellaneous	PubG-2010 Retiree	1.031	0.977
Safety	PubS-2010 Retiree	1.031	0.977

For active members, 25% of Safety deaths and 0% of Miscellaneous deaths are assumed to be duty related.

Rates of Mortality for Retired Disabled Lives

For disabled annuitant mortality, separate base tables are developed for males and females and for Miscellaneous and Safety members by multiplying a published table by an adjustment factor that was developed in the experience study for the period ending June 30, 2019. The base mortality tables for disabled lives are as follows:

Disabled Annuitants	Published Table	Adjustment Factor Male	Adjustment Factor Female
Disabled Annuitants			
Miscellaneous	PubG-2010 Disabled	1.045	1.003
Safety	PubS-2010 Disabled	0.916	0.995

Mortality Projection Scale

The mortality rates shown in the base tables above are projected generationally from the base year using the MP-2019 projection scale.

Recent Changes

Changes in actuarial assumptions and methods since the July 1, 2020 valuation include the following:

- Discount Rate/Assumed Investment Return: 7.40% to 7.20% compounded annually;
- If the System becomes 100% funded based on the Actuarial Value of Assets, any subsequent unexpected changes in the UAL are amortized over a rolling 20-year period until the System is no longer 100% funded; and
- Effective with the July 1, 2021 valuation, the remaining amortization periods for assumption changes prior to July 1, 2021 and all prior actuarial gains and losses (including the gain for 2021) are reduced to 5 years.

There have been no significant changes in plan provisions reflected since the July 1, 2020 actuarial valuation.

There have been no changes in retained actuary or actuarial firm.

Contribution Information

The funding policy of the Retirement System is described in this Actuarial Section and also in Note 9 of the financial statements. A ten-year schedule of employer contributions may be found in the Required Supplementary Information of the Financial Section. Information on rates of employer and member contributions based on covered payroll may be found in the Statistical Section.

Total Pension Liability for GASB 67 Financial Reporting

The Actuarial Accrued Liability (AAL) of this Actuarial Section is calculated using the same actuarial cost method as the Total Pension Liability (TPL) found in Note 10 of the financial statements. However, the AAL differs from the Total Pension Liability in three ways:

- The AAL developed for the funding valuation does not include an assumption of future supplemental COLAs. The AAL does include all liabilities for supplemental COLAs that have already occurred as of the valuation date. Total Pension Liability incorporates the probability that future supplemental COLAs may occur in years after the valuation date.
- The census date of the AAL is the same as the valuation date of July 1. The census date for the June 30 fiscal year-end Total Pension Liability is as of previous July 1 valuation date. The Total Pension Liability is a roll-forward liability using standard roll-forward procedures, adjusted for significant changes during the fiscal year.
- The AAL is valued at a discount rate equal to the assumed investment return, while the Total Pension Liability is valued at a discount rate that could be equal to or lower than the assumed investment return.

Note 10 contains further information about the assumed probabilities of future supplemental COLAs, the roll-forward of liabilities, and the assumed discount rate for GASB 67 financial reporting. Other than these differences, the actuarial assumptions used for funding purposes are the same assumptions used for financial reporting purposes.

ACTUARIAL ANALYSIS OF FINANCIAL EXPERIENCE

The analysis of financial experience is a gain/loss analysis of changes in the unfunded actuarial accrued liability (UAAL) that considers variances between actual experience and assumed experience. The net expected changes in the UAAL from one year to the next include the sum of the additional benefits accrued during the year (the normal cost) and the interest accrual on the UAAL reduced by the payment of employer contributions.

The analysis also shows the impact on the UAAL due to changes in benefits due to supplemental COLAs and voter-approved propositions and also due to changes in assumptions such as mortality, investment return, or salary merit scale. Changes in the UAAL due to asset returns include the impacts of the five-year smoothing of investment returns inherent in the actuarial asset valuation method.

(Dollars in millions)

As of July 1	2021	2020	2019	2018	2017
Prior Valuation Unfunded Actuarial Accrued Liability	$ 2,804.1	$ 3,551.0	$ 3,469.4	$ 3,520.8	$ 3,749.2
Expected change from Prior Valuation	(314.4)	(311.2)	(232.4)	(157.7)	(82.5)
Expected Unfunded Actuarial Liability as of Valuation Date	2,489.7	3,239.8	3,237.0	3,363.1	3,666.7
Changes in Benefits due to Propositions and/or Supplemental COLAs	264.1	0.0	141.0	200.8	200.1
Changes in Assumptions	701.6	(591.4)	0.0	297.7	50.2
Salary Increases Greater/(Less) than Expected	169.8	114.5	46.0	(53.7)	(80.6)
Asset Return Less/(Greater) than Expected	(1,750.1)	6.4	(58.6)	(408.9)	(405.7)
All Other Experience	(13.0)	34.8	185.6	70.4	90.1
Unfunded Actuarial Accrued Liability as of Valuation Date	**$ 1,862.1**	**$ 2,804.1**	**$ 3,551.0**	**$ 3,469.4**	**$ 3,520.8**

SCHEDULE OF FUNDING PROGRESS

The schedule below presents valuation results for the last 10 years based upon actuarial methods and assumptions used for funding purposes.

(Dollars in thousands)

Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll[1]	UAAL as a % of Covered Payroll
7/01/2012	16,027,683	19,393,854	3,366,171	82.6%	2,393,842	140.6%
7/01/2013	16,303,397	20,224,777	3,921,380	80.6%	2,535,963	154.6%
7/01/2014	18,012,088	21,122,567	3,110,479	85.3%	2,640,153	117.8%
7/01/2015	19,653,339	22,970,892	3,117,553	85.6%	2,820,968	110.5%
7/01/2016	20,654,703	24,403,882	3,749,179	84.6%	3,062,422	122.4%
7/01/2017	22,185,244	25,706,090	3,520,846	86.3%	3,242,468	108.6%
7/01/2018	23,866,028	27,335,417	3,469,389	87.3%	3,385,517	102.5%
7/01/2019	25,247,549	28,798,581	3,551,032	87.7%	3,549,936	100.0%
7/01/2020	26,695,844	29,499,918	2,804,074	90.5%	3,703,103	75.7%
7/01/2021	30,043,222	31,905,275	1,862,053	94.2%	3,828,797	48.6%

1 Covered payroll based upon actuarial projection of annualized pay for the year beginning on the valuation date.

ACTUARIAL SOLVENCY TEST

The solvency test compares aggregate actuarial liabilities by various categories with the plan's present assets. Category (A), active member contributions, includes both employee contributions and earned interest. Category (B) includes all liabilities for members no longer working, both retirees and beneficiaries who are receiving payments and also other inactives entitled to future payments. Category (C) includes the actuarial accrued liability for active members in excess of the active member contributions.

The table below shows a 100% funded status over the last ten years for employee contributions with interest (Category A) and for members who have terminated service with rights to future payments (Category B). The liabilities for service already rendered by active members (Category C) has not been fully funded since the July 1, 2008 actuarial valuation.

(Dollars in millions)

	Actuarial Accrued Liability (AAL)				Percentage of AAL Covered by Assets		
Valuation Date	Active Member Contributions (A)	Retirees, Beneficiaries, and Inactives (B)	Employer Financed Portion of Active Members (C)	Actuarial Value of Assets	(A)	(B)	(C)
7/1/2012	2,451	11,658	5,285	16,028	100%	100%	36%
7/1/2013	2,633	12,257	5,335	16,303	100%	100%	26%
7/1/2014	2,825	12,901	5,397	18,012	100%	100%	42%
7/1/2015	2,995	13,931	6,045	19,653	100%	100%	45%
7/1/2016	3,175	14,941	6,288	20,655	100%	100%	40%
7/1/2017	3,325	15,847	6,535	22,185	100%	100%	46%
7/1/2018	3,496	17,024	6,816	23,866	100%	100%	49%
7/1/2019	3,675	18,074	7,050	25,248	100%	100%	50%
7/1/2020	3,916	18,621	6,963	26,696	100%	100%	60%
7/1/2021	4,104	20,228	7,573	30,043	100%	100%	75%

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date	Plan Type	Count[1]	Annual Covered Pay[1]	Average Annual Covered Pay	% Increase in Average Covered Pay
7/1/2012	General	24,878	1,928,148,586	77,504	1.7%
	Safety	3,219	395,842,540	122,971	5.2%
7/1/2013	General	25,392	2,031,987,811	80,025	3.3%
	Safety	3,325	417,543,208	125,577	2.1%
7/1/2014	General	26,053	2,109,100,013	80,954	1.2%
	Safety	3,463	429,618,756	124,060	(1.2)%
7/1/2015	General	27,233	2,259,320,255	82,963	2.5%
	Safety	3,604	441,419,658	122,480	(1.3)%
7/1/2016	General	28,623	2,439,969,498	85,245	2.8%
	Safety	3,783	462,752,871	122,324	(0.1)%
7/1/2017	General	29,545	2,621,632,438	88,734	4.1%
	Safety	3,902	481,039,920	123,280	0.8%
7/1/2018	General	29,910	2,733,626,773	91,395	3.0%
	Safety	4,036	502,353,057	124,468	1.0%
7/1/2019	General	30,056	2,843,589,575	94,610	3.5%
	Safety	4,146	535,124,687	129,070	3.7%
7/1/2020	General	30,327	3,015,795,127	99,443	5.1%
	Safety	4,194	567,471,231	135,305	4.8%
7/1/2021	General	29,570	3,025,807,035	102,327	2.9%
	Safety	4,074	560,725,153	137,635	1.7%

1 Annual Covered Pay represents the sum of the annualized valuation salary for the prior fiscal year for each active member as of the July 1 valuation date.

RETIREES AND BENEFICIARIES IN PAYEE STATUS

	Added to Rolls		Removed from Rolls		Rolls at End of Year			
Fiscal Year	Member Count[1]	Annual Allowance	Member Count	Annual Allowance	Member Count[1]	Annual Allowance	% Increase in Annual Allowance	Average Annual Allowance
2011-12	1,769	70,868,367	871	26,958,609	25,190	982,250,287	8.5%	38,994
2012-13	1,577	66,437,220	733	22,406,077	26,034	1,045,547,799	6.4%	40,161
2013-14	1,588	65,923,470	770	25,170,856	26,852	1,103,959,803	5.6%	41,113
2014-15	1,564	63,136,134	931	29,314,643	27,485	1,157,081,680	4.8%	42,099
2015-16	1,657	72,049,646	856	30,384,191	28,286	1,247,230,245	4.7%	44,094
2016-17	1,769	80,214,008	928	35,082,179	29,127	1,332,430,263	6.8%	45,746
2017-18	1,797	84,574,963	959	36,284,323	29,965	1,424,324,641	6.9%	47,533
2018-19	1,770	83,661,179	957	36,959,870	30,778	1,513,436,081	6.3%	49,173
2019-20	1,470	74,777,425	816	34,764,875	30,128	1,587,981,080	4.9%	52,708
2020-21	1,722	97,495,262	996	43,909,238	30,854	1,691,633,291	6.5%	54,827

1 Member Count as of FYE 2020 reflects combining records for members who have both a Safety and Miscellaneous benefit.

Statistical Section

The Statistical Section provides financial and operational information in further detail to assist users in understanding trends in the Basic Financial Statements, Notes to Basic Financial Statements, and Required Supplemental Information.

FINANCIAL INFORMATION

- ***Additions to Pension Plan by Source*** reflects the various sources of income to SFERS
- ***Deductions to Pension Plan by Type*** displays the major expenses to SFERS which are benefits paid to members, refunds of employee contributions to members, and administrative expenses
- ***Changes in Fiduciary Net Position*** shows the changes in net position during each of the last 10 fiscal years
- ***Benefit Expenses of Pension Plan by Type*** details the benefits paid during the fiscal year due to retirements, disability, death, newly granted COLAs, and accruals for DROP

OPERATIONAL INFORMATION

- ***Average Pension Benefit Payments*** highlights benefit levels paid to newly retired and disabled members with differing amounts of credited service
- ***Active Members by Employer*** compares the current active member counts for each SFERS cost-sharing employer to counts from 10 years ago
- ***Employer Contribution Rates*** details the components that comprise the last ten years of employer contribution rates
- ***Employer and Employee Contribution Rates for Fiscal Year 2021-22*** shows the contribution rates for various member classes after application of the cost-sharing provisions of 2011 Proposition C

ADDITIONS TO PENSION PLAN BY SOURCE

(Dollars in thousands)

Fiscal Year Ending June 30	Member Contributions	Employer Contributions	Gross Return on Investments	Investment Expenses	Total
2013	258,726	442,870	2,106,204	(41,654)	2,766,146
2014	289,020	532,882	3,223,030	(47,599)	3,997,333
2015	301,682	592,643	808,340	(44,911)	1,657,754
2016	322,764	526,805	197,216	(47,026)	999,759
2017	316,844	551,809	2,730,863	(47,395)	3,552,121
2018	364,696	619,067	2,599,555	(49,881)	3,533,437
2019	380,980	645,056	2,018,752	(48,440)	2,996,348
2020	400,649	742,985	1,012,953	(46,671)	2,109,916
2021	409,398	836,559	9,510,000	(62,331)	10,693,626
2022	423,471	768,463	(2,227,514)	(80,806)	(1,116,386)

DEDUCTIONS TO PENSION PLAN BY TYPE

(Dollars in thousands)

Fiscal Year Ending June 30	Benefits Paid	Refunds of Contributions	Administrative Expenses	Total
2013	1,023,354	9,453	15,518	1,048,325
2014	1,062,229	10,297	15,745	1,088,271
2015	1,118,691	12,339	19,262	1,150,292
2016	1,243,260	12,886	17,179	1,273,325
2017	1,264,633	13,507	18,134	1,296,274
2018	1,350,009	14,578	18,238	1,382,825
2019	1,438,935	17,747	18,983	1,475,665
2020	1,531,041	17,036	20,270	1,568,347
2021	1,599,507	20,254	20,249	1,640,010
2022	1,710,092	27,658	21,174	1,758,924

Together, the above two tables present the changes in fiduciary net position during each of the last 10 fiscal years. Total additions less total deductions equal the net increase or decrease in fiduciary net position.

CHANGES IN FIDUCIARY NET POSITION

(Dollars in thousands)

Fiscal Year Ending June 30	Additions	Deductions	Net Change	Fiduciary Net Position Beginning of Year	Fiduciary Net Position End of Year
2013	2,766,146	1,048,325	1,717,821	15,293,724	17,011,545
2014	3,997,333	1,088,271	2,909,062	17,011,545	19,920,607
2015	1,657,754	1,150,292	507,462	19,920,607	20,428,069
2016	999,759	1,273,325	(273,566)	20,428,069	20,154,503
2017	3,552,121	1,296,274	2,255,847	21,154,503	22,410,350
2018	3,533,437	1,382,825	2,150,612	22,407,354	24,557,966
2019	2,996,348	1,475,665	1,520,683	24,557,966	26,078,649
2020	2,109,916	1,568,347	541,569	26,078,649	26,620,218
2021	10,693,626	1,640,010	9,053,616	26,620,218	35,673,834
2022	(1,116,386)	1,758,924	(2,875,310)	35,673,834	32,798,524

Note that 2018 fiscal year fiduciary net position at beginning of year was restated due to adoption of GASB No. 75.

BENEFIT PAYMENTS OF PENSION PLAN BY TYPE

(Dollars in thousands)

Fiscal Year	Retirement Benefits	Disability Benefits	Death Benefits	COLA Benefit Adjustments	DROP Accrued Retirement	Total
2013	770,521	168,365	8,387	54,816	21,265	1,023,354
2014	827,311	172,619	7,998	53,098	1,203	1,062,229
2015	878,834	175,620	7,492	51,447	5,298	1,118,691
2016	937,388	179,056	8,990	118,012	(186)	1,243,260
2017	994,408	184,376	11,163	74,890	(294)	1,264,633
2018	1,063,184	187,365	10,224	89,236	0	1,350,009
2019	1,131,334	193,016	8,908	105,945	(268)	1,438,935
2020	1,209,024	199,655	8,667	113,695	0	1,531,041
2021	1,272,492	204,831	11,538	110,646	0	1,599,507
2022	1,356,728	211,292	10,705	131,367	0	1,710,092

Fiscal year 2016 COLA benefits include retroactive supplemental COLA benefits for 2013 and 2014 paid after the October 2015 Superior Court judgment. Benefit payments and refunds of contributions for the most recent fiscal year are provided in further detail in the Financial Section under Other Supplementary Information.

AVERAGE PENSION BENEFIT PAYMENT FOR RETIRED AND DISABLED MEMBERS

	Years of Credited Service					
Retirement Effective Dates	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30+**
07/1/12 to 6/30/13						
Average Mo. Benefit	$ 909	$ 1,776	$ 2,792	$ 3,579	$ 5,720	$ 7,340
Average Final Comp.	$ 7,225	$ 6,982	$ 7,409	$ 7,564	$ 8,699	$ 9,758
Number	116	195	120	193	253	275
07/1/13 to 6/30/14						
Average Mo. Benefit	$ 980	$ 1,971	$ 2,812	$ 3,826	$ 5,720	$ 6,927
Average Final Comp.	$ 7,866	$ 7,214	$ 7,530	$ 7,905	$ 8,656	$ 9,143
Number	138	181	170	155	212	257
7/1/14 to 6/30/15						
Average Mo. Benefit	$ 969	$ 1,817	$ 2,930	$ 4,321	$ 5,237	$ 6,654
Average Final Comp.	$ 6,627	$ 6,844	$ 7,759	$ 8,267	$ 7,977	$ 8,827
Number	109	177	163	165	187	245
7/1/15 to 6/30/16						
Average Mo. Benefit	$ 1,051	$ 2,077	$ 2,906	$ 4,071	$ 5,716	$ 6,514
Average Final Comp.	$ 7,363	$ 8,266	$ 7,485	$ 8,404	$ 9,534	$ 9,016
Number	110	184	196	175	211	291
7/1/16 to 6/30/17						
Average Mo. Benefit	$ 1,113	$ 2,057	$ 3,184	$ 4,657	$ 6,138	$ 7,275
Average Final Comp.	$ 8,182	$ 7,989	$ 8,106	$ 9,205	$ 9,455	$ 9,651
Number	129	197	211	167	199	263
7/1/17 to 6/30/18						
Average Mo. Benefit	$ 1,150	$ 2,139	$ 3,293	$ 4,294	$ 6,762	$ 7,249
Average Final Comp.	$ 7,949	$ 8,229	$ 8,369	$ 8,647	$ 10,158	$ 9,590
Number	98	210	289	251	244	429
7/1/18 to 6/30/19						
Average Mo. Benefit	$ 1,212	$ 2,204	$ 3,372	$ 4,474	$ 6,827	$ 7,114
Average Final Comp.	$ 7,656	$ 8,688	$ 8,579	$ 9,243	$ 10,307	$ 9,978
Number	135	188	224	241	227	304

AVERAGE PENSION BENEFIT PAYMENT FOR RETIRED AND DISABLED MEMBERS (CONTINUE)

	Years of Credited Service					
Retirement Effective Dates	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30+**
7/1/19 to 6/30/20						
Miscellaneous Members						
Average Mo. Benefit	$ 1,121	$ 2,424	$ 3,143	$ 4,174	$ 5,286	$ 6,880
Average Final Comp.	$ 8,500	$ 9,585	$ 8,553	$ 9,136	$ 9,362	$ 9,743
Number	102	132	147	178	111	183
Safety Members						
Average Mo. Benefit	$ 4,065	$ 4,133	$ 7,228	$ 7,740	$ 11,979	$ 12,950
Average Final Comp.	$ 10,871	$ 11,814	$ 13,224	$ 13,171	$ 15,164	$ 15,210
Number	5	3	14	18	34	28
7/1/20 to 6/30/21						
Miscellaneous Members						
Average Mo. Benefit	$ 1,153	$ 2,226	$ 3,594	$ 4,597	$ 5,837	$ 7,182
Average Final Comp.	$ 5,687	$ 7,040	$ 8,975	$ 10,201	$ 9,668	$ 9,927
Number	100	156	158	219	144	245
Safety Members						
Average Mo. Benefit	$ 1,605	$ 4,198	$ 6,648	$ 8,193	$ 11,043	$ 13,811
Average Final Comp.	$ 10,752	$ 11,432	$ 13,086	$ 12,871	$ 14,087	$ 15,672
Number	3	8	7	33	67	39
7/1/21 to 6/30/22						
Miscellaneous Members						
Average Mo. Benefit	$ 1,198	$ 2,613	$ 3,751	$ 4,489	$ 6,102	$ 7,706
Average Final Comp.	$ 9,047	$ 9,998	$ 10,157	$ 9,414	$ 10,920	$ 10,501
Number	107	192	174	311	161	243
Safety Members						
Average Mo. Benefit	$ 2,415	$ 4,370	$ 5,979	$ 8,254	$ 11,572	$ 14,481
Average Final Comp.	$ 11,577	$ 12,020	$ 12,632	$ 13,385	$ 14,749	$ 16,504
Number	13	12	9	55	89	54

ACTIVE MEMBERS BY EMPLOYER

Employer	July 1, 2022	Percentage of System	July 1, 2012	Percentage of System
City and County of San Francisco[1]	31,085	93.3%	26,001	91.9%
San Francisco Unified School District	1,237	3.9%	1,180	4.2%
San Francisco Community College District	510	1.7%	686	2.4%
San Francisco Trial Courts	367	1.1%	415	1.5%
Total	33,199	100.0%	28,282	100.0%

1 Includes active DROP

EMPLOYER CONTRIBUTION RATES

Before Adjustment for Cost-Sharing Provisions[1]

Fiscal Year	Normal Cost	Remaining Cost of Propositions	Other UAL	Employee Contributions	Administrative Expenses	Total
2013	17.90%	6.21%	3.66%	(7.51%)	0.45%	20.71%
2014	17.91%	6.11%	7.88%	(7.53%)	0.45%	24.82%
2015	18.26%	5.99%	9.60%	(7.54%)	0.45%	26.76%
2016	18.38%	5.86%	5.65%	(7.54%)	0.45%	22.80%
2017	18.65%	5.69%	4.02%	(7.56%)	0.60%	21.40%
2018	18.56%	5.12%	6.75%	(7.57%)	0.60%	23.46%
2019	17.25%	5.07%	7.97%	(7.58%)	0.60%	23.31%
2020	17.71%	4.80%	9.67%	(7.59%)	0.60%	25.19%
2021	17.72%	4.74%	11.45%	(7.61%)	0.60%	26.90%
2022	17.29%	3.56%	10.58%	(7.62%)	0.60%	24.41%

1 Cost sharing provisions effective July 1, 2012 following passage of Proposition C in November of 2011

FISCAL YEAR 2021-2022 EMPLOYER AND EMPLOYEE CONTRIBUTION RATES

Employer and employee contribution rates are shown below after adjustment for the Proposition C cost-sharing provisions. Proposition C was passed by voters in the November 2011 election and established cost-sharing provisions between employee-members and employers. When the unadjusted employer contribution rates are higher than 12.00%, a portion of the employer contribution (up to 6.00%) is transferred to the member contribution rate. When unadjusted employer contribution rates are lower than 11.01%, a portion of the member contribution rate (up to 6.00%) would be transferred to the employer. Contribution rates are adjusted once a year based on the unadjusted employer contribution rate adopted by the Retirement Board and the member's hourly base rate of pay as of the June 30 prior to the effective date of the contribution rate.

FISCAL YEAR 2021-2022 EMPLOYER CONTRIBUTION RATES

After Cost-Sharing Provisions

Member Group	Base Rate of Pay Less than $31 per hour	Base Rate of Pay At or above $31 but less than $62 per hour	Base Rate of Pay At or above $62 per hour
Miscellaneous Non-Safety Plans	24.41%	20.91%	20.41%
Police and Firefighter Old Plans	19.91%	19.91%	19.91%
Police and Firefighter New Plans Tier I	19.91%	19.91%	19.91%
Police and Firefighter New Plans Tiers II and III	20.91%	20.91%	20.41%
Miscellaneous Safety and Sheriffs Plans	20.91%	20.91%	20.41%

FISCAL YEAR 2021-2022 EMPLOYEE CONTRIBUTION RATES

After Cost-Sharing Provisions

Member Group	Base Rate of Pay Less than $31 per hour	Base Rate of Pay At or above $31 but less than $62 per hour	Base Rate of Pay At or above $62 per hour
Miscellaneous Old Plans	8.0%	11.5%	12.0%
Miscellaneous New Plans	7.5%	11.0%	11.5%
Police and Firefighter Old Plans	11.5%	11.5%	11.5%
Police and Firefighter New Plans Tier I	12.0%	12.0%	12.0%
Police and Firefighter New Plans Tiers II and III	12.5%	12.5%	13.0%
Miscellaneous Safety and Sheriffs Plans	12.5%	12.5%	13.0%


AQUARIUM OF THE BAY

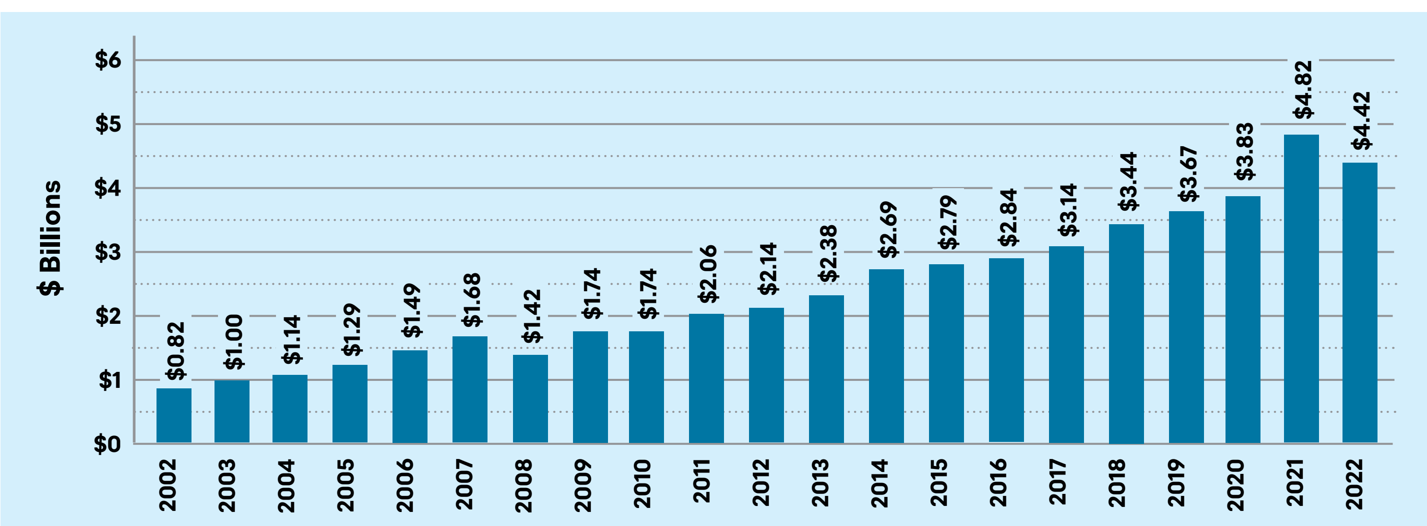
Deferred Compensation Plan (SFDCP)

The San Francisco 457(b) Deferred Compensation Plan (SFDCP) was adopted in 1976 to offer active members an opportunity to acquire additional retirement savings intended to complement pension benefits. The SFDCP allows City employees to voluntarily defer a portion of their regular earnings until after they retire or separate from service. This method of tax deferral has become increasingly popular, and the Plan also offers Roth after-tax contributions. During the past fiscal year, plan assets for the SFDCP decreased by approximately 12%, and the average account balance per participant was $142,891.79.

The Plan provides a diverse selection of thirteen core investment funds, a suite of Target Date Funds, risk-based model portfolios, a discretionary managed account service, and access to a self-directed brokerage platform. In addition to this enhanced lineup of investment options, the SFDCP offers participants exceptionally low fees, a customized website, financial education, online transactions, and dedicated retirement counselors available in person at the SFDCP office, around the City, or virtually. Voya Financial currently serves as the recordkeeper for the SFDCP.

As of June 30, 2022, there were 33,064 participants in the SFDCP with Plan assets valued at $4.22 Billion in assets under management. The following chart and table provide detailed information about the investments that make up the City's 457(b) Deferred Compensation Plan, as well as customer service and participation activity for the Fiscal Year 2021-22.

SFDCP Assets under Management



SFDCP Values as of June 30, 2022

Funds	Total Assets *	Percent Of Total Assets	Annual Performance
SFDCP Stable Value Fund	$ 1,008,947,710	23.93%	1.70%
SFDCP Core Bond Fund	$ 138,413,732	3.28%	-11.03%
SFDCP Bond Index Fund	$ 183,097,960	4.34%	-10.32%
SFDCP Retirement Fund	$ 217,662,663	5.16%	-10.97%
SFDCP Target Date 2025 Fund	$ 155,810,250	3.70%	-11.10%
SFDCP Target Date 2030 Fund	$ 143,120,724	3.39%	-11.58%
SFDCP Target Date 2035 Fund	$ 122,796,989	2.91%	-12.26%
SFDCP Target Date 2040 Fund	$ 89,322,406	2.12%	-13.08%
SFDCP Target Date 2045 Fund	$ 68,637,961	1.63%	-13.58%
SFDCP Target Date 2050 Fund	$ 30,250,858	0.72%	-13.58%
SFDCP Target Date 2055 Fund	$ 14,077,436	0.33%	-13.58%
SFDCP Target Date 2060 Fund	$ 1,372,931	0.03%	-13.57%
SFDCP Target Date 2065 Fund	$ 1,258,545	0.03%	-13.58%
SFDCP Large Cap Value Equity Fund	$ 79,784,239	1.89%	-5.82%
SFDCP Large Cap Equity - S&P 500 Index Fund	$ 598,484,788	14.20%	-10.62%
SFDCP Large Cap Social Equity Fund	$ 110,080,329	2.61%	-15.11%
SFDCP Large Cap Growth Equity Fund	$ 512,430,845	12.15%	-28.02%
SFDCP Active Equity Fund	$ 116,804,138	2.77%	-9.79%
SFDCP Small-Mid Cap Equity Index Fund	$ 233,152,982	5.53%	-29.82%
SFDCP Small-Mid Cap Equity Fund	$ 12,066,939	0.29%	-17.82%
SFDCP International Equity Fund	$ 156,613,376	3.71%	-20.52%
SFDCP International Equity Index Fund	$ 150,513,818	3.57%	-17.28%
SFDCP Real Estate Fund	$ 33,312,383	0.79%	-6.98%
Self-Directed Brokerage	$ 38,125,962	0.90%	N/A
Total Plan Assets	**$ 4,216,139,964**	**100.00%**	

* Assets are rounded up to the nearest dollar

SFDCP Statistics Summary

Plan Year Ended June 30, 2022

Asset Summary	
Beginning Assets July 1, 2021[1]	$ 4,861,735,904
Contributions	232,584,697
Roll-ins	13,548,811
Less Distributions	194,471,073
Outstanding Loans	45,626,291
Ending Assets June 30, 2022[1]	**$ 4,262,379,542**
Participant Summary	
Beginning Participants July 1, 2021	32,375
New Participants	1,535
Actively Contributing Participants	19,983
Ending Participants June 30, 2022	**33,064**
Service Summary	
Group Meetings	310
Field and Office Individual Counseling Sessions	5,221
Customer Service Calls (IVR and Representatives)	35,594
Web Logins	623,450

1 Includes miscellaneous transactions, loan repayments and net appreciation (earnings).