



Global Stewardship at Work

2015-16 SUSTAINABILITY REPORT

CALSTRS®



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CalSTRS Sustainability Program Manager

Teresa Gonzales explains how to get the most out of the CalSTRS 2015–16 Sustainability Report.

A Word From CEO Jack Ehnes

GLOBAL STEWARDSHIP AT WORK



One of CalSTRS' seven core values that define us and our employees is stewardship: we recognize our fiduciary responsibility as the foundation for all our decision-making.

As a global, institutional investor, CalSTRS has a fiduciary duty to be principled and effective within our operations to meet financial commitments for the next century and beyond. We believe that establishing a corporate environment with sustainable values is a blueprint for better governance and increased profitability.

CalSTRS demonstrates our commitment to long-term sustainability by modeling best practices in corporate governance, employing risk-mitigation policies, developing workforce succession plans and dedicating resources to increase the financial awareness of our members. Across the spectrum of our activities, we consistently advocate for the importance of long-term value creation, which is the essence of the "Global Stewardship at Work" theme in this year's report.

CalSTRS' sustainability framework has greatly expanded since the Teachers' Retirement Fund was established in 1913, with 120 retired members and 15,000 active members. Over the past century, we have grown to include more than 914,000 members and beneficiaries who depend on the fulfillment of our mission to secure their financial future.

According to a February 2016 study by the UC Berkeley Center for Labor Research, 75 percent of classroom teaching in California is performed by teachers who will have been covered by CalSTRS for at least 20 years by the time they retire. And for 86 percent of our members, the CalSTRS defined benefit pension provides a greater, more secure retirement income than an idealized 401(k)-style plan. However, because our members do not receive Social Security for their CalSTRS-covered employment, and their defined benefit pension will replace, on average, just over half of their working income, a supplemental savings plan is essential to maintain their standard of living in retirement years.

Reflecting on the results of this research, we emphasize awareness, outreach and education to provide our members with retirement planning tools throughout their careers. We target early career members to invest in supplemental savings plans, encouraging them to save early in their careers when they can benefit most from the power of time and compounding. And we don't stop there. We continue educating our members on the importance of financial goal setting throughout their career lifespan, so they are better prepared for the future that lies ahead of them in retirement.

Life expectancy continues to improve as we now project a female teacher reaching the age of 62 will have a life expectancy of 90. Having adequate financial resources for decades of retirement requires considerable planning early in life. When educators reach retirement, it is our hope that they will reflect that their financial resources

adequately meet their expectations. Surveys of our members affirm our mission that the majority do feel adequately prepared for retirement. In a time of considerable retirement anxiety in this country, that is an astounding finding.

Managing a multibillion dollar portfolio requires thoughtful diligence to monitor investment performance, analyze projections and take necessary action to ensure a stable, risk-adjusted return profile. Integrating environmental, social and governance factors is a constant consideration for CalSTRS. Our Teachers' Retirement Board and Investments staff strategically engage to produce powerful impacts that permeate across global markets to influence better corporate practices.

As a long-term investor, CalSTRS takes steps to balance risk with opportunity in order to preserve the integrity and strength of our fund. In December 2015, we were one of the first large institutional investors to commit to the COP21 Paris Pledge for Action. Our pledge to increase clean energy and technology investments from \$1.4 billion to \$3.7 billion by the year 2019 continued in mid-2016 with a \$2.5 billion investment commitment in a low-carbon index.

Striving to engage and actively seek stakeholder input is integral to our sustainability efforts. This year, as in the past, we launched a stakeholder materiality survey. The results of that survey drive the topics of this report, including an outline of comments we received. In an ongoing effort to improve member services, CalSTRS considers stakeholder feedback when formulating our business strategies, customer service solutions, and ongoing online and written communications. Along with increased focus on stakeholder engagement and organizational transparency, further business solutions continue to emerge that sustain our core mission, including implementation of a new pension administration system, workforce succession planning, and employee diversity and inclusion programs.

CalSTRS' sustainability-focused mission is interwoven into the fabric of everything we do. Our employees demonstrate this every day by achieving laudable water conservation, harvesting organic produce from our Waterfront Gardens for our cafe, supporting alternative transportation methods, and participating in sustainable lifestyles in our LEED Platinum-certified headquarters building.

CalSTRS' approach to environmental, social and governance challenges embraces opportunities to expand global perspectives while incorporating innovative solutions toward reaching our long-term focused goals. With the efforts detailed here in our third annual *2015–16 Sustainability Report: Global Stewardship at Work*, CalSTRS continues to manage resources and our fund with great diligence and care.

Respectfully submitted,



Jack Ehnes
Chief Executive Officer

CalSTRS' core value of stewardship: We recognize our fiduciary responsibility as the foundation for all our decision-making.



REPORT PROFILE

Report Profile

This report is an overview of the relative data and assessment of the material topics covering July 1, 2015–June 30, 2016 and, in some cases, later into the calendar year 2016, as noted. This report was prepared in accordance with Global Reporting Initiative G4 Guidelines Core option and the GRI Content Index. This is CalSTRS' third annual GRI report and follows the *CalSTRS 2014–15 Sustainability Report: Fostering a Secure Future*.

This report's boundary and scope include CalSTRS' West Sacramento headquarters building, five member service centers—one located within the headquarters building—and

financial information from the State Teachers' Retirement Plan. Most data is aggregated statewide across our five California locations, with some data specific to our Northern California headquarters.

Headquarters-only data includes energy, water, greenhouse gas emissions, alternate transportation and waste diversion figures. Member service centers do not materially affect CalSTRS' energy and water performance because utility savings and usage are primarily controlled by lease agreements.

Assurance

CalSTRS has no policy on the report's external assurance at this time but strives to provide accurate, transparent and internally verified information.

CalSTRS' Internal Audit staff performed an independent and objective review of the information submitted in this report. Our internal audit procedures were designed to obtain a limited level of assurance over the measurable statements and facts.

For questions or comments about the report, please email us at Sustainability@CalSTRS.com.





ABOUT CALSTRS

Mission

*Securing the financial future and sustaining
the trust of California's educators*

Vision

*Your Reward—A Secure Retirement
Our Reward—Getting You There*

About CalSTRS

The California State Teachers' Retirement System provides pension, disability and survivor benefits to California's full-time and part-time public school educators from pre-kindergarten through community college and certain other employees of the public school system. Membership in the defined benefit plan is mandatory for all full-time certificated public school educators. Our global investments are both internally and externally managed. CalSTRS is the largest educator-only pension fund in the world.

When CalSTRS was founded in 1913, we started with 15,000 members and a very small asset base. Over the past century, we have grown to represent a portfolio valued at just under \$190 billion and 914,454 members and beneficiaries as of June 30, 2016. In 1913, the annual benefit was \$500; currently, the median annual Member-Only Benefit is about \$50,000. Decade after decade, CalSTRS' mission has remained the same: to secure the financial future and sustain the trust of California's educators now and for generations to come.

CalSTRS is a component unit of the State of California and a cost-sharing public pension system that administers a hybrid retirement system consisting of a traditional defined benefit plan, a cash balance plan and a defined contribution plan.

The Teachers' Retirement Law (California Education Code section 22000 et seq.) as enacted and amended by the California Legislature, established these plans and CalSTRS as the administrator. The terms of our plans may be amended through legislation.



CalSTRS' Strategic Plan Goals

The strategic goals developed in 2015 for years 2016–19 cover four broad areas of focus:



Financial

Ensure a financially sound retirement system.

Our primary goal continues to be ensuring a financially sound retirement system. We continue to make progress toward full funding of the CalSTRS Defined Benefit Program according to the plan enacted by the California Legislature in July 2014. We are committed to investing responsibly over the long term, while adding value.



Member/Employer

Enhance services to members and employers.

Our vision is to ensure that our members understand their retirement benefits and make smart decisions today to secure their financial futures. We highlight our partners in this responsibility: our members' employers. Accurate data and complete reporting of member information are just as critical to a secure retirement as is the employers' role in educating employees about their benefits.



Business Transformation

Drive operational excellence.

Our priority to update our systems and various business processes to better serve our members, employers and employees will result in tangible progress when we roll out the first phase of our Pension Solution Project. This project will replace our current pension administration system. Three functional rollouts are under development, with full system implementation anticipated by 2020.



Workforce Transformation

Grow an engaged, highly skilled and diverse workforce.

Creating a workplace that engages employees helps to deliver optimum service and efficient performance. An engaged workforce contributes to engaged members, which research indicates supports retirement preparedness. CalSTRS strives to hire the right individuals for the right job at the right time and provide a diverse and inclusive work environment. We believe in encouraging our staff, both present and future, to “imagine a job you love” by embracing collaboration and the power of difference in thoughts, perspectives and experiences.

CalSTRS Executive Staff

As of December 31, 2016



Jack Ehnes
Chief Executive Officer



Cassandra Lichnock
Chief Operating Officer



Christopher J. Ailman
Chief Investment Officer



Brian J. Bartow
General Counsel



Robin Madsen
Chief Financial Officer



Grant Boyken
*Public Affairs
Executive Officer*



Ashish Jain
Chief Technology Officer



Lisa Blatnick
Chief of Administrative Services



Andrew Roth
*Benefits and Services
Executive Officer*



Teachers' Retirement Board

As of December 31, 2016



Dana Dillon
Board Chair
K-12 Classroom Teacher



Sharon Hendricks
Board Vice Chair
Community College Instructor



Michael Cohen
Director of Finance
Ex-Officio Member



John Chiang
State Treasurer
Ex-Officio Member



Joy Higa
Public Representative



Harry M. Keiley
K-12 Classroom Teacher



Paul Rosenstiel
Public Representative



Tom Torlakson
State Superintendent of
Public Instruction
Ex-Officio Member



Thomas Unterman
Public Representative



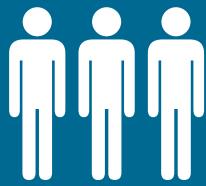
Nora E. Vargas
School Board Representative



Betty Yee
State Controller
Ex-Officio Member

Teachers' Retirement Board

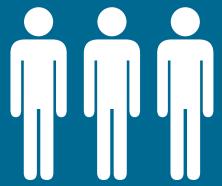
CalSTRS is administered by the 12-member Teachers' Retirement Board, which has plenary authority under the California Constitution. The board sets the policy and provides direction for the system, and is responsible for ensuring the system pays benefits in accordance with the law. The board has exclusive control over the investment and administration of the Teachers' Retirement Fund and is composed of:



Three member-elected positions representing current educators



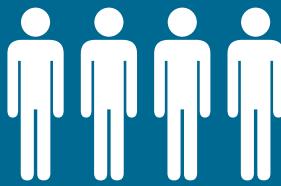
A retired CalSTRS member appointed by the Governor and confirmed by the Senate (board seat vacant as of December 31, 2016)



Three public representatives appointed by the Governor and confirmed by the Senate



A school board representative appointed by the Governor and confirmed by the Senate



Four ex-officio members:

1. Director of Finance
2. State Controller
3. State Superintendent of Public Instruction
4. State Treasurer

The Teachers' Retirement Board has six standing committees:

Committee	Purpose
Appeals	The Appeals Committee provides a dedicated body to hear, deliberate upon and decide appeals of system determinations pursuant to the Administrative Procedure Act.
Audits and Risk Management	The Audits and Risk Management Committee assists the board in fulfilling its fiduciary oversight responsibilities for financial reporting, risk management, internal control, compliance, internal audit, external audit of the financial statements, and engagements with other external firms.
Benefits and Services	The Benefits and Services Committee develops and oversees the execution of prudent policies relating to levels of benefits and the delivery of services to CalSTRS members, retirees and beneficiaries, and adjusts contribution and interest rates for selected aspects of the Teachers' Retirement Plan.
Board Governance	The Board Governance Committee supports the board in promoting the best interests of CalSTRS, our members, retirees and beneficiaries through the implementation of sound board governance policies and practices that enhance good, fair and open decision-making.
Compensation	The Compensation Committee provides oversight to the system's compensation policies and plan that support the successful recruitment, development and retention of talent to meet the business objectives of CalSTRS.
Investment	The Investment Committee administers all matters relating to the investment of the system's assets and investment management. The committee is charged with administering the system's assets for the exclusive purpose of providing benefits to the participants and their beneficiaries within the system and maximizing the financial stability of the system in an efficient and cost-effective manner.

Two advisory committees, the Employer Advisory Committee and the Client Advisory Committee, meet throughout the year to provide forums for active participation in forming CalSTRS' policies and procedures.

Committee charters can be found in the Teachers' Retirement Board Policy Manual at CalSTRS.com/teachers-retirement-board.

Members and Beneficiaries

July 1, 2015–June 30, 2016

914,454

Total members and beneficiaries



288,195

Retirees and benefit recipients

	Vested	Non-vested		Vested	Non-vested
Active members	317,582	120,955	Inactive members	38,014	149,708

Annual Retirement Statistics

July 1, 2015–June 30, 2016



11,374

Number of defined benefit retirements



\$13.1 billion

Total benefit payments for the year, which includes service retirement benefits, disability benefits, survivor benefits and purchasing power supplemental payments



56 percent

Percentage of members selecting the Member-Only Benefit



62.8

Median age at retirement



\$4,129

Median monthly Member-Only Benefit



25.6 years

Median service credit

CalSTRS Retirement Benefits Fuel Local Economies

CalSTRS paid an estimated \$10.5 billion in benefits to 216,479 retirees living in California during fiscal year 2015–16. This map indicates the number of retired members living in each county and the amount of benefits paid to those members, as well as the locations of the CalSTRS member service centers.

CalSTRS Retirees Who Live in California Characteristics by County



County	Number of Retirees
Alameda	7,452
Alpine	12
Amador	420
Butte	2,264
Calaveras	591
Colusa	127
Contra Costa	7,399
Del Norte	233
El Dorado	2,024
Fresno	6,013
Glenn	132
Humboldt	1,317
Imperial	744
Inyo	160
Kern	4,068
Kings	586
Lake	463
Lassen	221
Los Angeles	41,579
Madera	1,292
Marin	2,139
Mariposa	268
Mendocino	1,114
Merced	1,436
Modoc	89
Mono	176
Monterey	2,920
Napa	1,397
Nevada	1,529
Orange	19,958
Placer	3,969
Plumas	323
Riverside	11,741
Sacramento	8,659
San Benito	305
San Bernardino	8,714
San Diego	19,813
San Francisco	2,848
San Joaquin	3,767
San Luis Obispo	3,928
San Mateo	3,712
Santa Barbara	2,838
Santa Clara	9,362
Santa Cruz	2,660
Shasta	1,638
Sierra	75
Siskiyou	611
Solano	2,824
Sonoma	4,486
Stanislaus	3,061
Sutter	756
Tehama	694
Trinity	141
Tulare	2,984
Tuolumne	679
Ventura	6,406
Yolo	1,031
Yuba	331
Total	216,479

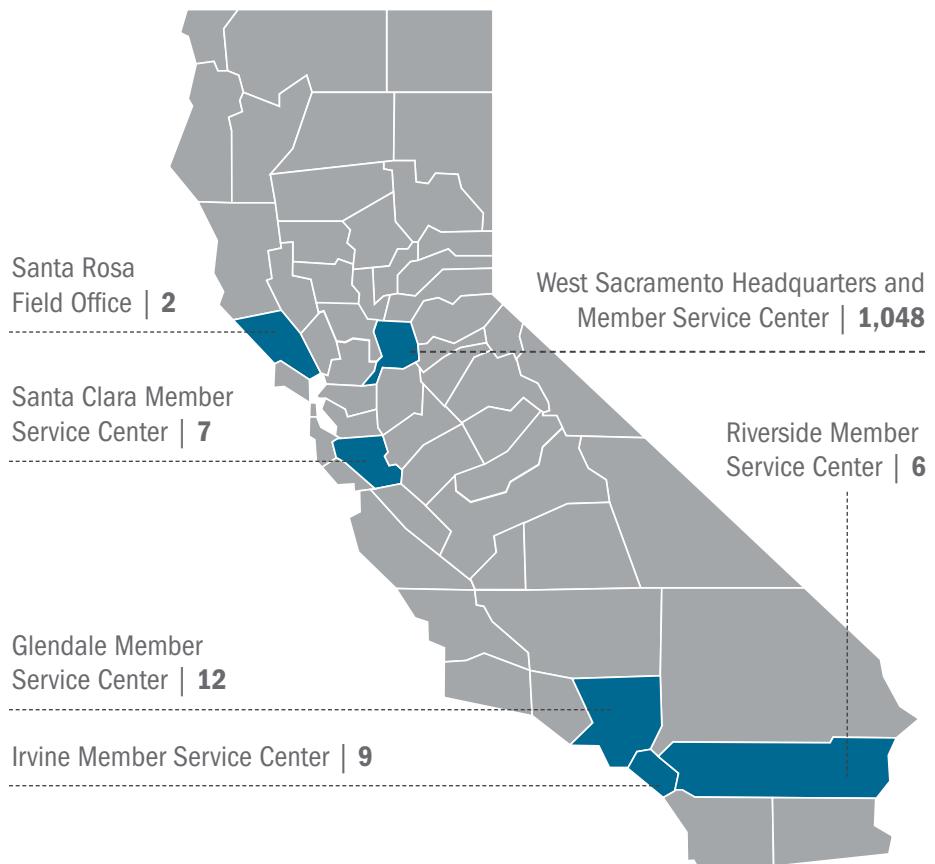
Office Locations and Employees



CalSTRS' headquarters is located at 100 Waterfront Place, West Sacramento. The building opened in 2009 with a LEED Gold certification for New Construction. LEED stands for Leadership in Energy and Environmental Design, a green building rating system developed by the U.S. Green Building Council. The 409,000-square-foot Class A office building now operates under a LEED Platinum certification for Existing Building, Operations and Maintenance. Since its Energy Star registration in 2011, the building has earned an average Energy Star score above 90 percent. In 2015, the building achieved its highest score, 98 out of 100 on the Energy Star scale. CalSTRS employees divert more than 90 percent of generated ongoing consumable waste and have reduced water use by 19 percent since 2013 with low-flow water fixtures, an efficient landscape and irrigation system, and an occupant environmental awareness campaign.

CalSTRS has five member service centers located across the state in West Sacramento, Glendale, Santa Clara, Irvine and Riverside, and a small field office in Santa Rosa.

Total Workforce by Region



Operations Financial Profile: State Teachers' Retirement Plan

Financial Summary

The Statement of Fiduciary Net Position

The Statement of Fiduciary Net Position presents information on assets and liabilities, with the difference between the two reported as net position. The tables that follow present comparative information and changes to the plan's net position for fiscal years 2015–16 and 2014–15.

State Teachers' Retirement Plan Consolidated Statement of Fiduciary Net Position

(Dollars in Thousands)

ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	2015–16	2014–15 ¹	Percent Change
Investment Assets ²	\$207,541,517	\$210,698,551	(1.5%)
Cash	164,597	359,992	(54.3%)
Investment Receivables	1,280,564	3,376,504	(62.1%)
Member, Employer and Other Receivables	2,693,178	1,961,486	37.3%
Capital and Other Assets	231,216	226,167	2.2%
Deferred Outflows of Resources	22,756	16,398	38.8%
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	\$211,933,828	\$216,639,098	(2.2%)
LIABILITIES AND DEFERRED INFLOWS OF RESOURCES			
Benefits in Process of Payment	1,188,518	1,178,524	0.8%
Investment Liabilities	169,246	107,373	57.6%
Investment Payables	1,403,511	3,725,966	(62.3%)
Loan Payables	2,129,694	1,447,405	47.1%
Net Pension and OPEB Obligation	256,069	213,427	20.0%
Other	127,494	73,800	72.8%
Securities Lending Obligation	17,530,264	18,043,187	(2.8%)
Deferred Inflows of Resources	15,545	27,080	(42.6%)
TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES	\$22,820,341	\$24,816,762	(8.0%)
NET POSITION	\$189,113,487	\$191,822,336	(1.4%)

¹ Some reclassifications have been made to the comparative totals as of and for the year ended June 30, 2015, to conform to the presentation as of and for the year ended June 30, 2016. The reclassifications had no impact on net position or changes in net position.

² Includes securities lending collateral of \$17.5 billion and \$18.0 billion for 2016 and 2015, respectively.

The Statement of Changes in Fiduciary Net Position

The Statement of Changes in Fiduciary Net Position shows how STRP's net position changed during the fiscal year, reflecting contributions earned, benefit payments made, investment returns, and the costs of plan administration.

State Teachers' Retirement Plan

Statement of Changes in Fiduciary Net Position

(Dollars in Thousands)

ADDITIONS	2016	2015¹	Percent Change
Member Contributions	\$2,957,473	\$2,509,712	17.8%
Employer Contributions	3,391,144	2,677,815	26.6%
State of California	1,939,902	1,425,796	36.1%
Net Investment Income	2,304,958	7,575,999	(69.6%)
Other	41,519	39,580	4.9%
TOTAL ADDITIONS	\$10,634,996	\$14,228,902	(25.3%)
DEDUCTIONS			
Benefit Payments	13,064,557	12,476,902	4.7%
Refunds of Contributions	84,001	87,694	(4.2%)
Administrative Expenses	180,056	145,239	24.0%
Other	15,231	8,840	72.3%
TOTAL DEDUCTIONS	\$13,343,845	\$12,718,675	4.9%
NET POSITION INCREASE (DECREASE)	(2,708,849)	1,510,227	(279.4%)
BEGINNING NET POSITION	191,822,336	190,312,109	0.8%
ENDING NET POSITION	\$189,113,487	\$191,822,336	(1.4%)

1 Some reclassifications have been made to the comparative totals as of and for the year ended June 30, 2015, to conform to the presentation as of and for the year ended June 30, 2016. The reclassifications had no impact on net position or changes in net position.

Administrative Expenses

CalSTRS' administrative operating and personnel expenses for fiscal year 2015–16 were approximately \$180 million. CalSTRS contracted with more than 80 organizations to provide consultant and professional services not directly related to investment management, at an approximate cost of \$35.5 million.

Administrative expenses for the State Teachers' Retirement Plan increased by \$34.8 million or 24 percent in 2015–16. Some contributing factors were increases in salary and benefits, including CalSTRS' share of the state's pension expense. CalSTRS continues to make progress with our long-term BusinessRenew Project created to lead the transformation of business processes, systems and tools to better serve our members.

Most of CalSTRS' administrative and investment contractors and vendors are located within North America, with a small number of business partners in Europe and Asia. Further details on operating costs and a list of contractors can be found in the *CalSTRS 2015–16 Comprehensive Annual Financial Report: Advancing Sustainability Forward*.

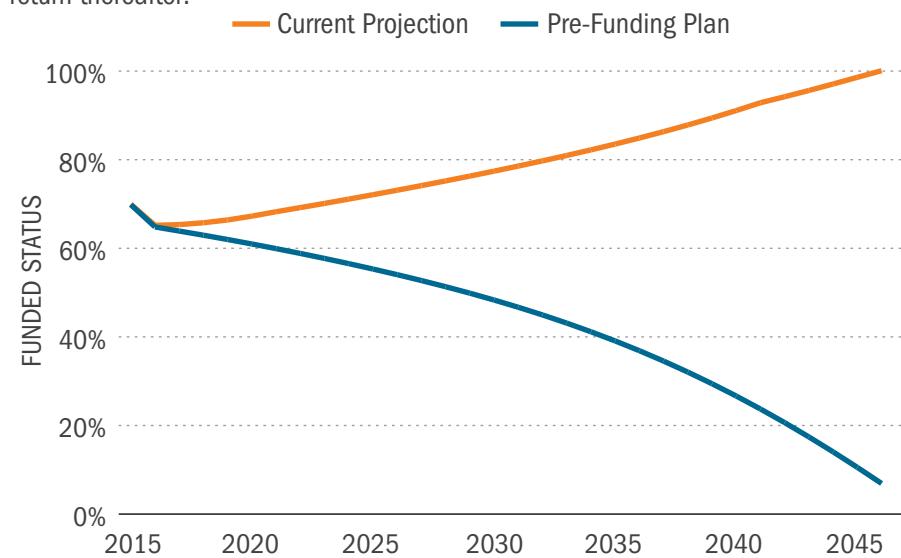
The combined administrative and investment expenses for 2015–16 were approximately \$442 million.

Funded Status

In 2015–16, CalSTRS continued to build upon the momentum of Assembly Bill 1469 (Chapter 47, Statutes of 2014), which established required member, employer and state contribution rate increases. The June 30, 2015, actuarial valuation for the CalSTRS Defined Benefit Program assessed the funded ratio at 68.5 percent.

Projected Funded Status

Reflecting 1 percent return in fiscal year 2015–16 and assuming 7.5 percent return thereafter.



This chart shows the funding status scenario for the Defined Benefit Program before and after the implementation of AB 1469 and as of June 30, 2016. Contributions will continue to increase as prescribed by the 2014 funding plan. The Defined Benefit Program continues to make progress toward its funding goal by 2046.



All financial data in the Operations Financial Profile can be found in the *CalSTRS 2015–16 Comprehensive Annual Financial Report: Advancing Sustainability Forward*.



\$189.1 billion

Total net position of the State Teachers' Retirement Plan as of June 30, 2016

The total contributions to the State Teachers' Retirement Plan for the current fiscal year increased by \$1.7 billion (25.3 percent) due to increases in both creditable compensation and the statutory contribution rate changes implemented under AB 1469. Member contributions increased \$447.8 million (17.8 percent), employer contributions increased \$713.3 million (26.6 percent), and state contributions increased \$514.1 million (36.1 percent).

For the current fiscal year ending June 30, 2016, the total net position of the STRP decreased by \$2.7 billion, or 1.4 percent, from the previous fiscal year ending June 30, 2015, to \$189.1 billion.

Total net position for the STRP decreased by \$2.7 billion, or 1.4 percent, to \$189.1 billion. Changes in net position are primarily caused by three factors—contributions, investment income and benefit payments. The most significant reason for the decrease was a 69.6 percent decrease in net investment income due to investment liquidations to fund benefit payments, along with flat returns for the fiscal year. This decrease was offset by an increase in total contributions by \$1.7 billion (25.3 percent) due to increases in both creditable compensation and contribution rates implemented through AB 1469.

Other liabilities for the STRP increased by \$53.7 million to \$127.5 million, or 72.8 percent, primarily due to a higher estimate of return of excess contributions as a result of AB 1469.

As a long-term investor projecting over a 30-year horizon, CalSTRS consistently emphasizes the long-term nature of pension funding as it pertains to investment performance and the need to look beyond the immediate impacts of any single year's returns. Although meeting the investment return assumption is an important component in the system's overall funding picture, additional factors such as member compensation and longer life expectancies also play important roles. With the AB 1469 parameters defining shared responsibility for contribution rates, including limited authority of the board to make adjustments depending on the status of the plan, CalSTRS continues to make progress toward our funding goal by the year 2046.



Portfolio-wide Rate of Return on Investments, Net of Fees¹

FY 2015-16	1.4%
Over three years	7.8%
Over five years	7.7%
Over 10 years	5.6%
Over 20 years	7.1%

¹ Time-weighted return as of June 30, 2016

Investment Expenses

CalSTRS' investment operating and personnel services expenses for fiscal year 2015–16 were approximately \$262 million. CalSTRS contracted with more than 100 organizations to provide investment research and analytics, custody services, legal services, trading and risk management systems at a cost of approximately \$155 million. In addition, \$73 million was incurred for other investment expenses, \$42 million of which was related to foreign tax withholding.

During the fiscal year, staff prepared new investment cost reports for the board's review with the goal of establishing the CalSTRS investment cost standards and reporting disclosure report format. The purpose of these new informational reports was to provide the board with more visibility into internal and external investment costs across asset classes and investment strategies. Investment

CalSTRS investment costs are lower than 15 global peers, saving approximately \$135 million, which distinguishes CalSTRS as a low-cost plan compared to both the industry peer and U.S. averages.



costs are an important determinant of fund performance and require close oversight and active monitoring as part of our due diligence.

CalSTRS consulted with industry experts to develop, prepare and validate these reports, which establish CalSTRS as a leader among our peers in pioneering this investment cost reporting standard for direct and indirect costs across all asset classes and investment strategies. CalSTRS analyzed paid management costs, partnership fees, and other expenses such as carried interest. The reports identified that CalSTRS investment costs are lower than 15 global peers, saving approximately \$135 million, which distinguishes CalSTRS as a low-cost plan compared to both the industry peer and U.S. averages.

Staff will continue to look for opportunities to enhance these annual investment cost reports to provide additional details across the entire portfolio, when available. We will also continue to partner with other institutional investors and organizations to develop standardized reporting templates for general partners to use to provide more transparent cost information.



**ALIGNING OUR
SUSTAINABLE VALUES**

Aligning Our Sustainable Values

Aligning our sustainable values with our stakeholders—CalSTRS employees, members, beneficiaries, business partners and constituents—creates synergy toward our shared mission of securing the financial future of California’s educators.



Stakeholder Engagement

CalSTRS regularly elicits feedback from our stakeholder groups through many avenues, including direct email and online surveys, public meetings and web-based communications. We welcome open discussion with these groups to inform and discuss current topics. To frame our 2015–16 Sustainability Report, the CalSTRS executive team completed a review of all GRI aspects and topics, followed by feedback from stakeholders in prioritizing 11 material issues.

The topics reviewed and prioritized by CalSTRS executives represent:

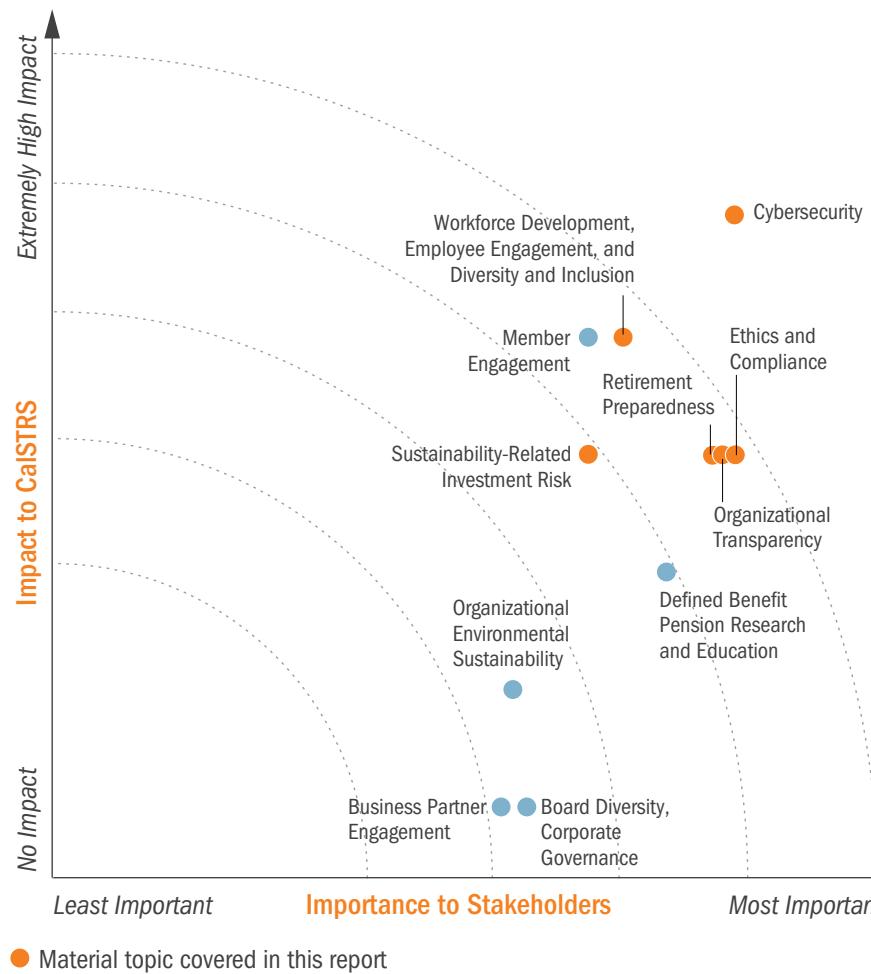


For this, our third annual sustainability report, staff used feedback from an anonymous materiality survey. The survey was solicited on our internal and external websites and social media, and emailed to a group of stakeholders. The survey was open for one month from mid-August to mid-September 2016. Stakeholders were asked to prioritize 11 material issues based on the topic's importance to CalSTRS in meeting our mission; CalSTRS executives were asked to prioritize the material issues based on their impact to CalSTRS. More than 1,200 stakeholders participated in the material topic survey.

This exercise defined a set of six material topics for the report representing the top three areas of concern for each group of stakeholders.

Top Areas of Concern for Stakeholders

This chart reflects the total score of each surveyed material topic. Because stakeholder groups are significantly different in their relationship with CalSTRS, we chose the top three topics of each group to address in this report.



Top Three Topics Ranked by Stakeholder Group

Rank	Employees	Members	Other Stakeholders	Executives*
1	Retirement Preparedness	Cybersecurity	Sustainability-Related Investment Risk	Cybersecurity
2	Cybersecurity	Organizational Transparency	Organizational Transparency	Ethics and Compliance
3	Ethics and Compliance	Ethics and Compliance	Ethics and Compliance	Workforce Development, Employee Engagement, Diversity and Inclusion

*Executives rated topics according to impact to CalSTRS.

Stakeholders Solicited

CalSTRS addressed input from the following constituent groups and stakeholders in developing this report. These stakeholder groups were selected based on their commitment to California's public educators, their principles of sustainability as they pertain to financial markets, and the direct impact that CalSTRS' actions have on their livelihood.

A

- ◆ American Federation of Teachers
- ◆ Association of Asian American Investment Managers

C

- ◆ California Federation of Teachers
- ◆ California Teachers Association
- ◆ CalPERS Corporate Governance Office
- ◆ CalSTRS Client Advisory Committee
- ◆ CalSTRS employees
- ◆ CalSTRS employers
- ◆ CalSTRS members
- ◆ CDP, formerly the Carbon Disclosure Project
- ◆ Ceres
- ◆ Council of Institutional Investors

F

- ◆ Fossil Free California

G

- ◆ Generation Investment Management

I

- ◆ International Public Management Association for Human Resources

J

- ◆ JLL-Corporate Sustainability
- ◆ JLL-Headquarters Property Management

M

- ◆ Meketa Investment Group
- ◆ MSCI

N

- ◆ National Association of Securities Professionals
- ◆ National Council on Teacher Retirement
- ◆ National Institute for Retirement Security
- ◆ National Education Association
- ◆ New America Alliance

P

- ◆ Pension Consulting Alliance
- ◆ Principal Real Estate Investors
- ◆ Principles for Responsible Investment

S

- ◆ Service Employees International Union Local 1000

T

- ◆ Trucost

Stakeholder Comments and Concerns

CalSTRS received approximately 400 responses to the materiality survey's open comment question:

"Please provide any additional comments, concerns or ideas about CalSTRS' sustainability efforts."

Responses included concerns, suggestions and statements relative to CalSTRS' culture and services. Each CalSTRS executive was provided a copy of the comments after self-identifying information was removed from the response field.

More than 100 comments conveyed concern related to CalSTRS' fossil fuel investments, including support for divesting from the oil and gas industry and increasing our focus on renewable energy investments.

Other comments included these concerns from stakeholders in order of most comments to least:

- ◆ Remove environmental, social and governance screening from investment strategy, focus on returns.
- ◆ Address Social Security's Windfall Elimination Provision.
- ◆ Improve the ease and user-friendliness of the CalSTRS website.
- ◆ Provide outreach and retirement planning earlier in teaching career.
- ◆ Improve the hours and access to member services and facilities.
- ◆ Add a health insurance program.
- ◆ Focus on quality, not diversity, in hiring.
- ◆ Fill the vacant designated retired representative position on the Teachers' Retirement Board.

Comments received from employees from most to least:

- ◆ Improve top-down internal communications.
- ◆ Provide more training and development opportunities.
- ◆ Improve and increase manager training.

More than 100 comments conveyed concern related to CalSTRS' fossil fuel investments, including support for divesting from the oil and gas industry and increasing our focus on renewable energy investments.

Business Partners' ESG Activity

CalSTRS has been refining and enhancing our environmental, social and governance policies and practices for many years. We believe it is in the best interest of CalSTRS and our members to align our risk management principles with those we establish agreements with. We provide our contractors with a set of environmental and social-based standards for all contracted business services, which includes anti-discrimination clauses, human rights regulations, and fair labor and environmental compliances. These social and environmental mandates were established by the State of California, and CalSTRS has the responsibility to ensure that we do business only with those in compliance. To further enhance our goals, we conduct an annual survey that helps to identify ESG alignment with our business partners and vendors.

In July 2016, we sent an annual questionnaire to our private industry-based business partners with contracts valued at or above \$50,000 to assess their efforts in addressing environmental, social and governance risks. The questions were based on 17 ESG-related activities, from employee development programs to ESG reporting. In total, 189 companies were solicited and approximately 40 responded, resulting in a 20-percent response rate. The results below are summarized by activity type:

The results showed an increase since last year in the percentage of respondents who indicated that they incorporate at least 50 percent of these practices in their business models.

25% to 49% of Respondents	50% to 75% of Respondents	75% to 95% of Respondents
Publish sustainability reports	Employ health and safety programs	Provide career development programs
Report and/or manage GHG emissions	Uphold environmentally preferred purchasing	Maintain employee retirement programs
Screen suppliers for ESG risk	Practice energy conservation	Practice waste reduction
Manage or conserve water use	Operate in green facilities	Employ employee values and ethics policies
Formalize ESG policies	Engage employees in sustainable practices	Manage information privacy and data security systems
	Practice sustainable transportation/commuting	Provide reporting mechanisms for grievances

Spotlight on JLL

As a partner with CalSTRS since 2007, JLL, a global financial and professional services firm specializing in commercial real estate services, has provided its world-class expertise in the management and maintenance of our energy-efficient LEED Platinum-certified headquarters building, helping to establish our sustainability culture and inspire staff with new technology and improvements. JLL continuously propels CalSTRS forward with innovative approaches to our building operations.

JLL shares CalSTRS' sustainability values through:

- ◆ Fostering ethics, teamwork and excellence.
- ◆ Promoting a work culture that values diversity, recognizes and rewards talent, develops skills, fosters good health, safety and well-being, including flexible work schedules.
- ◆ Reducing carbon emissions at offices and in travel.
- ◆ Engaging in charitable partnerships.
- ◆ Screening suppliers.
- ◆ Being a World Economic Forum Strategic Partner, the international organization for public-private cooperation that is committed to improving the state of the world.

JLL's vision is to be the world leader in sustainable real estate services by achieving its ambitions and those of its clients to create buildings and cities where everyone can thrive. Through its sustainability leadership agenda, "Building a Better Tomorrow," JLL seeks to meet its vision through four pillars: clients, people, workplaces and communities. A core part of Building a Better Tomorrow is embedding sustainability into all that it does. JLL also actively serves as a sustainability thought leader by promoting widespread change across the industry and beyond.



JLL staff: (front) Melissa Vincent, Betsie Goulart; (middle) Chris Toney, Matt Nelson, Tim Wells; (back) Sam Meyer, Ken VanDuyne



Ken Van Duyn, JLL's chief engineer at CalSTRS, was awarded the prestigious Jones Lang LaSalle Sigma Award for outstanding service. Ken is one of only 12 to receive this honor from a group of 60,000 engineers worldwide.

In 2015, Ken was instrumental in helping CalSTRS headquarters receive our LEED-Platinum certification in operations and maintenance. Under his lead, CalSTRS' West Sacramento headquarters building received The Outstanding Building of the Year (TOBY) Award at both the local level and the Pacific Southwest region for exceptional performance in energy conservation. In the same year, Ken and his team implemented various water savings projects that reduced annual water use at CalSTRS by 500,000 gallons.

In 2015, JLL achieved a number of successes under its Building a Better Tomorrow agenda, including:

- ◆ Achieving 121 green building certifications for clients.
- ◆ Helping its U.S. clients save 247,000 metric tons of CO2.
- ◆ Having nearly 180,000 buildings on its sustainability data platforms.
- ◆ Spending \$248 per employee on training and development.
- ◆ Achieving a 78-percent staff satisfaction rate as a great place to work.

- ◆ Undertaking health, well-being and safety initiatives in 84 percent of its country-level operations.
- ◆ Achieving green building certification or principles in 51 of its buildings.
- ◆ Operating alternative workplace initiatives in 73 percent of its offices.
- ◆ Contributing more than \$5 million to charitable causes in corporate and employee donations.
- ◆ Giving more than 5,500 staff days of personal time to volunteer for charitable causes.

Core Values, Sustainability Vision and Guiding Beliefs

The CalSTRS Core Values are a set of attitudes, beliefs and behaviors that define CalSTRS and our employees. CalSTRS' core values orientation is an important component of our onboarding program. Our Virtuosity employee recognition program is designed to acknowledge behaviors that demonstrate our core values.

2016 CalSTRS Virtuosos



2016 Virtuosos: (left to right) Kathy Halstead, John Maradik-Symkowick, Vaishali Dwarka, Andrew Ferko, Sapna DJ, Sharon Davis, Michael T. Wilson, Jan Spano

CalSTRS employees who consistently exhibit our core values are nominated and selected for our highest honor, the annual Virtuoso award.

CUSTOMER SERVICE

We never compromise on quality as we strive to meet or exceed the expectations of our customers.

ACCOUNTABILITY

We operate with transparency and accept responsibility for our actions.

LEADERSHIP

We model best practices in our industry and innovate to achieve higher standards.

STRENGTH

We ensure the strength of our system by embracing a diversity of ideas and people.

TRUST

We conduct ourselves with integrity, acting ethically in every endeavor.

RESPECT

We respect the needs of our members, co-workers and others, treating everyone with fairness, honesty and courtesy.

STEWARDSHIP

We recognize our fiduciary responsibility as the foundation for all decision-making.

Our Sustainability Vision

CalSTRS advances sustainability practices that promote long-term value creation, responsible investment strategy, stewardship of our natural resources and engagement with our stakeholder community.

Guiding Beliefs

CalSTRS' guiding beliefs shape our environmental, social and governance actions and interactions with our stakeholders.

1. CalSTRS supports sustainability programs that build environmental, social and governance principles into our core business and investment practices.
2. CalSTRS responsibly manages risk for the long-term financial strength of CalSTRS, to the benefit of our members, stakeholders and the environment.
3. CalSTRS engages with our stakeholders, business partners and community on environmental, social and governance issues and principles to understand their insights and perspective.
4. CalSTRS considers the global impact of our business practices in the use of natural resources within our facilities and through the procurement of goods and services.
5. All CalSTRS' investments should seek to responsibly manage and disclose economic, social and environmental criteria in order to deliver sustainable and profitable, risk-adjusted returns.
6. CalSTRS encourages procurement of goods and services with contractors and supply chain vendors that incorporate sustainability and environmental, social and governance criteria into their business practices.
7. CalSTRS believes in providing a supportive work environment where employees are encouraged to develop and achieve their full career potential.
8. CalSTRS recognizes plan assets will contribute to and be affected by climate change and that appropriate risk mitigation must occur in order to deliver profitable, risk-adjusted returns.
9. CalSTRS discloses material sustainability issues and sustainable performance data.

Leading the Direction in Sustainable Finance

Through our collaborative partnerships, we can provide guidance on environmental, social and governance issues that impact the Teachers' Retirement Fund. Our executives provide leadership to vital organizations that drive strategic direction within the sphere of corporate sustainability and responsible long-term investing.

Below is a list of our strategic leadership roles and general memberships:

Jack Ehnes, Chief Executive Officer



- ◆ Bipartisan Policy Center, Member
- ◆ Ceres, Board Member
- ◆ FTSE, Environmental Markets Advisory Committee, Chair
- ◆ FTSE, ESG Advisory Committee, Member
- ◆ Ceres Investor Network on Climate Risk and Sustainability, Chair
- ◆ National Council on Teacher Retirement, President-Elect
- ◆ International Foundation of Employee Benefit Plans, Public Employees Board, Chair
- ◆ Sustainability Accounting Standards Board, Board Member

Christopher J. Ailman, Chief Investment Officer



- ◆ EDHEC-Risk Institute, Board Member
- ◆ 300 Club, Founding Member
- ◆ MSCI Barra Index Editorial Advisory Board, Board Member
- ◆ Milken Global Capital Markets Advisory Council, Co-Chair
- ◆ Principles for Responsible Investment, Association Board, Board Member
- ◆ Robert Toigo Foundation, Advisory Board Member

Anne Sheehan, Director of Corporate Governance



- ◆ California Women Lead, Member
- ◆ International Women's Forum of Northern California, Member
- ◆ SEC Investor Advisory Committee, Vice Chair
- ◆ Thirty Percent Coalition, Institutional Investor Committee, Co-Chair
- ◆ Thirty Percent Coalition, Board Member
- ◆ Weinberg Center for Corporate Governance, University of Delaware, Advisory Board Member



WORKFORCE DEVELOPMENT

Our workforce growth reflects two major organizational improvement projects: the Pension Solution Project, which will modernize our pension administration system; and our initiative to increase the internally managed investment assets. These major changes affect numerous business areas responsible for supporting and sustaining our day-to-day operational work.



Workforce Profile

As of June 30, 2016

1,084
Total
CalSTRS
employees 40% Male 60% Female



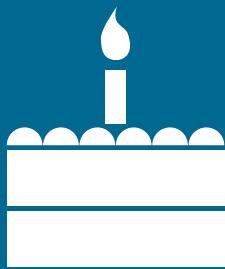
98 percent

Percentage of employees who
are full time, 2 percent are
part time or intermittent



72 percent

Percentage of all staff covered by bargaining units



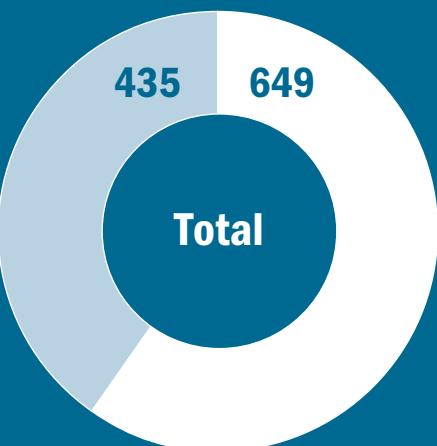
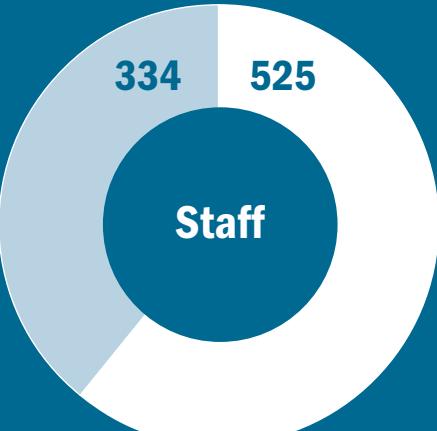
42

Average age of
a CalSTRS employee

Average age by level

Level	Average Age	Total
Staff	41	859
Leadership	47	225

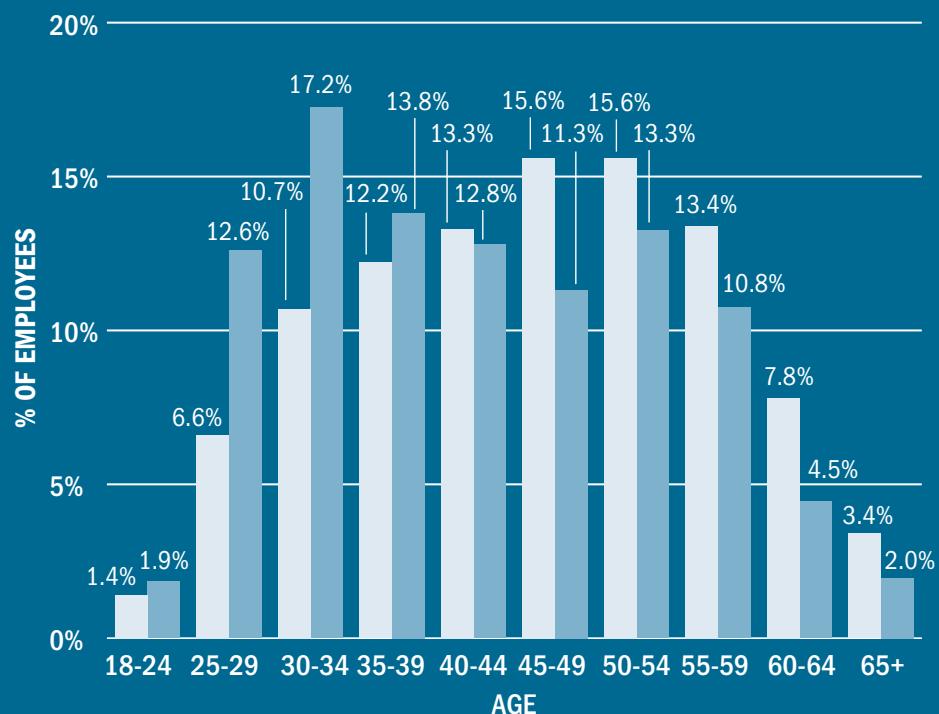
Male Female



Workforce by Age

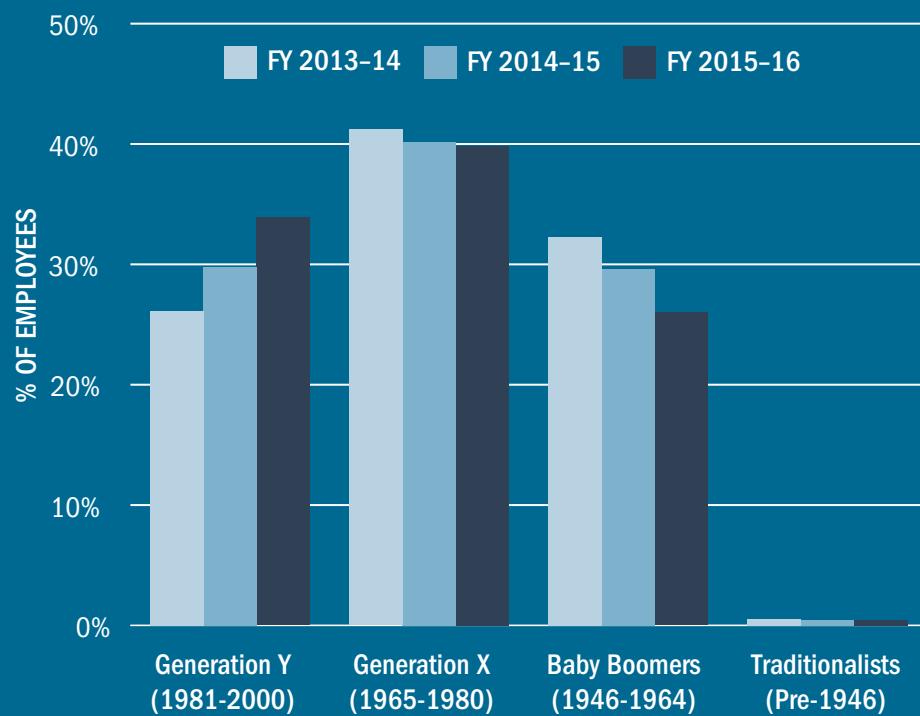
When compared with the state workforce, CalSTRS trends higher in percentages for age groups 25–40. Data reflects employee population in April 2016.

State average
 CalSTRS



CalSTRS Employees by Generation Groups

Due to CalSTRS' consistent focus on creating a sustainable workforce, we continue to reflect a healthy balance of generations in the workforce. The Generation Y staff, also known as millennials, is trending up 4 percent to 34 percent, which is reflected on the opposite end of the demographic spectrum with baby boomer staff trending down year over year to 26 percent, mostly due to retirements. At nearly 40 percent, Generation X staff now represents the majority of CalSTRS' workforce.



Workforce Development

CalSTRS continues to expand our efforts to grow an engaged, highly skilled and diverse workforce.

Our approach to workforce retention and succession is designed around the “employee life cycle,” a component of our performance objectives that encompasses an employee’s experiences from pre-hire to retirement or separation from CalSTRS. This holistic view and its philosophies serve to support the people of CalSTRS during every phase of this career life cycle.

CalSTRS Employee Life Cycle



This approach demonstrates CalSTRS’ commitment to sustainability by directly supporting one of our most important assets, our people. The benefit to the organization is the spillover effect of highly engaged and dedicated employees who are poised to develop and support innovative services to CalSTRS members while fulfilling our mission to secure the financial future and sustain the trust of California’s educators.



Pre-Hire and Hire


The employee experience at CalSTRS begins long before an applicant accepts an offer of employment. The prospect that every applicant may become an employee is the primary driver behind the Human Resources initiative to review, retool and implement a best-practice based outreach and hiring process.

To support both the candidate selection experience and our Diversity and Inclusion initiative, CalSTRS established a dedicated outreach team to attract the best candidates to fill our positions and meet our members’ needs. The team exceeded its initial goal to attend six recruitment events during the year by attending 29 outreach and career events at various local colleges and community organizations throughout Northern California. At each event, business area subject matter experts partnered with HR colleagues to provide potential candidates with a human connection

to the positions and type of work performed as well as a glimpse of our organizational culture and employee experience.

To strengthen our outreach efforts, HR and Communications staff established a social media presence on Facebook, YouTube, LinkedIn, Glassdoor, Instagram, Twitter and Pinterest. Curated employer and career-specific messaging was implemented, including the introduction of the Instagram hashtag #calstrslife. This hashtag is a grassroots employee-driven promotion of CalSTRS’ work-life balance and employee culture.

Onboarding



The CalSTRS Onboarding Program provides a structured format to assist hiring managers in welcoming, supporting, integrating and assimilating new employees to CalSTRS and our organizational culture. The structure, supported by our organization-wide onboarding ambassadors, ensures each new employee receives a consistent and thorough onboarding experience. Our program accelerates productivity, allowing a new employee to thrive and make a successful contribution from the start. Onboarding increases employee retention and supports CalSTRS' status as an employer of choice.

During the onboarding phase, individuals are asked about their experience as new employees. Regular check-ins with new employees and new leadership at the three-, six- and nine-month marks provide us with greater insight for ways to enhance our onboarding efforts and address issues newly hired employees and leaders may be facing.



The CalSTRS Onboarding Program provides a structured format to assist hiring managers in welcoming, supporting, integrating and assimilating new employees to CalSTRS and our organizational culture.



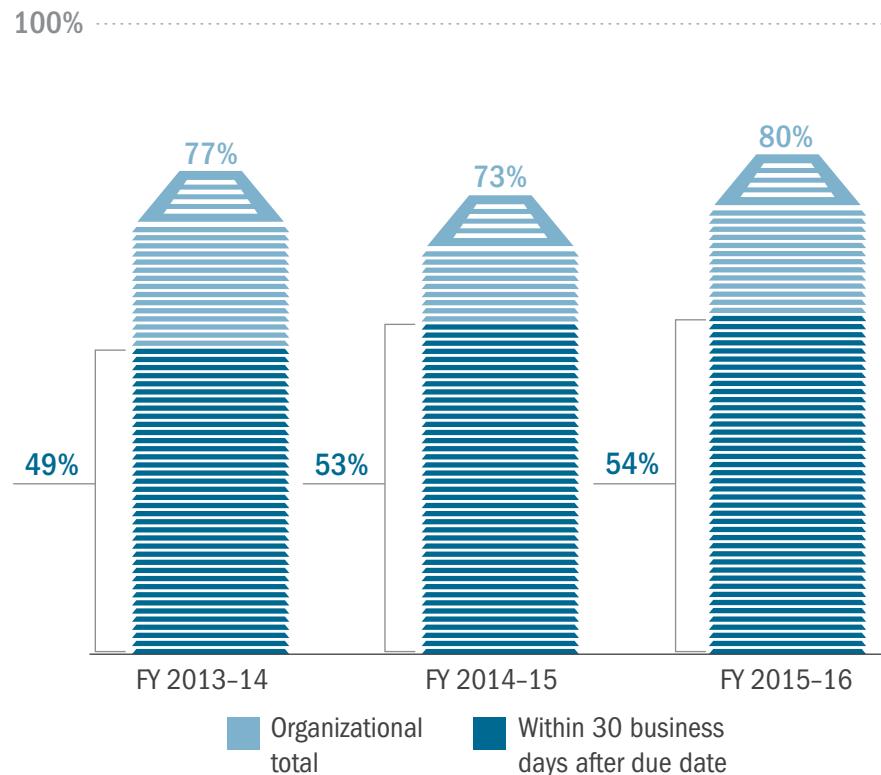
New hires attend a full-day onboarding orientation, which includes an executive staff panel discussion and a welcome video.

Probation Periods

Recently appointed or promoted employees serve a probationary period determined by their position classification. As the final part of the formal examination process in civil service, the probationary period provides an opportunity to assess the skills, knowledge and competencies of the individual before granting full rights and privileges of a permanent civil servant of the State of California.

At CalSTRS, the probationary period also represents the first step in managing and continuously improving employee performance for the long term. CalSTRS-specific probationary documents align with staff annual performance review forms to ensure that all employees understand our core values, competencies and expectations. These documents serve as the foundation for skill and competency gap identification and recommended strategies to close those gaps for each individual.

Probation Reports Submitted



Development



During 2015–16, the training services team offered 297 in-house training sessions, which were attended by 4,836 class participants. This coursework is in direct response to annual employee Individual Development Plans that inform our organizational learning and development offerings. In the previous year, 843 development plans were submitted for CalSTRS employees, many of whom are still serving their probation periods.

Academy Graduate Statistics		
	FY 2014–15	FY 2015–16
Academy		
Pre-Analyst	11	9
Analyst	48	46
Manager	23	37

CalSTRS Talent Development Pipeline

Employees completing the talent development pipeline for the duration of their career would have the opportunity to attend:

Pre-Analyst Academy <i>Nine classes</i> Purpose: A selection of soft skill and technical skill offerings	Analyst Academy <i>Seven classes</i> Purpose: To sharpen analytical skills	Lead-Person <i>Three classes</i> Purpose: For those desiring or holding lead positions	Emerging Leadership Series <i>Eight classes</i> Purpose: For senior analysts exploring management positions	Manager Academy <i>Five classes</i> Purpose: Embedded within 80 hours of mandatory training for new supervisors	Masters Series <i>12-month course</i> Purpose: For management seeking senior leader positions	Executive Development Program <i>18-month course</i> Purpose: For senior leaders preparing for executive level responsibilities and positions
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Overall Employee Training Hours

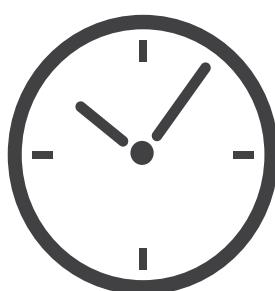
FY 2014–15

32,225

Total training hours

31

Average annual training hours per employee



FY 2015–16

35,332

Total training hours

31

Average annual training hours per employee

Career Mastery

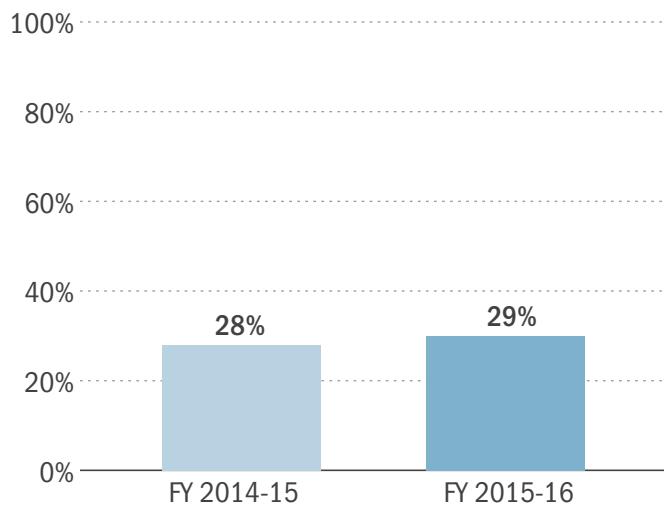


Mandatory Management Training

A full 80 hours of supervisor training is required within the first 12 months for any new leader in state service. CalSTRS has an established learning plan to support new state leaders in this requirement with 17 supervisor training courses taught over 80 hours. The coursework includes basic supervision training, equal employment opportunity topics, harassment prevention, performance management approaches, the candidate selection process, ethics and core values. Executives receive quarterly status reports on the completion of manager training as part of our effort to meet 100-percent compliance with this mandate.

New Supervisors Who Completed Mandatory Training in 12 Months

Percentage of new supervisors who completed mandatory 80 hours training within 12 months of appointment.



Time New Managers Take to Complete Mandatory Training

As of June 30, 2016, 17 managers were still in process of completing the program.



Annual Performance Reviews

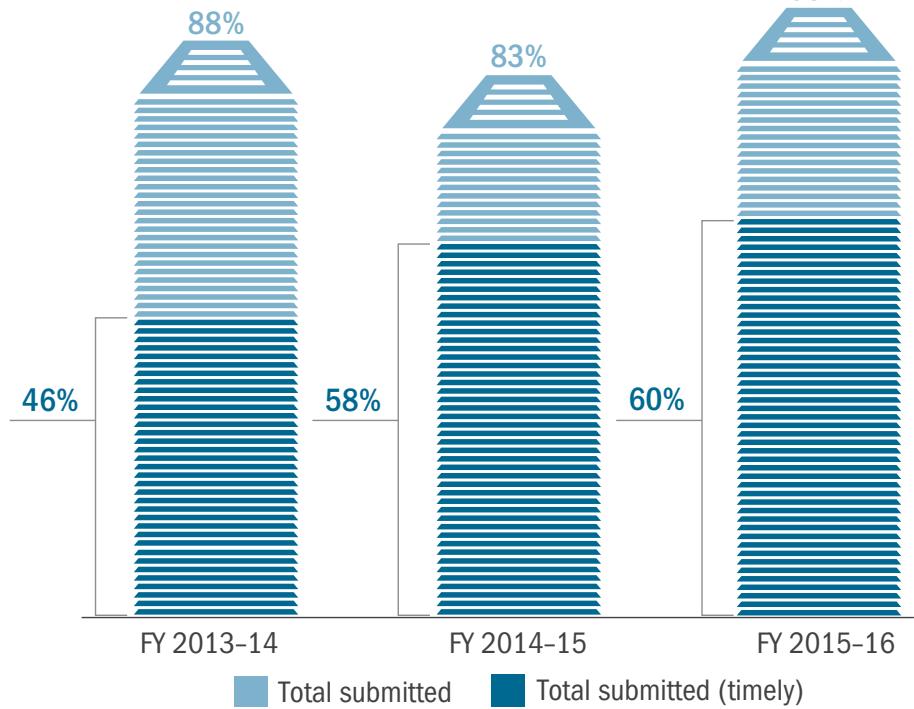
Annual performance reviews are required for every CalSTRS employee who successfully passes their probationary period. Ongoing feedback and the opportunity to learn are essential to employee engagement. By formally focusing on the immediate and future career goals of the individual, our employees are continuously challenged to grow in their current roles and prepare for what's next.

To be successful in developing our employees, we strive for the following goals in the annual review process:

- ◆ 100-percent timely submittals.
- ◆ Feedback quality and correlation with documented development plans, both CalSTRS' strategic workforce and individual career development goals.

Annual Performance Reviews

100%



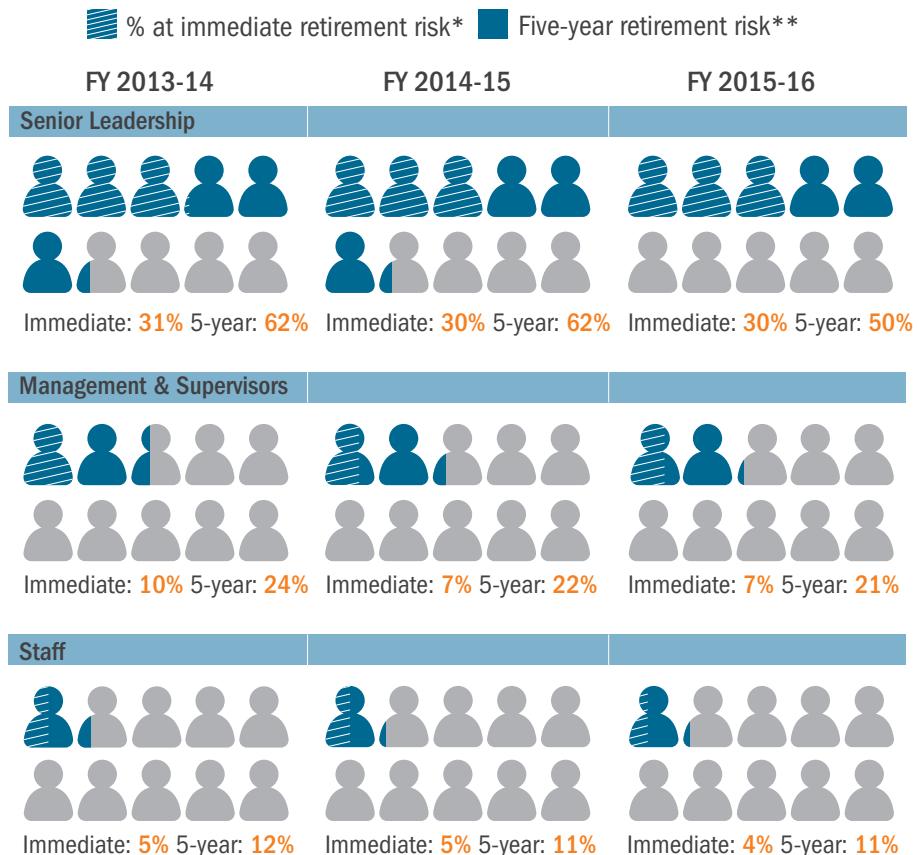
Offboarding and Employee Turnover

A significant risk mitigation strategy was implemented in 2016 to harness the vault of institutional knowledge of departing staff with the establishment of the Knowledge Transfer and Transition Unit. This unit created tools, templates and techniques for efficient capture, retention and transfer of long-held institutional knowledge to be shared with others in the organization. The pilot effort served to map the experience and background of a long-tenured executive who was responsible for CalSTRS' plan design, policy and public affairs business areas. As a result, critical business knowledge was transitioned to numerous individuals throughout the organization, allowing for an effective succession strategy to be implemented with little to no interruption in business continuity.

 CalSTRS continues to mitigate the risk of knowledge loss as a result of turnover and retirements by monitoring employee movement trends and communicating directly with our staff about their current and future career plans. We use this information to drive our strategies and efforts for retention, knowledge transfer, learning and development, and succession planning.

Employee turnover is closely monitored to ensure the organization retains valuable employees and prepares for all types of employee movement. The annual turnover for CalSTRS is at 7.47 percent, which includes retirements, voluntary and involuntary turnover. There are approximately 40 senior leaders in the organization, encompassing director and executive level staff. Thirty percent are immediately eligible to retire, having reached age 55 with 240 months of state service accumulated.

Retirement Risk



* 55 years or older with 20 years of state service

**50 years or older with 15 years of state service

Internal Promotions/Transfers/Hires			
# of Appointments	FY 2013-14	FY 2014-15	FY 2015-16
Internal Promotions	180	151	110
Internal Transfers	49	44	63
New Hires	176	120	127
Total	405	315	300

102

Initial career counseling sessions conducted in the 2015-16 fiscal year



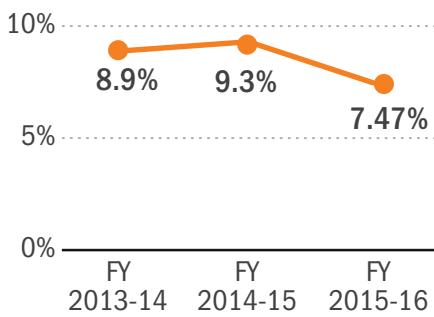
57 percent

Amount that demand for career counseling increased in the 2015-16 fiscal year

12

Number of staff members who were promoted after receiving career counseling; seven transferred internally

Employee Turnover



Employee turnover is closely monitored to ensure the organization retains valuable employees and prepares for all types of employee movement. The annual turnover for CalSTRS is at 7.47 percent, which includes retirements, voluntary and involuntary turnover.



Employee Recognition

CalSTRS employees at all levels of the organization are encouraged to take advantage of the internal recognition platform, "Virtuosity > CalSTRS Powered by You." The Virtuosity theme was developed to support and enhance the CalSTRS brand, and to specifically communicate appreciation to staff for their valuable work. The platform includes seven different recognition tools, ranging from peer-to-peer electronic greeting cards and thank-you notes, Living Our Core Values quarterly awards, and culminating in the annual selection of CalSTRS "Virtuosos." Virtuosos represent a handful of staff who have gone through an extensive peer nomination process and then formally selected by a committee. Through this program, CalSTRS has developed a culture of staff appreciation that fosters increased pride, determination, enthusiasm and teamwork, and encourages and nurtures strong and supportive collaboration. In fact, in 2012, the "Virtuosity > CalSTRS Powered by You" platform garnered the prestigious Recognition Professionals International Best Practice Standards Award for Best Overall Recognition Program.



CalSTRS Engagement Manager Sean Carrington describes the magic of the CalSTRS Virtuosity recognition program.

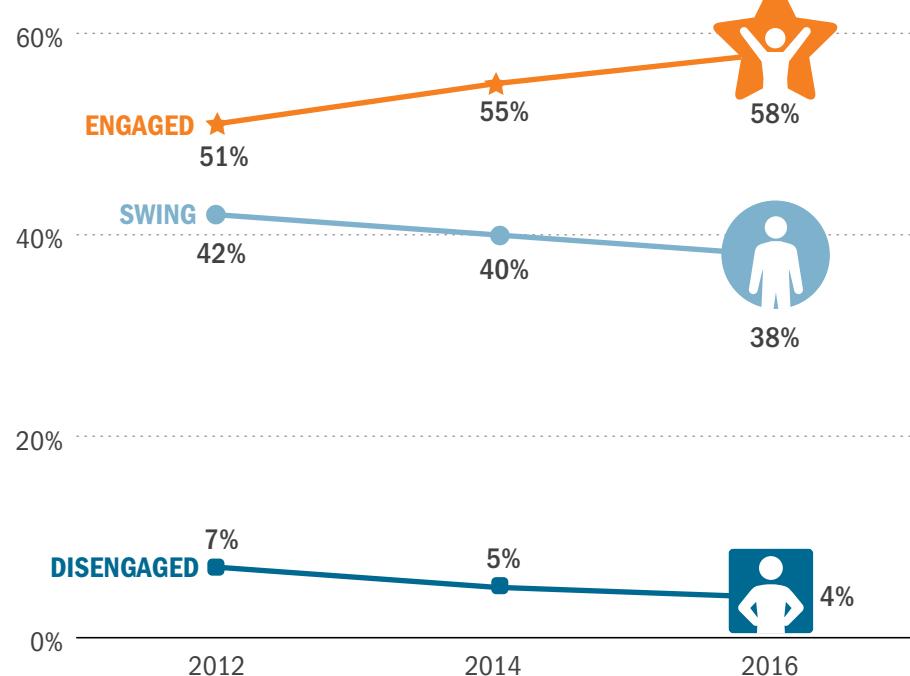
Organizational focus on all aspects of the employee experience at CalSTRS contributes to the increase in engagement scores. Executives receive quarterly progress reports on a variety of employee programs to ensure that we exceed our mandates for ongoing feedback and learning and development for leaders and staff. The quarterly reporting highlights what each business area is doing well and opportunities for improvement.

Employee Engagement

A critical component of retention is employee engagement. Engaged employees are more likely to put forth discretionary effort and more likely to create relationships with members resulting in increased member engagement.

CalSTRS surveys employees at every level of the organization on a biennial basis to measure overall employee engagement. In 2016, the anonymous survey achieved an 84-percent response rate and provided valuable feedback to the executives and leadership team. The results indicated an upward trend in employee engagement, moving from 55 percent in 2014 to 58 percent in 2016.

Employee Engagement Survey Results



We see improved scores in every category, with fewer individuals falling into the disengaged and swing categories. This tells us that our efforts to engage employees are having a positive impact.



Be Well at CalSTRS

Work-life balance supports our employees' well-being and their engagement at work. Wellness was specifically cited in the 2016–19 *CalSTRS Strategic Plan* as an area of opportunity in our ongoing "people" strategy. Current wellness offerings at CalSTRS include the availability of walking workstations, use of the onsite fitness center, a bike library and friendly fitness competitions such as the formal Step Jockey program, which motivated 203 employees at headquarters to get up and get moving through a competitively based stair climbing program. Employee-led wellness activities, such as Weight Watchers, yoga and meditation, are also encouraged and supported organizationally. Headquarters' location on the West Sacramento River Walk provides a beautiful setting and opportunity for employees to take part in outdoor exercise at breaks and lunchtimes.

Employee-Driven Engagement

The SongSTRS and UkeSTRS, two uniquely CalSTRS musical groups composed of employees across the organization, carry on a 36-year cultural tradition of using music and song to increase engagement. These groups rehearse year-round on their own time and perform at various CalSTRS functions, including the Quarterly Recognition Event, showcasing hidden talents of our colleagues and adding humor and song to our celebrations. On Labor Day 2016, the SongSTRS performed the National Anthem at nearby Raley Field, home of the River Cats, Sacramento's Triple-A baseball team. The group also performs special concerts for a variety of community groups across the Sacramento region during the holiday season.

Diversity and Inclusion

Diversity, by definition, can be thought of as the many ways that people may differ from one another. Inclusion focuses on embracing these differences to enrich our work culture and galvanize business success. Together, diversity and inclusion combine to welcome an individual's differences and recognize that those differences can benefit the CalSTRS working environment.

CalSTRS recognizes that diversity and inclusion is an ongoing effort. During the past year, we have worked to enhance our goal of making sure all staff feel enriched at work and are able to contribute their full potential.

We accomplished several diversity and inclusion milestones, including an all-staff diversity and inclusion survey, followed by town halls and leadership forums to discuss survey results. The establishment of a core Diversity and Inclusion Team, composed of executives and key HR, Investments and Communications staff, led to the development of a road map for implementing our **Diversity & Inclusion: The Power of Difference** program.

CalSTRS welcomes and embraces diversity of thinking, background and experience to enhance our culture and drive business success. By working together to respect, value and include each individual's perspectives, CalSTRS empowers staff to perform their best work toward fulfilling our mission.



CalSTRS Diversity and Inclusion Coordinator Tejdeep Kochar explains what diversity and inclusion means at CalSTRS.



"This effort is unlike any other project I've been a part of at CalSTRS. It is uniquely focused on who we are and who we want to be, not just as employees but as humans interconnected by our mission, vision, values. When we take the time to learn about one another, we gain perspectives and insights that were previously unknown and untapped. The power of difference is real, it is palpable and, once fully embraced, it is life changing."

—Lisa Blatnick

Chief of Administrative Services
CalSTRS Diversity and Inclusion Executive Sponsor

Ethnicity Demographics of CalSTRS Employees

Ethnicity	FY 2013-14	FY 2014-15	FY 2015-16
American Indian	0.40%	0.48%	0.55%
Asian	18.40%	18.41%	19.19%
Black	8.30%	8.43%	8.21%
Filipino	4.40%	4.75%	4.98%
Hispanic	15.50%	15.12%	15.87%
Other	2.50%	1.94%	2.03%
Pacific Islander	0.80%	0.97%	0.83%
Undeclared	N/A	0.19%	0.37%
White	49.70%	49.71%	47.97%

CalSTRS' organizational commitment to grow and sustain an engaged, highly skilled and diverse workforce is the foundation for our holistic approach to the employee experience at CalSTRS, from pre-hire to retire.

Diversity & Inclusion: The Power of Difference

CalSTRS welcomes and embraces diversity of thinking, background and experience to enhance our culture and drive business success. By working together to respect, value and include each individual's perspectives, CalSTRS empowers staff to perform their best work toward fulfilling our mission.

Investments Student Internship Pilot Program



2016 Investments Branch Interns

Front: Monica Wan, Jessica Padolina, Jacob Thompson

Back: Farooq Malik, Art Friedman, CIO Christopher J. Ailman, Ramon Hernandez, Tyler Mah

The Diversity and Inclusion Team also developed a partnership with the CalSTRS Investments Branch's management team to create a student internship pilot. The pilot was designed to attract a diverse pool of student interns from throughout California who were interested in pursuing a career in finance. More than 160 individuals applied and seven were selected to participate. The internship provided students with real-world work experience and exposure to work with all asset

classes, an opportunity to shadow our CIO Christopher J. Ailman and networking opportunities with CalSTRS' colleagues, board members and stakeholders. In collaboration with the Investments Branch, HR created specialized onboarding and exiting sessions to support the interns in acclimating to the unique culture of the Investments Branch work environment and preparing them to compete for positions in the finance industry.



CalSTRS Investments Branch interns share stories of working with CIO Christopher J. Ailman and our Investments team.



ENCOURAGING RETIREMENT SECURITY

Comments From the 2016 Annual Member Survey:

“I am satisfied with CalSTRS because I believe they are looking after my best interests to prepare me for future retirement. I have attended three workshops in the past and plan on attending at least one more. I appreciate that CalSTRS is keeping me informed about upcoming meetings, and ways to optimize my retirement income.”

“My initial phone conversation with a CalSTRS representative helped me get a better retirement than I had expected. Now the checks come regularly—I’m happy.”

“Great plan, great security for retirement.”



Retirement Preparedness: Early Career to Retirement

At CalSTRS, we strive to engage our members and prepare them for retirement as early in their career as possible. We offer members many tools to assist with this planning effort, including online calculators, our CalSTRS Pension2 defined contribution plans, financial education workshops and career-targeted publications. The goal of CalSTRS' educational efforts is to support members in taking the necessary steps to realize a rewarding and secure retirement.



CalSTRS Benefits and Services Executive Officer Andrew Roth highlights the importance of retirement preparedness for our members.



Early Career

Although members pay monthly into CalSTRS on their initial employment under a covered employer, members are not vested until they earn five years of service credit. Becoming vested with CalSTRS signifies eligibility for a lifetime benefit at service retirement. Retirement may seem far off for many early career educators, so we underscore to these members how important it is to understand their benefits and engage CalSTRS as a partner in retirement preparedness early in their career. For example, CalSTRS targets early career members with specific messages to promote the real benefits of saving and investing, even with small amounts.

The median CalSTRS retirement benefit is expected to replace 50 to 60 percent of a member's working salary at retirement. Financial advisers recommend income replacement rates of 80 to 90 percent in retirement. The difference between a member's retirement income goal and his or her retirement benefit is referred to as the retirement income gap. CalSTRS works to educate our members about this potential shortfall and encourages them to take steps early to close any gap.

In addition, we ask our members to register with *myCalSTRS*, our secure online site where they can track their account and service credit balances and more, and to understand the CalSTRS benefit formula, the need for supplemental savings and other important factors to help them identify and pursue their secure retirement plan.

Mid-Career

To further explore CalSTRS' benefits and benefit options, we engage with mid-career members through ongoing communications on our websites, social media, newsletters, targeted emails and other avenues. We encourage members at this career stage to:

- ◆ Establish their *myCalSTRS* account, if they have not already done so.
- ◆ Know their benefit formula.
- ◆ Take advantage of financial planning tools.
- ◆ Understand their retirement options.
- ◆ Consider their retirement date and make the corresponding decisions.

With this information, members can use our online [Retirement Benefits Calculator](#) to estimate their retirement benefit at various retirement dates.

Near Retirement

In CalSTRS' member education materials, we tell members that the five-year mark before retirement is a good time to review their financial and life plans to ensure their actions are on track with their goals. Along with calculating monthly bills at retirement, we remind members to incorporate the costs of medical care, hobbies, travel and other expenses. Our "Plan for Your Future" and "Protect Your Future" financial awareness workshops provide members with realistic examples of retirement income obstacles, strategies for withdrawing invested funds in retirement, and steps to choosing a qualified financial professional. Members are encouraged to explore the decisions they will need to make at retirement, including whether they want to provide a lifetime benefit to someone after their death.

myCalSTRS

myCalSTRS is our member-only website. With a *myCalSTRS* account, members can view their personal accounts, update profile information, request customer service assistance and download or complete forms online.

myCALSTRS

The median CalSTRS retirement benefit is expected to replace 50 to 60 percent of a member's working salary at retirement.

CalSTRS' Two Benefit Structures

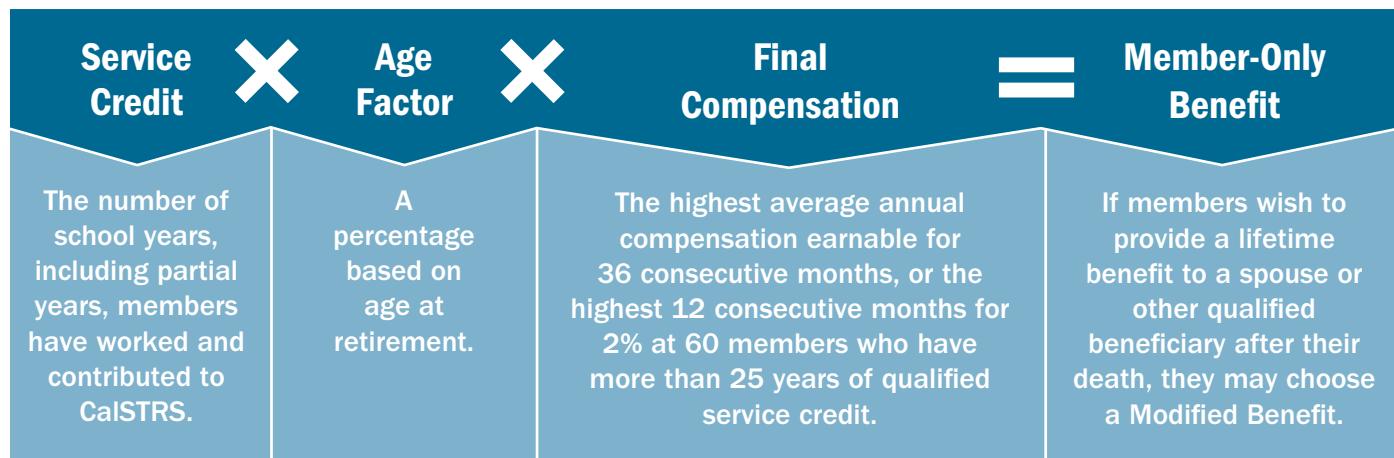
As a result of the California Public Employees' Pension Reform Act of 2013, CalSTRS has two benefit structures that determine a member's monthly retirement benefit:

CalSTRS 2% at 60: Members first hired to perform service that could be credited to the Defined Benefit Program on or before December 31, 2012.

CalSTRS 2% at 62: Members first hired to perform service that could be credited to the Defined Benefit Program on or after January 1, 2013.

The retirement benefit is a defined benefit pension based on a formula set by law, not on how much a member contributes or how well investments perform:

Service Credit x Age Factor x Final Compensation = Member-Only Benefit



Defined Benefit Supplement Account

CalSTRS Defined Benefit members have a Defined Benefit Supplement account that provides additional savings for their retirement.

Since members cannot earn more than one year of service credit in a school year, their member contributions and their employer's contributions on earnings in excess of one year of service, up to the compensation limit, are credited to this account. These excess earnings are not considered in

the calculation of a member's monthly retirement benefit, a defined benefit pension.

Full-time educators build their Defined Benefit Supplement accounts when they take on outgrowth, or extra-pay, assignments, such as summer school or coaching.

The Defined Benefit Supplement Program is administered as a cash balance plan. Contributions earn a guaranteed interest rate. Members receive the funds in their account at retirement.

UC Berkeley Study Validates Educators Are Better Off With a Defined Benefit Pension

Not only are California's educators better off with the CalSTRS Defined Benefit Program, but schools greatly benefit from the reduced workforce turnover. That's the finding of a recent research study, "Are California Teachers Better Off With a Pension or a 401(k)," authored by Nari Rhee, PhD, of the UC Berkeley Center for Labor Research and Education and William Fornia, FSA, of Pension Trustee Advisors and commissioned by CalSTRS.

The study, released in February 2016, shows the CalSTRS pension structure—which is designed to benefit teachers who stay until at least early retirement age—provides a greater, more secure retirement income for members compared to a 401(k)-style or cash balance plan.

Created in 1913, the CalSTRS pension benefit structure was designed as a retention tool to reward full-career educators, as well as to provide retirement security to program participants. This superior design stands the test of time and complements the career trajectories of California's educators.

For those who commit to teaching as a profession, the CalSTRS defined benefit plan is a powerful retention tool that serves their retirement needs well, while offering portability throughout the largest education labor market in the U.S.

Study's Key Findings Show Pensions Benefit a Long-Term Educator Workforce



Three-quarters of classroom teaching in California is performed by long-term teachers

75%

of active educators will have worked at least 20 years

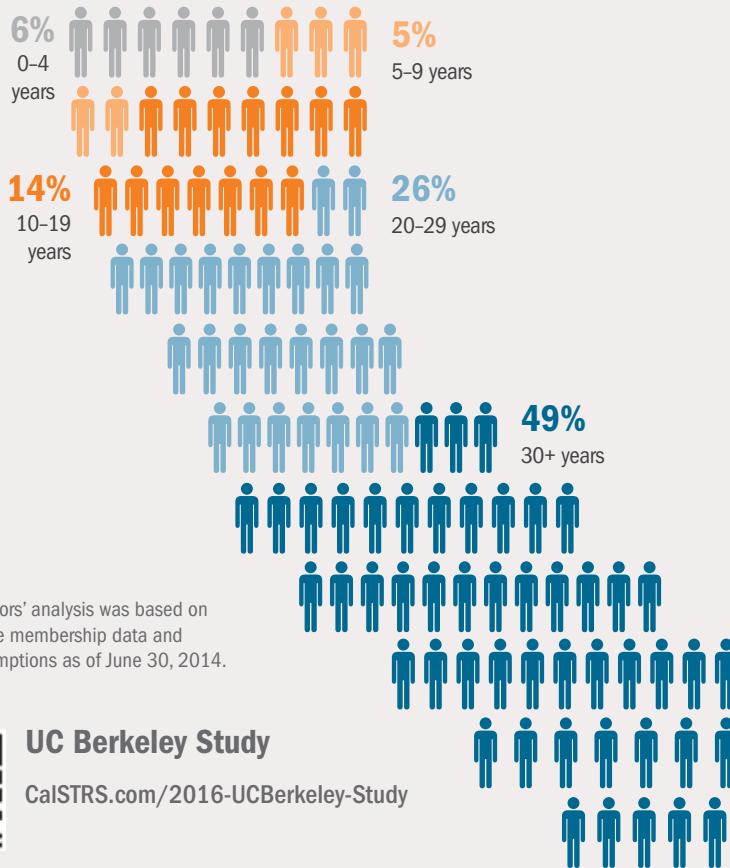
49%

of educators will retire with 30 or more years of service

26%

will have been covered by CalSTRS for 20–29 years

Projected Tenure of Current California Teachers



UC Berkeley Study

CalSTRS.com/2016-UCBerkeley-Study



CalSTRS Pension2 403(b) and 457(b) Voluntary Defined Contribution Plans

In 2016, active members were asked to rate their level of awareness regarding the retirement income gap.

64 percent

Active member respondents who reported being *aware* or *very aware* that they may need additional retirement income to meet their financial goals in retirement.

13 percent

Active member respondents who were *not at all aware* that they may need additional retirement income to meet their financial goals in retirement.

In 2016, active members were asked to rate their level of awareness regarding the retirement income gap. Most active member respondents, 64 percent, reported being *aware* or *very aware* that they may need additional retirement income to meet their financial goals in retirement. Only 13 percent of respondents were *not at all aware*.

Pension2®, CalSTRS' voluntary defined contribution plan, complements the CalSTRS retirement benefit. Pension2 offers educators the opportunity to invest through tax-advantaged payroll deductions in low-cost, flexible 403(b), Roth 403(b), 457(b) and Roth 457(b) plans for additional retirement savings.

With a Pension2 account, educators belong to a plan that:

- ◆ Features low fees and expenses, so more of members' money works for them.
- ◆ Offers tax-advantaged contributions and a variety of investment plans.
- ◆ Provides objective advice and planning services at no additional cost.

Pension2 Participants

FY	Participants
2013-14	8,610
2014-15	9,319
2015-16	10,999

In 2015-16, the number of Pension2 participants increased 18 percent from the previous fiscal year.

pension2
personal wealth plan

Pension2 E-book
Pension2.com

403bCompare

403bCompare gives members an easy and transparent resource for information on their employer's 403(b) products. Here they will find everything they need to compare, select and start building their personal retirement savings.



403bCompare Website

403bCompare.com

Social Security and CalSTRS Members

In 1955, the California Teachers Association held an every-member election in which full-time teachers rejected participation in the Social Security program by a ratio of four to one. Therefore, California public school educators—both Defined Benefit members and Cash Balance Benefit participants—do not pay into Social Security, so they will not receive a Social Security benefit at retirement for their CalSTRS-covered employment.

CalSTRS alerts those members who are eligible for a Social Security benefit through their spouse or other employment about two federal rules, the Windfall Elimination Provision and the Government Pension Offset, that may affect the amount of their Social Security benefit.

These rules affect only a member's Social Security benefit. Their CalSTRS retirement benefit is not affected.

Windfall Elimination Provision

Affects a member's Social Security benefit that is based on earnings from other employment:

- ◆ May reduce a Social Security benefit but will not eliminate it. The amount of reduction depends on the years of Social Security earnings and the amount of the CalSTRS retirement benefit.
- ◆ The reduction to the Social Security benefit cannot be more than half of the monthly CalSTRS benefit.
- ◆ Does not apply if the member has 30 or more years of Social Security substantial earnings.

Government Pension Offset

Affects the Social Security benefit a CalSTRS member may receive as a spouse or surviving spouse:

- ◆ May reduce or eliminate spousal Social Security benefit.
- ◆ Will reduce the Social Security benefit by two-thirds of the CalSTRS retirement benefit.

For example: Assume a member's expected spousal Social Security benefit is \$600 and their CalSTRS retirement benefit is \$1,200. Two-thirds of \$1,200 is \$800.

Subtracting \$800 from their spousal \$600 Social Security benefit leaves a negative amount, so the member would not receive a Social Security benefit.

In 1955, the California Teachers Association held an every-member election in which full-time teachers rejected participation in the Social Security program by a ratio of four to one.

Health Coverage in Retirement

CalSTRS does not provide health care insurance to members. Members' health care benefits are subject to their district's agreements with employee bargaining units. More than 95 percent of K-12 teachers currently working can expect health benefit support from their employer while employed. Of those, 80 percent can expect health benefit support until Medicare eligibility at age 65, and more than 30 percent can expect some health benefit support after age 65.

When planning for retirement, it is important for CalSTRS members to understand their health care needs in retirement and how those needs will be met, either by their former employer or through out-of-pocket expenses. Relying on a replacement ratio alone may not be enough to predict these costs. Needs are as individual as each member, and each employer has its own rules and support levels. When planning for health benefits in retirement, we encourage CalSTRS members to ask themselves these questions:

- ◆ Will my employer share my health benefit premium costs in retirement?
- ◆ How will my portion of health benefit premium costs change in retirement?
- ◆ How long will my employer support my health benefits in retirement?
- ◆ What proportion of my monthly income in retirement will be absorbed by health benefits?
- ◆ What other health benefits, such as dental and vision, will I need to plan for in retirement?
- ◆ How would waiting until I am Medicare-eligible affect my retirement income?



Health Benefits Study Presentation 2017

CalSTRS.com/2017-HBS-Presentation

CalSTRS Workshops and Publications

Our Retirement Readiness and Communications teams focus on engaging our members to help them understand their benefits and plan for their secure future. Members can take advantage of financial education workshops and career-targeted publications, in addition to benefit and retirement planning sessions and videos.

Financial Awareness Workshops

In 2016, CalSTRS introduced a new series of three workshops to help members make smart financial decisions for a secure retirement. Each two-hour workshop incorporates basic financial literacy concepts and instructor-led exercises, and those attending take home a booklet with helpful checklists and worksheets. The workshops can be taken in any order and are given throughout the state.



WORKSHOP 1

Save for Your Future

The first in the series, “Save for Your Future,” helps members create a budget, identify savings goals, understand credit reports and credit scores, and manage debt. Along with money management tips and worksheets, the workshop provides consumer protection, credit counseling and personal financial planning resources.



WORKSHOP 2

Plan for Your Future

This workshop helps members explore various retirement income sources and expenses, prepare for potential obstacles and gain a better perspective for what their future may hold. It also presents an overview of Pension2 and Social Security’s Windfall Elimination Provision and Government Pension Offset rules.



WORKSHOP 3

Protect Your Future

The third workshop covers benefit adjustments and distributions, maximizing income in retirement and ways to protect retirement lifestyles. The workshop presents an overview of investment diversification, and members receive a step-by-step guide to finding a qualified financial planning professional.

Newsletters

In the 2016 annual CalSTRS Member Survey, 80 percent of respondents reported that they read our member newsletters, making newsletters the most common way members interact with us. We encourage members to access these newsletters online to receive current information about CalSTRS services, benefits and industry-related news.

CalSTRS reaches out to members and beneficiaries through two newsletters,

Connections and *Retired Educator*. Each newsletter is produced twice a year. Members receive their newsletter by email or postal mail, depending on their preference.

We produce two versions of our *Connections* newsletter:

CalSTRS Connections: Your Money Matters is for active and inactive members age 49 and younger and provides updates on our programs and

services, supplemental savings options, financial planning and legislative news.

CalSTRS Connections: Reaching Your Retirement, for active and inactive members age 50 and older, focuses on retirement planning and decisions, legislative news and program updates.

Retired Educator, for both retirees and beneficiaries, covers news that pertains to these groups, including legislation, and investment and benefit updates.



In the 2016 annual CalSTRS Member Survey, 80 percent of respondents reported that they read our member newsletters, making newsletters the most common way members interact with us. We encourage members to access our newsletters online to conserve natural resources.

Career-Targeted Publications



Welcome to CalSTRS

This booklet, which we mail once a year to all new educators, introduces them to their benefits as a CalSTRS member. It covers the Defined Benefit, Defined Benefit Supplement and Cash Balance Benefit programs, and Pension2, CalSTRS' voluntary defined contribution plan. It also lets members know that their income in retirement is a shared responsibility between CalSTRS and them, and explains the retirement income gap.

Member Kits

For the past 11 years, CalSTRS has mailed three member populations a member kit with benefit and retirement planning information specific to their career milestone: Early Career (newly vested), Mid-Career and Near Retirement.

Your Retirement Guide

The *Your Retirement Guide* presents the questions members will need to answer and the decisions they will need to make to retire from CalSTRS. The step-by-step guide also takes members through the application process.

Member Education Videos

CalSTRS produces videos that help members learn about their benefits. The topics of the three- to five-minute videos range from understanding the CalSTRS retirement formula to purchasing additional service credit to working after retirement.



**Member
Benefit Videos**
CalSTRS.com/videos

Member Services and Engagement Survey: Voice of the Customer

Our extensive outreach efforts are intended to engage our members and guide them to a secure and prosperous retirement. Each year, we measure our success with these efforts to gain insight into our members' experiences with the delivery of benefits and services. The survey results assist us in defining our focus to improve customer service and target business communications and services where they are most needed.

In 2016, approximately 31,000 surveys were sent via email to a sample of active and retired members. We received 1,976 responses, a response rate of 6.4 percent:

- ◆ 68 percent of CalSTRS members reported high levels of satisfaction (selected a 6 or 7 rating on a 7-point scale).
- ◆ Similar to previous surveys, very few members (2 percent) were dissatisfied with CalSTRS. However, overall satisfaction ratings revealed opportunity for improvement, with 30 percent giving moderate ratings (3, 4, or 5).

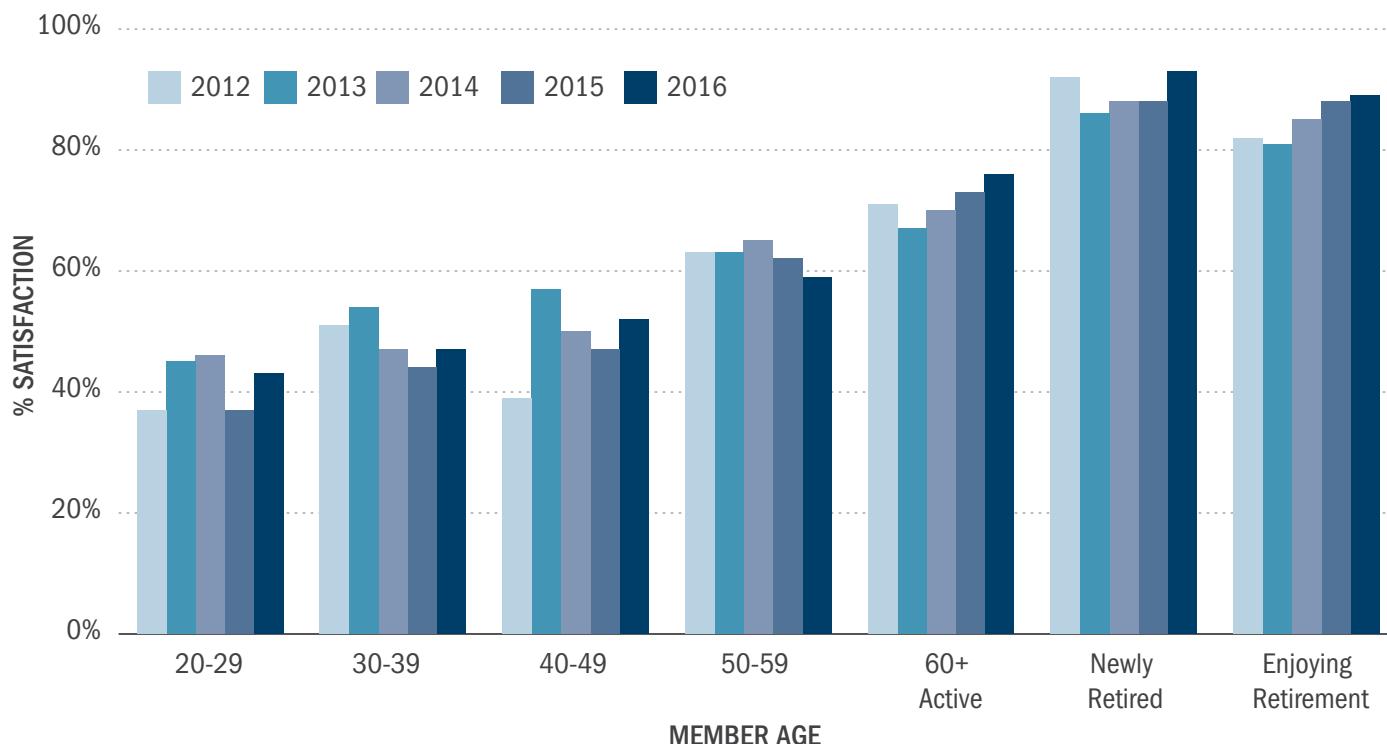
High satisfaction ratings were mostly attributed to good information from printed materials, workshops, on-time

check delivery or automatic deposits, and helpful and well-designed online material. Lower ratings were attributed to difficulty in accessing services—phone, email, web and benefits specialists—and missed opportunities to provide better customer service.

While members reported high levels of overall satisfaction, specific levels of satisfaction varied by age group. Members aged 20 to 30 years old, who tend to have the least interaction with us, reported a 43-percent satisfaction rate. Satisfaction rates increased with each age decile (30–40, 40–50, 50–60) and new retirees reported the highest level of overall satisfaction with CalSTRS at 93 percent, which was up 5 percent since 2015.

Member Satisfaction by Age Group

In general, a high level of satisfaction increases with age, with the largest percentage of highly satisfied reported by retired members.



Member Engagement

In 2012, CalSTRS included an assessment of member engagement as a new area of focus in our survey efforts. The engagement assessment measures more than satisfaction—it also measures our members' relationship with and emotional attachment to CalSTRS.

While satisfaction is a static concept that reflects reactions to recent experiences, engagement is an active assessment of emotional attachment built over time. Research shows that engaged customers and members are more likely to try new products, make word-of-mouth recommendations, and maintain business relationships even when there are shortcomings. In addition, engaged members demonstrate trust and confidence and are more likely continue interacting with CalSTRS even in trying times. Engagement is an important component as we attempt to increase member interactions with CalSTRS and active involvement in retirement planning.

In 2016, all member engagement ratings increased from 2015 with 49 percent to 74 percent of members reporting favorable impressions of CalSTRS (percent selecting a rating of 6 or 7 on a 7-point scale). More members reported high levels of agreement with the following measures:

- ◆ *CalSTRS is an organization that I can trust.* (74 percent)
- ◆ *CalSTRS shows me respect.* (70 percent)

There was a significant increase from 2015 of members who reported higher agreement ratings with the following measures:

- ◆ *Being a member of CalSTRS makes me feel good about my future financial security.* (63 percent)
- ◆ *I can count on CalSTRS to deliver on what they promise.* (63 percent)
- ◆ *I know CalSTRS operates in my best interest.* (63 percent)
- ◆ *I feel confident my retirement is secure with CalSTRS.* (60 percent)
- ◆ *CalSTRS is a solid financial institution.* (58 percent)
- ◆ *My CalSTRS benefit is better than retirement packages offered by other employers.* (52 percent)

The lowest rated measure was:

- ◆ *CalSTRS continues to come up with new ways to serve me better.* (49 percent)





ENSURING RESPONSIBLE BUSINESS PRACTICES

“Many forms of conduct permissible in a workaday world for those acting at arm’s length, are forbidden to those bound by fiduciary ties. A trustee is held to something stricter than the morals of the marketplace. Not honesty alone, but the punctilio of an honor the most sensitive, is then the standard of behavior. As to this there has developed a tradition that is unbending and inveterate. Uncompromising rigidity has been the attitude of courts of equity when petitioned to undermine the rule of undivided loyalty by the ‘disintegrating erosion’ of particular exceptions. Only thus has the level of conduct for fiduciaries been kept at a level higher than that trodden by the crowd.”

—Justice Benjamin Cardozo,
Meinhard v. Salmon, 1928
New York Court of Appeals



Functions of Organizational Transparency

We communicate with our stakeholders through many channels, including our public, online video-streamed board meetings, website discussion posts and our member-facing customer contact centers. For sensitive issues, our compliance hotlines ensure that anonymous channels are available to employees, members and other stakeholders.

“What Do You Think?”

“What Do You Think?” is CalSTRS’ online employee feedback forum facilitated by a third-party vendor. Through this forum, CalSTRS employees can pose questions, submit suggestions, post compliments and voice concerns directly to the CEO while maintaining anonymity. In turn, the CEO uses the third-party platform to respond to the anonymous employee.

Ethics Hotline

The CalSTRS Ethics Hotline is an integral part of meeting our commitment to conduct business in an ethical manner. Employees and other stakeholders can report any unethical behavior by an employee or business partner. All investigations arising from the CalSTRS Ethics Hotline are conducted by the CalSTRS Office of the General Counsel.

Pension Abuse Reporting Hotline

CalSTRS is dedicated to preventing pension spiking. This anonymous service enables anyone, including the public, CalSTRS members, school districts and county office of education employees, to report suspected abuse and suspicion of pension spiking to us via electronic submission, toll-free line or mail. Suspected cases of fraudulent pension-related activity are investigated by our Compensation Review Unit.

Whistleblower Hotline

The California State Auditor investigates complaints of improper activities, such as violations of law, misuse of state resources or gross misconduct and incompetency, by state agencies or employees.

As stated on the California State Auditor website, “Upon receiving a complaint, the State Auditor may conduct an investigation into the facts alleged in the complaint to determine whether an improper governmental activity has occurred. Before launching an investigation, the State Auditor’s staff will conduct a careful evaluation of the complaint to determine whether it has enough potential merit to warrant the expenditure of state resources to conduct an investigation.”

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—CA State Auditor

Communicating With Our Members

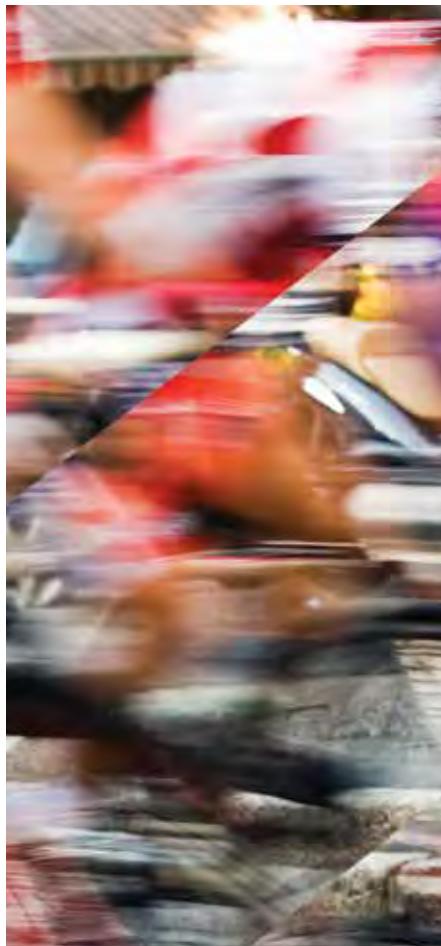
In an effort to provide our members with the latest updates about CalSTRS programs, legislative changes, investments and other important information affecting our members and beneficiaries, we communicate via our CalSTRS.com website, quarterly newsletters, speaking events and direct email, where appropriate.

CalSTRS.com: The CalSTRS website is rich with information about our benefits and services. Board meeting notices, documents, live web-streamed meetings and archived presentations can also be viewed. Members, employers and other interested parties can access CalSTRS' publications and reports, link to *myCalSTRS* accounts and connect with customer service staff.

"Ask Jack": Ask Jack is an online communication mode providing answers members pose to the CEO about current issues.

Member Surveys: The annual Member Survey and other specific surveys provide CalSTRS with member feedback to assist us in improving our services.

myCalSTRS: At this secure website, members can manage and view retirement accounts, request direct deposit and e-delivery of CalSTRS newsletters, apply for service retirement and receive customer assistance online.



Communicating With Our Employees

CalSTRS Central: Our internal website is a place where employees can access important, relevant information about each business area, employee events, and HR forms and benefits. Employees are welcome to share workplace information on the site.

Employee Meetings: CalSTRS' leaders are encouraged to hold regular one-on-one, unit and divisional meetings with employees to provide top-down information while also listening for bottom-up ideas and innovation.

Organizational Performance Forum: CalSTRS' leaders attend quarterly information sessions to assist them in guiding and educating staff about CalSTRS' priorities.

Onboarding/Organization-Based Training: CalSTRS provides employees with trainings to introduce them to our culture, sustainability practices and organizational structure.

Town Halls: CalSTRS' CEO annually presents a two-hour informative and interactive discussion covering industry topics, organization updates and current issues relevant to the jobs employees' perform.



Cybersecurity

CalSTRS manages information security and privacy through our Information Security Office. We are vigilant in the protection of member information through the use of staff and member education, internal controls, system monitoring and technology updates. More specifically, CalSTRS' ISO:

- ◆ Develops and updates information security policies that address the secure access, transportation, storage and destruction of CalSTRS data and computing resources.
 - ◆ Continually educates staff on CalSTRS information security practices and compliance.
 - ◆ Partners with program areas and project teams to ensure compliance with policies, standards, risk mitigation strategies, and industry best practices for technology projects and enhancements.
 - ◆ Performs ongoing monitoring and vulnerability assessments of perimeter and internal hosts and network devices.
 - ◆ Maintains high-level expertise in the discipline of computer and network security, vulnerability assessment, virus detection, and hacking methodologies.
 - ◆ Advises department in cybersecurity-risk mitigation strategies.
-

Employee Compliance

The Information Security team is responsible for educating CalSTRS employees on strict data security rules and setting clear expectations of their individual responsibilities in securing data and intellectual property.

- ◆ Upon hire and annually thereafter, employees are required to read and sign a Confidentiality, Non-Disclosure and Acceptable Use Agreement. This agreement details appropriate use of technology equipment, data confidentiality and the management of information and outlines severe consequences for violations.
- ◆ The ISO conducts audits of security policies, systems and accesses, no less than annually, in support of the organization's efforts in achieving compliance.
- ◆ Security tools are used to assist in detecting and alerting staff when a potential threat is identified. Staff and processes are in place to promptly investigate and respond to compliance issues.

Employee Education and Awareness

The ISO provides CalSTRS employees with the tools and information needed to ensure employees are able to recognize, analyze and deal with security threats for staying safe at work and at home. The team is continuously exploring ways to reach employees with additional educational opportunities, including:

- ◆ Train employees on cybersecurity via mandatory online security training for new employees, which is repeated yearly by all employees.
- ◆ Provide tailored presentations to CalSTRS business areas, new employee onboarding and educational promotions throughout the calendar year.
- ◆ Conduct mock scenarios, such as email phishing, which test employees' ability to identify potential threats and divert them to our security team.



Incident Response Plan

The State of California requires all state departments to be prepared for a breach of systems and data. This includes developing a formal plan and procedures as well as reporting incidents to the California Department of Technology's Information Security Office.

The plan's goal is to quickly address and mitigate the effects of a breach and to investigate whatever measures are necessary to prevent future incidents of the type experienced. In addition, staff will seek to determine the scope, source and cause of the breach for the purpose of taking legal action against the perpetrators.

In the 2015-16 fiscal year, CalSTRS did not receive any substantiated complaints concerning breaches of customer privacy.

In the 2015-16 fiscal year, CalSTRS did not receive any substantiated complaints concerning breaches of customer privacy.



A Culture of Ethics: A Focus on CalSTRS' Trustees and Fiduciary Responsibilities

The Teachers' Retirement Board is granted plenary (absolute) authority for administration of the Teachers' Retirement Fund by the California Constitution. The Education Code establishes the board's authority to set policy for the administration of the plan and investment of plan funds. The board may delegate any act that the board has the authority to perform. Consequently, the board is a governing board and does not handle the day-to-day management of the system.

Policy and Ongoing Oversight

The board operates at a high level to:

- ◆ Review and discuss major issues impacting CalSTRS.
- ◆ Consider recommendations from staff and other experts before making decisions.
- ◆ Set policy for the staff to implement.
- ◆ Update its strategic plan and monitor progress.

Both the Teachers' Retirement Law and the *Teachers' Retirement Board Policy Manual* outline specific guidelines and requirements for the board. One of the most important aspects of the board's role is to understand and carry out its fiduciary duty as set forth in these mandates.

The California Constitution states:

The retirement board of a public pension or retirement system shall have the sole and exclusive fiduciary responsibility over the assets of the public pension or retirement system. The retirement board shall also have sole and exclusive responsibility to administer the system in a manner that will assure prompt delivery of benefits and related services to the participants and their beneficiaries. The assets of a public pension or retirement system are

trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries and defraying reasonable expenses of administering the system.

The members of the retirement board of a public pension or retirement system shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system. A retirement board's duty to its participants and their beneficiaries shall take precedence over any other duty.

The members of the retirement board of a public pension or retirement system shall discharge their duties with respect to the system with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

—*California State Constitution, Article 17, Section 16*



State Controller Betty Yee, chair of the CalSTRS Board Governance Committee, speaks to the significance of board governance.

Fiduciary Concepts

Anyone who serves as a board member is a trustee and is therefore a fiduciary. The standards of conduct imposed upon fiduciaries are the highest under the law. The California Constitution, the Teachers' Retirement Law, general trust law principles and other California statutes apply. Additionally, case law interpreting the Employee Retirement Income Security Act, which technically does not apply to public retirement systems, provides some guidance on fiduciary standards. All trustees are held to the same high fiduciary standards regardless of their knowledge, experience or time on the board. The law does not allow a "sliding scale" by which to judge the action of fiduciaries.

The main fiduciary duties for public retirement board trustees are:

- ♦ The duty of loyalty
- ♦ The duty of prudence





Duty of Loyalty

With the recent funding shortfalls, many state legislatures are asking public retirement boards to:

- ◆ Assist in estimating the cost of alternative plan designs.
- ◆ Endorse or promote plan design changes.
- ◆ Recommend specific ways to lower benefits.
- ◆ Draft or support legislation to lower benefits.
- ◆ Remain silent as unfavorable benefit changes are discussed and enacted into law.

However, the common law of trusts requires that the trustees act solely in the interest of the trust and its participants and beneficiaries. There is to be no secondary interest considered in decision-making. The Internal Revenue Code requires pension trusts to be managed according to the “exclusive benefit rule,” which aligns with the common law of trusts.

The California Constitution slightly modifies this rule, but ends up at essentially the same place. Regardless of how a person becomes a trustee, the duty of loyalty is the same for everyone. No one has an excuse for violating the duty of loyalty. The “one hat rule” states that while engaged in CalSTRS business, fiduciaries must wear only the hat of a fiduciary and not the hat of an employer, a representative for a union, a member of the business community or an elected official.

Trustees owe no fiduciary duty to:

- ◆ The Legislature
- ◆ Taxpayers
- ◆ The general population of the state
- ◆ The group who elected or appointed them
- ◆ The Governor who appointed them
- ◆ Contributing employers

Duty of Prudence

The duty of prudence incorporates evolving standards of care that are continually higher as decisions become more complex.

Prudence applies to all decisions, not just those involving investments. The Prudent Expert Standard dictates that trustees must act “with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent [person] acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.” This is the CalSTRS standard use and generally accepted by state investment boards and public retirement systems across the country and by many sovereign wealth funds around the world.

The word “familiar” is somewhat misleading because the courts have interpreted it as the standard of a sophisticated expert. To exercise prudence, trustees must use all the personal skills they have and share their insights with other trustees.

The duty of prudence allows and even encourages delegation of certain duties by trustees to others. If trustees are not experts in a certain area, they may delegate duties to “agents” who are experts. Trustees must carefully select, instruct, monitor and evaluate the experts on which they rely. Fiduciary responsibility can be shared, but trustees cannot abdicate their responsibility. The ultimate responsibility for everything rests with the trustees.

Responsibility and Liability

Fiduciary liability can result from breaching the duty of loyalty or the duty of prudence, or through “co-fiduciary liability.” Co-fiduciary liability means “you are your brother’s keeper.” If a trustee is aware of a fiduciary breach by another fiduciary and does nothing about it, he or she is also breaching a fiduciary duty.

The law requires action—a trustee must speak up and try to remedy the breach and cannot remain silent.

The majority of cases on co-fiduciary liability come from the private sector where ERISA applies, but this concept is generally applied in the public sector as well and especially included in the Teachers’ Retirement Law.

Actions a fiduciary should take to mitigate liability include:

- ◆ Attend orientation and participate in continuing education.
- ◆ Read materials prepared for the board and committee meetings.
- ◆ Ask questions when in doubt.
- ◆ Participate in discussions during the decision-making process.
- ◆ Require clear documentation of board actions and rationales.
- ◆ Seek expert advice on legal, actuarial, investment and audit matters.
- ◆ Maintain a good governance structure where delegations and assignments to committees, staff and outside service providers are clear and regularly monitored.



Organizational transparency and ethical behavior are represented in two of our core values that define CalSTRS and our employees:

Accountability

We operate with transparency and accept responsibility for our actions.

Trust

We conduct ourselves with integrity, acting ethically in every endeavor.

Fiduciary Counsel and ESG Considerations

CalSTRS contracts with outside fiduciary counsel to serve as a legal resource to the board and work closely with staff, conduct annual board fiduciary training, review all Investment Committee meeting materials as well as materials for select board or committee agenda items, and attend all Investment Committee and most board or committee meetings. The board selected Harvey Leiderman and Alexandra Poe of the law firm Reed Smith as its fiduciary counsel. Board members may consult with fiduciary counsel regarding fiduciary matters.

At the annual fiduciary training to the board in September 2016, Mr. Leiderman further explained the U.S. Department

of Labor guidance released in October 2015. The counsel added that ERISA and the Department of Labor ruling allows for private employee pension funds to consider environmental, social and governance factors within its investment decisions, as long as there is a reasonable or meaningful alternative, meaning that an alternative investment would have minimal impact on the portfolio. Because CalSTRS is a state organization and is required to uphold the Constitution, CalSTRS must consider the health, safety and welfare of the people we serve. This contingency adds a “third dimension” to our fiduciary duty and can be described under these six guidelines, which were provided by Reed Smith:

1. Board members owe constitutional fiduciary duties to the members of the retirement system to maximize risk-adjusted returns. They may not sacrifice returns solely to benefit other causes or interests.
2. Board members are also public officials, who take an oath of the office to uphold the California Constitution. CalSTRS is a state agency, and the state is obligated under the Constitution to provide for the health, safety and welfare of its people.
3. The Constitution also gives the legislature the authority to prohibit the board from making certain investments where it is in the public interest to do so, and where the prohibition satisfies the standards of care and loyalty required to the board. This allows the trustees to harmonize considerations of the public welfare with their duties to members.
4. These dual constitutional roles do not exist in the private fund, ERISA sector. Department of Labor guidance does not consider or reconcile the additional duties of public officials.
5. In making investment decisions, therefore, the board may consider not only how to fund members' benefits, but how it might do so in a way that avoids harm to, or promotes the public welfare.
6. Environmental, social and governance factors that are intended to avoid harm, or promote health, safety and welfare are proper for trustees to consider, particularly where alternative investment options are available that can be integrated into a diversified portfolio without detracting from the overall expected risk/return of the portfolio.

Board Ethics and Compliance

Board members can be assured that they will be informed of all the legal filings, such as the Form 700 Statement of Economic Interests, they must complete as part of their board duties. Our general counsel and ethics and compliance counsel assist board members with all aspects of their service related to Sections 500 and 600 of our *Board Policy Manual: Board Governance, Ethical and Fiduciary Conduct*. Our general counsel and ethics and compliance counsel also assist board members on questions arising from service on the board, such as potential conflicts, recusal and reporting requirements.

Subject	Filing Timeline/Date	Summary/Action	Administration
Gift Policy Attestation	Board members elected to Board of Administration of the Teachers' Retirement Board, the State Controller, the State Treasurer and Superintendent of Public Instruction file annually by March 1. All other board members file annually by April 1.	Board members sign the Gift Policy attestation, stating compliance with the Gift Policy.	Gift Policy attestation collected by Executive Office annually.
Code of Conduct Affirmation	Annually by April 1.	Board members sign the Code of Conduct affirmation.	Signed Code of Conduct collected by Executive Office annually.
Insider Trading Policy	Annually by April 1.	Board members sign attestation regarding Insider Trading Policy.	Signed Insider Trading Policy Acknowledgment collected by Executive Office annually.
Form 700-Statement of Economic Interests	Annually by March 1. New board members within 30 days of assuming office; board members leaving board service submit form within 30 days of leaving office.	Board members file a Form 700-Statement of Economic Interests annually, and upon assuming and leaving office.	Form 700 filed with the CalSTRS Filing Officer.
Continuing Education	Biennially.	All board members must participate in 24 hours of continuing education every two years.	Board members submit an Education Evaluation form to the Executive Office upon completion of an educational seminar or conference. Board members track their continuing education and furnish an attestation of completion of the requirements of the section upon request.
New Board Member Orientation	Prior to sitting at first board meeting.	New board members must attend orientation, preferably before sitting at their first board meeting. Materials developed by the CEO and provided to the board member at or before the orientation session. BPM § 500(D)(a)(3).	New board member orientation facilitated by the Executive Office; materials provided by the same.
Fiduciary Training	Annually at board meeting.	General counsel presents fiduciary education session annually during board meeting.	Fiduciary training provided by fiduciary counsel annually.
State Ethics Training	All board members biennially by April 1. New board members within six months of appointment.	All board members participate in ethics training every two years and within six months of appointment.	Ethics certificates collected by general counsel.



Twelve board members, 20 designees,
261 external investment representatives and
405 staff (37 percent of staff) are required to
take the biennial ethics training.

The following describes the characteristics of a
public employee's responsibility as they pertain
to these binding laws:

- ◆ Public servants are required to serve the public's interest—and may not use their public employment to serve private or political interests.
- ◆ Public officials who conduct themselves according to a standard that exceeds the minimum requirements set in the ethics laws help to maintain the public's faith in government.
- ◆ The disclosure requirements apply to every state elected official and to almost all state agency department heads and members of state commissions, boards, committees and other bodies. They also apply to all other state employees who have significant decision-making authority or input into agency decisions.
- ◆ All state agencies that make decisions having financial impacts are required to adopt what is known as a "conflict-of-interest code." The conflict-of-interest code "designates" those employees who play a significant role in the agency's decision-making processes and tailors disclosure obligations for them based upon the types of private financial interests they can affect through their decisions.
- ◆ Designated employees must file a statement disclosing their interests when assuming office, annually while in office, and upon leaving office.

The Teachers' Retirement Board operates at a high level to:

- ◆ Review and discuss major issues impacting CalSTRS.
- ◆ Consider recommendations from staff and other experts before making decisions.
- ◆ Set policy for the staff to implement.
- ◆ Update its strategic plan and monitor progress.

Both the Teachers' Retirement Law and the *Teachers' Retirement Board Policy Manual* outline specific guidelines and requirements for the board.

SUSTAINABILITY-RELATED INVESTMENT RISK MANAGEMENT



Environmental Risk: The risk associated with an investment's long-term profitability from activities and exposure to environmental matters, such as depleting or reducing air quality, water quality, land protection and usage, without regard for remediation. Consideration should be given to how a company is dealing with the impact of climate change, including whether the government is taking steps to reduce its impact or exacerbate the problem, or is oblivious to the risk.



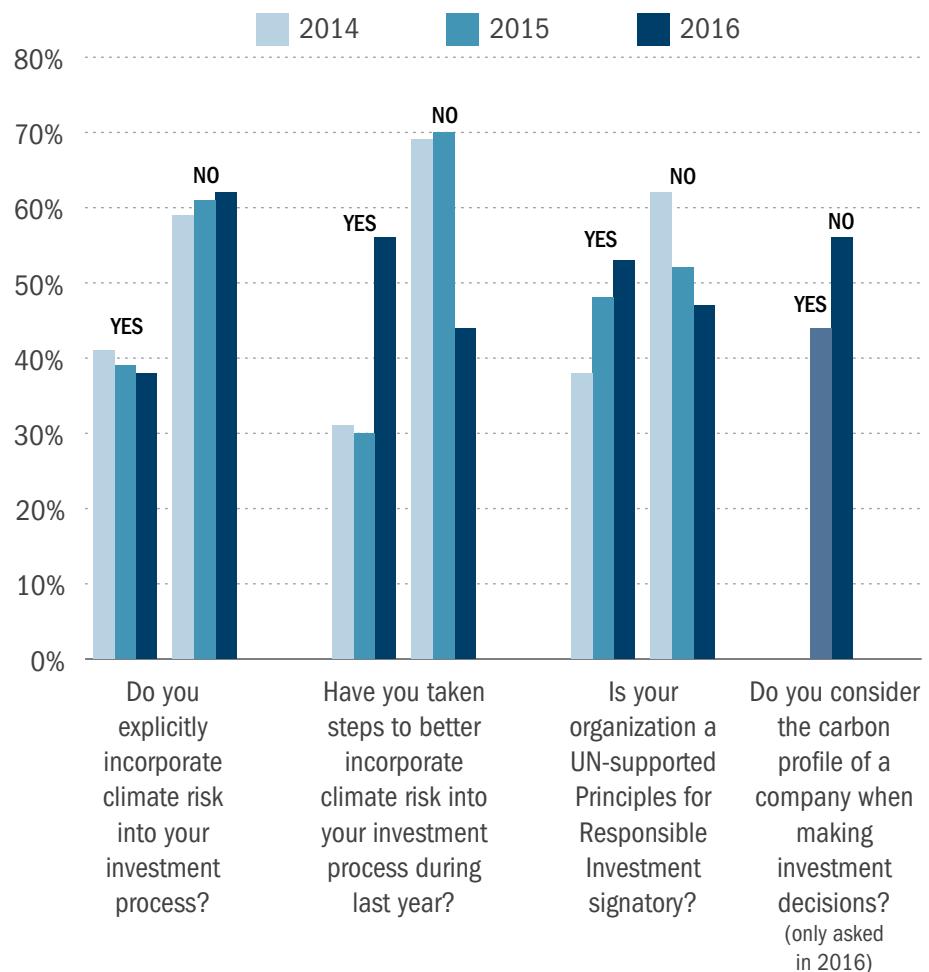
Environmental Risk: Investments and Engagements

CalSTRS considers environmental risk within our 21 Risk Factor review.

The principal environmental issue that Investments staff considered this year was CalSTRS' exposure to fossil fuel companies and if, or to what degree, the activities of these companies presented a material risk to the CalSTRS Investment Portfolio.

Since 2010, all of the CalSTRS Global Equity external managers have been polled annually to assess the level of climate considerations in their respective processes. Below are the poll questions and response rates from the external managers.

CalSTRS Global Equity External Managers Poll



In addition to addressing the issue of environmental risk with our external managers, direct engagement with portfolio companies is also an ongoing risk mitigation practice. In 2015–16, CalSTRS engaged with numerous companies on environmental risk:

- ◆ In collaboration with the UN Principles for Responsible Investment, we engaged 56 companies held in our Global Equity Portfolio, valued at approximately \$3.9 billion. This engagement focused on risks associated with hydraulic fracturing.
- ◆ In collaboration with the Ceres Investor Network on Climate Risk and Sustainability, we engaged 45 companies, including Exxon Mobil, Chevron, Occidental Petroleum, Apache Corporation and Hess Energy, with a combined portfolio value of \$4 billion. This engagement focused on how fossil fuel producing companies were considering issues, such as expected future energy demand, anticipated future prices of oil and gas, introduction of new technologies and potential regulatory impacts, when deciding how to allocate substantial shareholder capital to new exploration projects that will take years, if not decades, to achieve profitability.
- ◆ Engaged 14 oil and gas companies on implementing and disclosing their methane emissions risk-management strategy efforts. These candidates were identified through an analysis of oil and gas companies held in the CalSTRS Russell 3000 Index.

CalSTRS' clean technology and infrastructure investment commitment standings:

- ◆ As of May 31, 2016, we committed \$692.7 million in our Private Equity Portfolio to the clean technology and clean energy sector.
- ◆ As of June 30, 2016, 82 percent of office buildings in the CalSTRS Real Estate Separate Account Portfolio were Energy Star-certified and ranked in the top quartile of energy-efficient buildings.
- ◆ As of June 30, 2016, Fixed Income held \$296.9 million in green bonds, which is an increase of 12.3 percent from the previous year.
- ◆ As of June 30, 2016, 55 percent of office buildings in our Real Estate Separate Account Portfolio were LEED-certified.
- ◆ As of March 2016, we held \$144.9 million in green investments in our Inflation Sensitive Portfolio, including solar and wind power generation, waste-to-energy sites and LEED-certified buildings.



Ceres President Mindy Lubber applauds CalSTRS' sustainability-related investment risk-management efforts.

Mercer Study: How Climate Change May Impact Investments

CalSTRS partnered with Mercer and 17 other participants in a research study that yielded the report, *Investing in a Time of Climate Change*, released in February 2016. The study brought together a cross-section of the global investment industry, including asset owners, investment managers, insurance companies and private banking firms. The study also included the input of an advisory group composed of renowned experts in the field of investment and climate finance. Mercer attempted to quantify the risks and opportunities for investment portfolios that could arise from climate change under four different climate change scenarios and recommended actions investors could take to manage climate change risk.

Scenario	Scenario Expectations	Description	Expected Global Temperature Rise
Transformation	Swift change to low carbon economy	Ambitious and stringent climate change policy and mitigation action	2 degrees Celsius
Coordination	Mitigation efforts cohesive and aligned. Well-defined policy actions. Change more measured: time to respond	Climate change policy and mitigation actions are aligned and cohesive by 2030	3 degrees Celsius
Fragmentation (Lower Damages)	<ul style="list-style-type: none">Limited climate actionLack of policy coordination	Limited climate action and lack of coordination	4+ degrees Celsius
Fragmentation (Higher Damages)	<ul style="list-style-type: none">Limited climate actionLack of policy coordinationImpacts of climate change more severe	Limited climate action and lack of coordination with impacts being more severe	4+ degrees Celsius

Each climate scenario, representing a possible climate change outcome, reflects different climate change policy ambitions that result in varying CO₂ emissions pathways, global temperature rise and level of damages related to climate change. These were developed using existing climate change models and through an extensive review of climate change literature.

While the *Transformation* scenario is ambitious and could be seen as a “best-case” scenario from a climate change perspective, for investors who have not considered the risks and opportunities of climate change, this scenario could impact their portfolios and could also create shorter-term market volatility. From a climate change perspective, the *Fragmentation (Higher Damages)* scenario is the least favorable of the scenarios considered in the study and leaves certain illiquid investments vulnerable to physical climate change impacts. This scenario broadly equates to a temperature warming of 4 degrees Celsius and is consistent with existing policy commitments. Should countries default on recent policy commitments, there is a potential for a more divergent and more negative outcome to occur resulting in a level of warming higher than 4 degrees Celsius.

Changes at Different Levels of Temperature Warming

The global mean temperature is 0.8 degrees Celsius higher today than in pre-industrial times. The impacts on weather, water and sea level will continue to increase in severity as the global temperature rises.

			
WITHOUT CONCENTRATED ACTION	RISE IN SEA LEVEL	DECLINE IN WATER AVAILABILITY	CHANCE OF WARMING EXCEEDING 4°C BY 2100
We could see a +2 degree Celsius scenario in 20-30 years and a +4 degree Celsius by the end of the century.	+2°C As much as 70 CM↑	+2°C Equal to 20%↓	40% Chance it will exceed 4°C
	+4°C Greater than 100 CM↑	+4°C Equal to 50%↓	10% Chance it will exceed 5°C

The diagram above from the World Bank Group highlights some of the changes that may occur across different levels of temperature warming and links back to the global risks considered by the World Economic Forum.

After considering the climate change scenarios through the lens of its climate change risk factors, Mercer was able to highlight signposts that investors can monitor in order to be prepared for changes that may occur as a result of climate change.

The Mercer TRIP Risk Factors

To consider the impact on investment returns and volatility under the different climate change scenarios, Mercer identified four climate change risk factors. The risk factors, named the TRIP risk factors, are technology, resource availability, impact of physical damages and policy.

Technology risk considers the speed, scale and success of low-carbon technologies and the extent to which transformation and disruption of existing sectors, or the development of new sectors, takes place.

Resource Availability identifies how climate change-related impacts to the physical environment might impact investments reliant on the use of natural resources. This risk factor focuses on energy, water and agriculture and recognizes that natural resources risk becoming more scarce, or in some cases, more abundant.

Impact of Physical Damages refers to risks associated with changes in the incidence and severity of extreme weather events. This risk factor is most associated with property damage resulting from flooding and hurricanes.

Policy risk refers to all regulation intended to reduce the risk of further man-made climate change. This risk factor concerns the level of coordinated effort that governments take to adopt and adhere to policies and regulations intended to limit greenhouse gas emissions.

After considering the climate change scenarios through the lens of its climate change risk factors, Mercer was able to highlight signposts that investors can monitor in order to be prepared for changes that may occur as a result of climate change. The following are believed to be important signposts for investors:

- ◆ The timeframe of CO₂ emissions peaking, potential changes in the energy mix out to 2050, and modeled mitigation cost estimates.
- ◆ The rate of investment required in technologies designed to facilitate the transition to a low-carbon economy.
- ◆ Potential shifts in long-term weather patterns and resultant economic impacts of global warming.
- ◆ Potential shifts in the level of economic damages caused by shifts in the frequency and/or severity of catastrophic weather events, such as floods and hurricanes.

In this table, Mercer outlines the investor signposts under each of the scenarios by risk factor. Consideration of these signposts will allow investors to better understand the likelihood of different climate change scenarios as additional evidence is presented.

 Technology  Resource Availability  Impact of Physical Damages  Policy

Signposts for Investors	Transformation	Coordination	Fragmentation – Lower Damages	Fragmentation – Higher Damages
Potential changes to the energy mix	Significant change to the energy mix: fossil fuels represent less than half of the energy mix at 2050.	Fossil fuels represent c.75% of the energy mix at 2050.	Fossil fuels continue to be the dominant energy source, representing 85% of the energy mix at 2050.	
Rate of investment in technologies supporting the low-carbon economy	Cumulative investment of US\$65 trillion in energy supply and efficiency (ex-fossil fuels) required over 2015–2050.	Cumulative investment of US\$47 trillion in energy supply and efficiency (ex-fossil fuels) required over 2015–2050.	Total energy investments increase to US\$3.13 trillion in 2050. Limited investment into low-carbon energy.	
Potential shifts in long-term weather patterns and impact on resource availability	Limited impact by 2050.	Limited impact by 2050.	Estimated net benefit from resource availability as a percentage of global GDP of 0.5% at 2050. Driven by gains in agriculture, partially offset by losses related to biodiversity.	Estimated net loss from resource availability as a percentage of global GDP of 0.8% at 2050. Driven by losses due to energy, water, and biodiversity.
The level of physical damages caused by catastrophic events, such as floods and hurricanes	Limited impact by 2050; driven by losses from (extra) tropical storms and coastal flood.	Limited impact by 2050; driven by losses from (extra) tropical storms and coastal flood.	Estimated net loss as a percentage of global GDP of 0.4% at 2050. Driven by losses from (extra) tropical storms and coastal flood.	Estimated net loss as a percentage of global GDP of 0.7% at 2050. Primarily represents losses from wildfire, coastal flood, and extreme temperatures.
Global policy response	Most effective from a climate change mitigation perspective. Aggressive introduction of carbon pricing, and related policy/regulation, likely to result in shock to financial markets.	Existing policy pledges with respect to carbon emissions are implemented with mitigation efforts extended to 2030.	Divergent with limited efforts beyond existing pledges. Although a reduction in emissions of 10% (versus 2010 levels) is achieved by 2050 in developed markets, this is outweighed by increases in emissions in emerging markets.	
Expected cost of carbon (\$US2013/t CO ₂)	Global carbon pricing introduced relatively swiftly, then flattening out to around \$180 by 2050.	Global carbon pricing introduced more slowly, picking up pace after 2030 and reaching \$210 in 2050.	Lack of development of a global carbon price 55 recognized by the market.	
Global greenhouse gas emissions at 2050 ¹	22 Gt ² CO ₂ e/yr. 56% decrease vs. 2010 levels	37 Gt CO ₂ e/yr. 27% decrease vs. 2010 levels	67 Gt CO ₂ e/yr. 33% increase vs. 2010 levels	
Timeframe for emissions level peaking	Emissions peak by 2020.	Emissions peak by 2030.	Emissions peak after 2040.	

¹CO₂e stands for carbon dioxide equivalent. It expresses the impact of different greenhouse gases in terms of the equivalent amount of CO₂ that would create the same amount of warming. This enables a carbon footprint consisting of lots of different greenhouse gases to be expressed as a single number.

² Gt = gigatonnes

Key Findings for CalSTRS

The impact of climate change on the total portfolio is variable across scenarios and potentially significant.

After assessing the aggregate impact of the Mercer TRIP factors under each climate scenario on CalSTRS' total portfolio, Mercer determined that the fund would be reasonably well insulated from loss under the Coordination and Fragmentation (Lower Damages) scenarios. However, it would be vulnerable under the Transformation and Fragmentation (Higher Damages) scenarios.

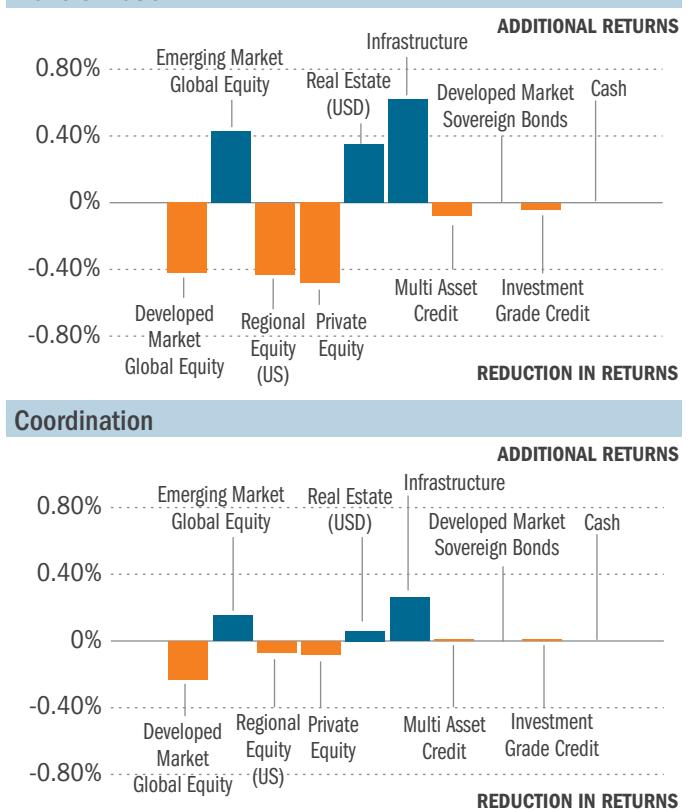
CalSTRS' total portfolio would be most negatively impacted by the Transformation scenario due to large allocations to developed market equity.

Given the strength and scale of response required to place the economy on a 2-degree Celsius trajectory, the impact of the TRIP factors on investment portfolio returns is strongest under the Transformation scenario. Both the U.S. and developed market equity asset classes—which together make up nearly half of CalSTRS' total exposures—are expected to be negatively impacted. Add private equity to the mix and exposures with significant negative median return impacts at the 35-year and 10-year time horizons would account for more than 60 percent of the CalSTRS total fund. According to Mercer, CalSTRS can seek to address these risks through the following activities, some of which are already underway:

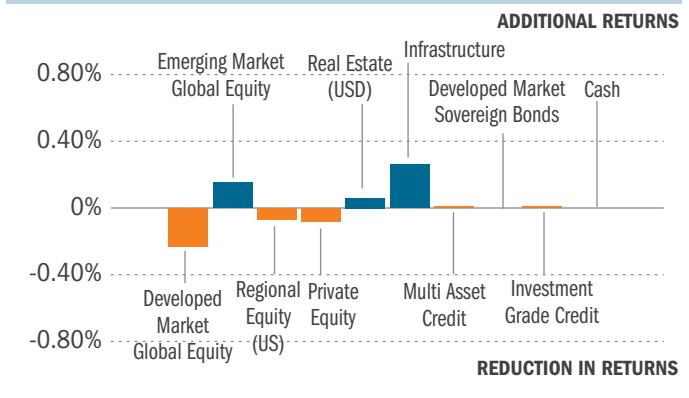
- ◆ Reallocating a portion of passive exposures toward lower carbon indices or exploring other forms of alternative indexing.
- ◆ Allocating a (larger) portion of active equities toward thematic managers focused on sustainability and/or green/resilient investments.
- ◆ Increasing exposure to emerging market equity—public or private—which is expected to be positively impacted under a Transformation scenario, keeping in mind other macro factors influencing the attractiveness of the region or taking other steps to diversify growth assets.

Total Fund (35-Year Median Return Impact)

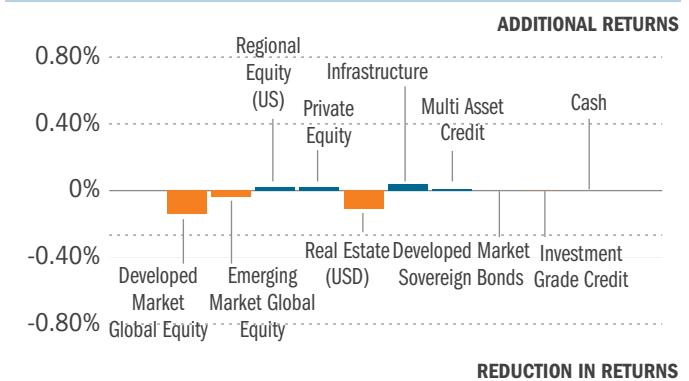
Transformation



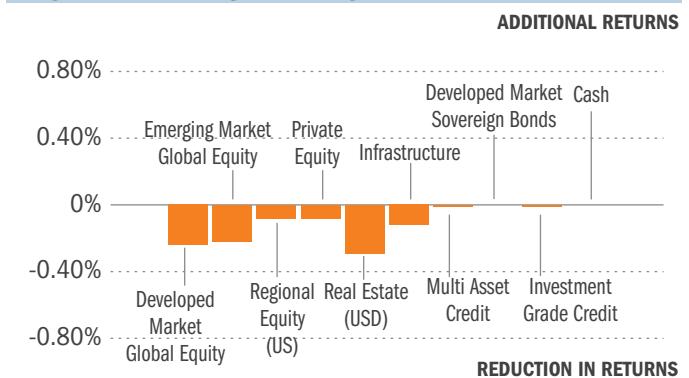
Coordination



Fragmentation – Lower Damages



Fragmentation – Higher Damages



The Mercer report captures which of the study's recommendations for action CalSTRS has already addressed and where, given the findings, we could focus our attention next:

- ◆ Develop a "house view" of climate change risk based on the results of this study and other climate risk assessment efforts underway or being contemplated. The scenario or combination of scenarios could be used for planning purposes. The recent Paris Agreement, which reflects the ambitions of Mercer's Transformation scenario, is a relevant consideration in this regard.
- ◆ Continue to collaborate across departments and asset classes to embed climate change risk-management practices throughout the organization.
- ◆ Develop a holistic climate change risk-management strategy that reflects CalSTRS' house view of risk and outlines a work plan for future one-time and ongoing activities, and related monitoring and reporting.
- ◆ Address resourcing needs to ensure appropriate execution of climate change strategy.

For further details, see the Mercer report, [Investing in a Time of Climate Change: California State Teachers' Retirement System Portfolio Climate Change Risk Assessment](#).



Low-Carbon Index Strategy

In May 2016, at the request of the Investment Subcommittee, staff presented reviews of low- and no-carbon index strategy options to the Investment Committee. In July 2016, at the committee's request, staff presented alternative implementation options. The option approved by the committee was a \$2.5 billion investment in an internally implemented MSCI ACWI Low Carbon Target Index. The index includes U.S. and developed markets and emerging market countries.

Committing to a low-carbon index reflects an Investment Committee priority to align the portfolio with the December 2015 COP21 Paris climate talks and the UN Climate Summit in September 2014, both of which CalSTRS participated in and supported.

The MSCI Low Carbon Target Index achieves a much greater reduction in carbon emissions (76 percent) versus an index free of fossil fuels (21 percent). Consequently, carbon pricing and the value of the energy sector could be

factors that affect future performance of the index. If carbon is meaningfully priced on the market, low-carbon indices could outperform due to increased costs to high-carbon emitting companies or those with fossil fuel reserves. Low-carbon indices being underweighted in the energy sector subsequently would perform conversely with oil, energy prices and the performance of the energy sector.

The index would have lower tracking error (less than 1 percent) and lower fees than its funding sources, the CalSTRS Global Equity Active and Passive Index portfolios, and would present relatively little change in the overall tracking error for the Global Equity Portfolio.

With these considerations in mind, the Investment Committee approved the decision to move forward with the recommendation. The \$2.5 billion position will be implemented over time and managed internally.

Committing to a low-carbon index reflects an Investment Committee priority to align the portfolio with the December 2015 COP21 Paris climate talks and the UN Climate Summit in September 2014, both of which CalSTRS participated in and supported.



"In July 2016, CalSTRS committed \$2.5 billion to low-carbon index strategies. This action is the result of highly detailed discussions over a good deal of time that we feel could not just protect us from losses in a transition to low carbon but position us to generate better returns than more carbon-intensive portfolios in the long run."

"The process by my colleagues on the board and our excellent staff, was deliberative, meticulous in its design, and has resulted in what I believe to be a valuable asset for the portfolio and ultimately, for the benefit of California's educators."

— Tom Unterman

CalSTRS Investment Committee Vice Chair

MSCI Indices Key Metrics

As of May 31, 2016

	MSCI ACWI Index	MSCI ACWI Low Carbon Target Index	MSCI ACWI ex Fossil Fuels Index
Total Return* (%)	7.8	8.2	8.9
Total Risk* (%)	13.4	13.4	13.0
Return/Risk	0.58	0.61	0.68
Sharpe Ratio	0.57	0.60	0.67
Active Return* (%)	0.0	0.4	1.1
Tracking Error* (%)	0.0	0.4	1.0
Information Ratio	NA	0.86	1.00
Historical Beta	1.00	1.00	0.97
Turnover** (%)	2.0	13.0	2.3
Carbon Emissions (t CO2e/\$M Invested)	184	45	145
Reduction from Benchmark		76%	21%
Potential Carbon Emissions (t CO2e/\$M Invested)	2094	19	0
Reduction from Benchmark		99%	100%
Carbon Emission Intensity (t CO2e/\$M Sales)	242	65	206
Reduction from Benchmark		73%	15%

* Gross returns annualized in USD for the November 30, 2010 to May 31, 2016 period

**Annualized one-way turnover for index reviews

Tracking error is the difference between a portfolio's returns and the benchmark or index it was meant to mimic or beat.

Low-carbon indices are designed with specific objectives to reduce exposure to companies with high-carbon emissions and fossil fuel reserves.



CALSTRS' EMPLOYEE SUSTAINABLE CULTURE

CalSTRS' Employee Sustainable Culture

Engaging our employees in everyday sustainable practices reduces our impact on the environment and heightens awareness. These benefits resonate through our extended communities.

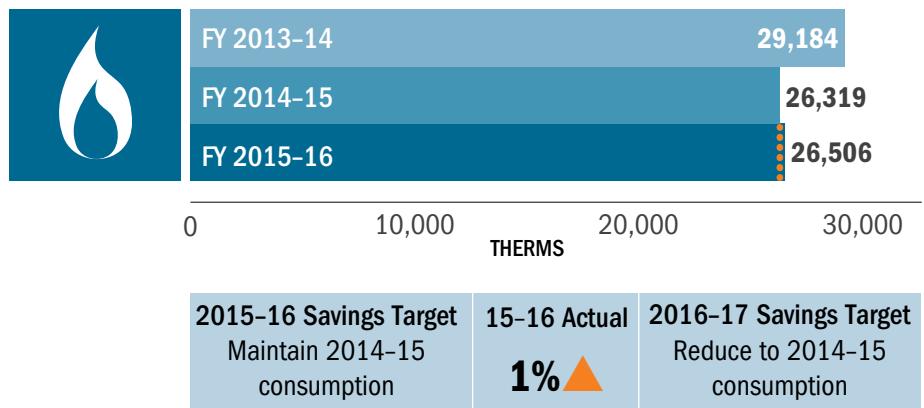


Headquarters' Environmental Performance

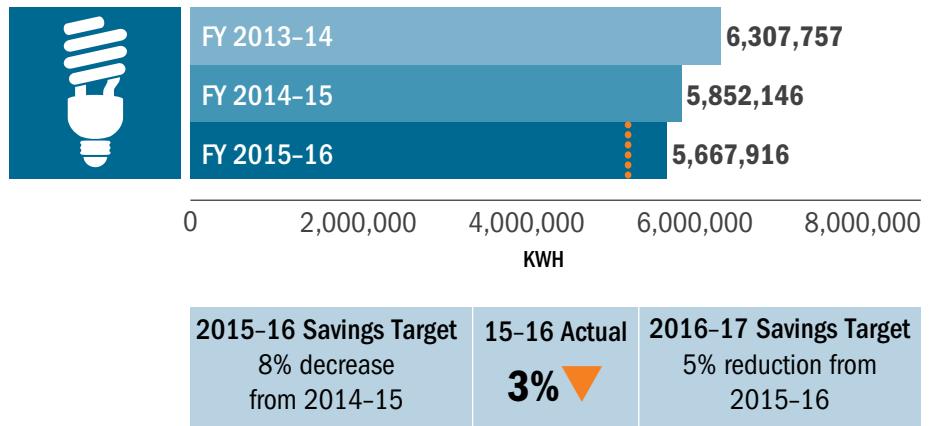
CalSTRS employs components of an environmental management system based on ISO 14001 standards, including executive-level planning, employee engagement and the plan-do-check-act cycle of continuous improvement for building energy, water, waste, greenhouse gas emissions and alternate transportation. Targets are established in alignment with the LEED building certification standards and the Governor's Executive Order B-18-12 for state facilities. The building operations team regularly monitors performance, communicates results and engages the employee-driven Green Rangers Team to achieve targets.

Energy

Natural Gas (therms) FY 2015-16 Target:



Electricity (kwh) FY 2015-16 Target:



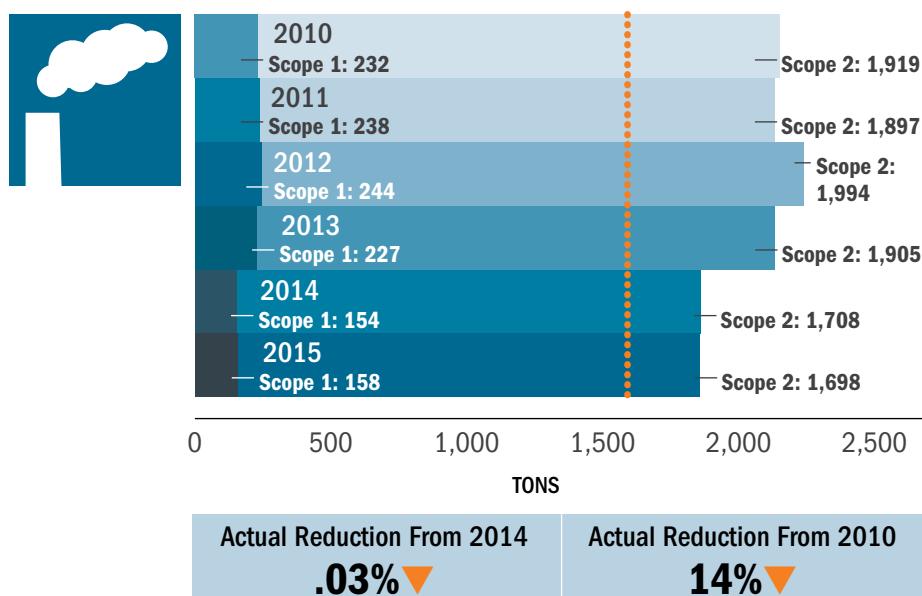
GHG Emissions Scope 1–2

CalSTRS has been reporting headquarters' greenhouse gas emissions since 2005 to the North American nonprofit organization, The Climate Registry. Emissions are reported every March for the prior calendar year. CalSTRS is on target to reduce our combined scope 1 and 2 emissions to achieve a 20-percent reduction from 2010 calendar year emissions by 2020.

Scope 1 Direct emissions: natural gas, mobile combustion and fugitives, which includes stored refrigerants

Scope 2 Indirect emissions: purchased electricity

Total Scope 1 and 2 Emissions 2010–2015 (tons) 2020 Target: ●



CalSTRS accounts for six greenhouse gases:

Carbon dioxide (CO₂)

Methane (CH₄)

Nitrous oxide (N₂O)

Hydrofluorocarbons (HFCs)

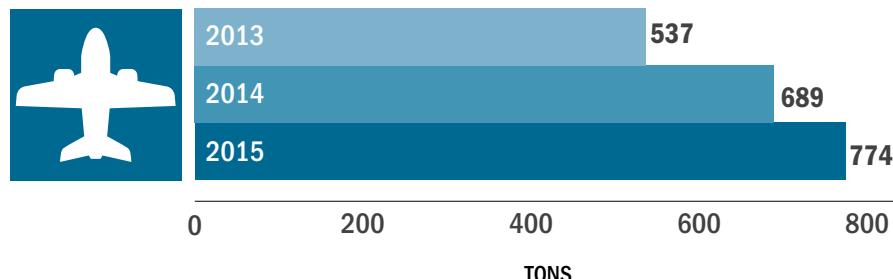
Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF₆)

Scope 3 Emissions

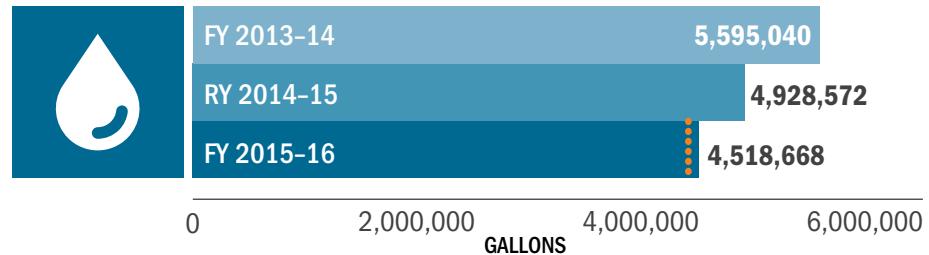
Although scope 3 emissions encompass all indirect business-related emissions outside of scope 2, we monitor and report airline travel only. CalSTRS has not initiated an organized effort to reduce scope 3 emissions at this time. Figures are representative of all employees.

Business Travel—Airline Emissions (tons)



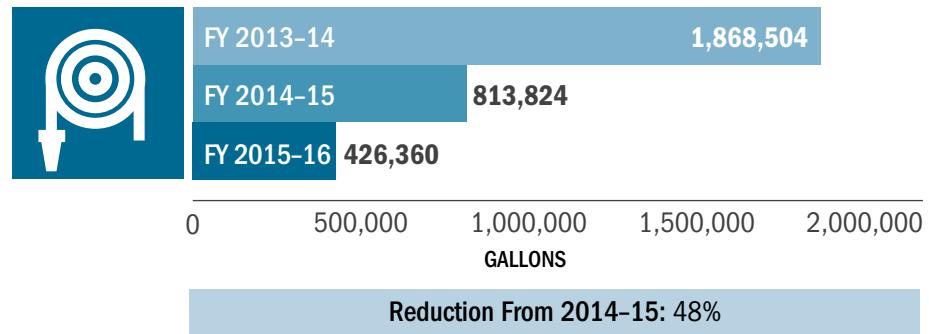
Water Consumption

Building Water (gallons) FY 2015-16 Target: 



2016-17 Use Reduction Target 10% from 2014-15	15-16 Actual 8% 	2016-17 Reduction Target 5% from 2015-16
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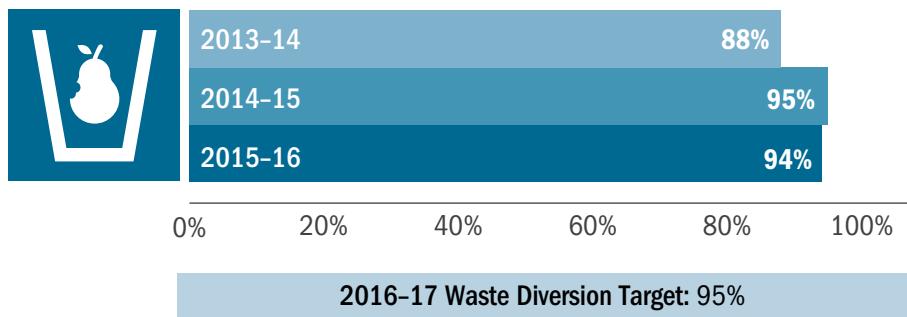
Irrigation Water (gallons)



How we reduced our water use:

- ◆ Adhered to state drought regulations, watering less, with special attention paid to plants in dire stress. No trees or other vegetation was compromised due to these practices.
- ◆ Added and commissioned water submeters to measure the efficiency of our own reduction.
- ◆ Implemented employee awareness campaigns in common areas to stress the importance of water conservation.

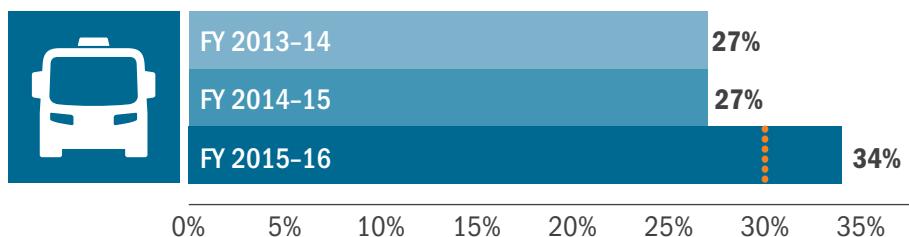
Waste Diversion



Alternate Transportation Percentage: Commutes

CalSTRS encourages alternate commute modes, such as bicycling, public transit, car/vanpool and walking, through our partnership with the Yolo Transportation Management Association. Throughout the year, we co-sponsored various promotions. Our building's shower and bike cage facilities and close proximity to transit stops, along with reduced transit fares, support our alternative transportation promotion efforts. CalSTRS uses the LEED alternative transportation calculator to determine the alternate transportation rate based on an annual survey of building occupants.

Alternate Transportation Rate FY 2015-16 Target:

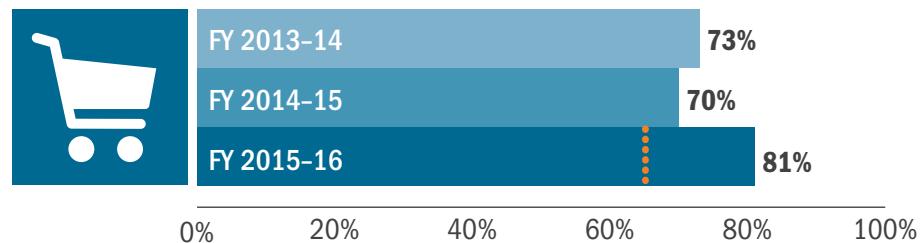


Purchasing Environmentally Preferred Goods

Environmentally preferred purchasing at CalSTRS is aligned with LEED Existing Building certification requirements for sustainable procurement. Our green building and employee engagement practices ensure that our employees are well equipped to choose environmentally preferred products within reasonable price points when fulfilling business procurements. These criteria include purchasing ongoing consumables that:

- Contain at least 10 percent postconsumer or 20 percent preindustrial content.
- Contain at least 50 percent rapidly renewable resource.
- Contain at least 50 percent Forest Stewardship Council-certified wood.
- Contain at least 50 percent materials harvested and processed or extracted and processed within 50 miles of the CalSTRS headquarters building.
- Use rechargeable batteries.

Preferred Purchasing Percentage Target:



Percentages are based on a LEED calculation where more than 100 percent is a possible scenario. Purchases that meet multiple criteria are valued according to the number of criteria met multiplied by the purchase price and weighed against total expenditures.



CalSTRS Waterfront Gardens

CalSTRS' Farm-to-Fork Initiative: Waterfront Gardens

In October 2015, CalSTRS brought urban agriculture to our headquarters location and introduced the Waterfront Gardens with the intent to educate employees and community members about the environmental, social and healthful benefits of local and organic produce. We began reaping the very first crops in December 2015. Since then, more than 800 pounds of fruits and vegetables have been harvested and enjoyed every day onsite at the Waterfront Cafe.

Our Waterfront Cafe's head chef collaborates with local farmers from Farmscape, a California urban farming venture, to select the best fruits and vegetables to plant each season based on the Sacramento region and climate. Working side by side with our urban farmers, our chefs plan seasonal menus based on the harvest.

Growing organic food onsite helps us reduce our carbon footprint and provides employees, visitors and community members with fresh, organic vegetables that live up to the quality expected in the Sacramento region, “America’s Farm-to-Fork Capital.”





The gardens also provide a hands-on learning environment. This past year, Green Rangers volunteered and helped sow seeds in the urban farm. Employees and community members stroll through the gardens and ask urban farmers onsite about the different fruits and vegetables being grown and the organic and natural methods used to fertilize and maintain the garden, including the types of insects and bugs that are helping protect plants from intruders. CalSTRS' employees receive quarterly updates about the gardens: what is

being grown, harvested and served in the cafe. These communications also provide helpful tips that employees can take home and incorporate in their own gardens.

Growing organic food onsite helps us reduce our carbon footprint and provides employees, visitors and community members with fresh, organic vegetables that live up to the quality expected in the Sacramento region, "America's Farm-to-Fork capital."



Earth Day at CalSTRS

Earth Day is an annual event held to demonstrate support for environmental protection. On this day, CalSTRS' employees have the opportunity to pledge their support for environmental protection both in the office and at home.

The Green Rangers, a team of employee volunteer experts, promote our environmental goals by educating and sharing with fellow employees. This collaboration fosters CalSTRS' environmentally friendly culture.

This past year, local community members and organizations visited CalSTRS for our Earth Day event. Employees enjoyed the opportunity to meet with staff from the California Air Resources Board, learn about local urban beekeeping with Bee Love Sacramento, understand the threats water hyacinth present to California's waterways, explore the North Coast Redwoods through the Parks Online resource for teachers and students, and be inspired by the Center for Land-Based Learning, which supports community connections to sustainable, urban agriculture.



Bee Love
Sacramento
promotes urban
beekeeping.



CalSTRS employee Brian Yeung with Scooter, the Spare the Air mascot for the Sacramento region.



Employees sign a "pledge" to Mother Earth on Earth Day 2016.

Sustainability Series: Engaging Our Employees in Environmentally Friendly Practices

In 2016, to help keep Earth Day pledges at the forefront of employees' daily lives, we introduced the lunchtime Sustainability Series, which focuses on environmental sustainability topics in a hands-on learning environment. Three events were held over the year intended to keep employees up-to-date with the latest sustainability news and practical applications for everyday life.



Compost Demo

Employees had the opportunity to learn about composting from the UC Cooperative Extension Master Gardeners who also happened to be members of CalSTRS. Presenters shared their expertise in traditional composting methods and vermiculture. Composting helps reduce carbon footprints by reusing food scraps and allowing them to improve soil quality to grow organic, healthy plants, fruits and vegetables. Employees asked questions, viewed the different stages in the compost process, and received tips to start their own compost ventures at home.

Sacramento Electric Vehicle Visit

In September, CalSTRS welcomed members from Sacramento EV, a nonprofit electric vehicle advocacy organization, to share statistics and personal experiences around owning, leasing and driving zero emission vehicles. We were happy to include several CalSTRS employees who shared their own stories and electric vehicles. EV owners were passionate and taught us about the benefits of owning an EV, including the reduction in air pollution and climate change impacts and financial savings.



Employees were given a chance to view EVs up close, including two Tesla models, while owners shared their experiences and knowledge about the cars, including tax breaks and performance.



CalSTRS Green Rangers (left to right): Andrei Villarreal, Ilena Montanez, Morgan Greenhaw, Randell Hansen, Summer Frei and Madeline O'Connell.

Employee E-Waste Collection

Our Green Rangers hosted an employee electronic waste collection event, providing a convenient way to recycle our electronics from home that have reached the end of their useful life. E-waste contains valuable materials that can be hazardous to the environment if not disposed of properly. More than 550 pounds of employees' personal e-waste was recycled this year.

Notable CalSTRS' Awards and Achievements

Administration-Facilities Operations

CalSTRS Headquarters

Existing Building: Operations and Maintenance Platinum Certification

Leadership in Energy and Environmental Design

U.S. Green Building Council

October 2015

Ken Van Duyn, JLL Engineer

Jones Lang LaSalle Sigma Award

JLL

Corporate Sustainability

2014–15 Sustainability Report: Fostering a Secure Retirement

Award of Excellence

California Association of Public Information Officials

Financial Services—Accounting

Comprehensive Annual Financial Report

Certificate of Achievement for Excellence in Financial Reporting

Government Finance Officers Association

For fiscal year ended June 30, 2015

Popular Annual Financial Report

Popular Annual Financial Reporting Award

Government Finance Officers Association

For fiscal year ended June 30, 2015

Comprehensive Annual Financial Report

Public Pension Standards Award for Funding and Administration

Public Pension Coordinating Council

2016

Investments

CalSTRS Investments Branch

10th Anniversary Founders Award

Association of Asian American Investment Managers

Anne Sheehan, Corporate Governance Director

Directorship 100: Governance Professionals and Institutions Award

National Association of Corporate Directors

Anne Sheehan, Corporate Governance Director

Investor Intelligence Award

Institutional Investor Magazine

CalSTRS Investments Branch

Best Place to Work in Money Management 2016

Pension and Investments

Christopher J. Ailman, Chief Investment Officer

Investor in Education

Neighborhood Youth Association of Los Angeles

Debra Smith, Chief Operating Investment Officer

Leadership in Business Award 2016

National Coalition of 100 Black Women, Sacramento Chapter

Simranjit "Sunny" Dhillon, Investment Officer

Forty Under Forty 2016

Chief Investment Officer Magazine

Steven Tong, Innovation and Risk Director

Innovator Award

Institutional Investor Magazine

Public Affairs—Communications

"Imagine a Job You Love" Video

Award of Distinction

California Association of Public Information Officials

"Imagine a Job You Love" Video

Award of Distinction

Videographic Awards

"Imagine a Job You Love" Video

Bronze Award

Telly Awards

"Plan for Your Future" and "Save for Your Future" booklets

American In-House Design Award

Graphic Design USA

Retired Educator, Summer Issue

Gold Award

California State Information Officers Council

CalSTRS Central

Silver Award

California State Information Officers Council



GRI Content Index for In Accordance-Core option

General Standard Disclosures

GENERAL STANDARD DISCLOSURES	PAGE	EXTERNAL ASSURANCE
STRATEGY AND ANALYSIS		
G4-1	4-5	No
ORGANIZATIONAL PROFILE		
G4-3	9	No
G4-4	9	No
G4-5	7	No
G4-6	7	No
G4-7	9	No
G4-8	9	No
G4-9	9, 16, 17-19, 20, 38	Yes, financial information reported and verified in CAFR. Auditors statement pages 25-27. Data pages 31, 43-44.
G4-10	16, 38, The majority of the work is completed by CalSTRS employees.	No
G4-11	38	No
G4-12	21-23, 100	Yes, operating expenses have been verified and reported in CAFR. Auditors statement pages 25-27. Data pages 87-94.
G4-13	18	No
G4-14	34	No
G4-15	34-35	No
G4-16	35	No
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES		
G4-17	7, 9	Yes, data reported and verified in CAFR. Auditors statement pages 25-27. Data page 45.
G4-18	26-27	No

GENERAL STANDARD DISCLOSURES	PAGE	EXTERNAL ASSURANCE
G4-19	26	No
G4-20	7	No
G4-21	7	No
G4-22	No significant changes	
G4-23	No significant changes	
STAKEHOLDER ENGAGEMENT		
G4-24	28	No
G4-25	28	No
G4-26	26	No
G4-27	29	No
REPORT PROFILE		
G4-28	7	No
G4-29	7, 2014-15 Sustainability Report, May 2016	
G4-30	7	No
G4-31	7	No
G4-32	7	No
G4-33	7	No
GOVERNANCE		
G4-34	14-15	No
ETHICS AND INTEGRITY		
G4-56	33	No
G4-58	70	No

Specific Standard Disclosures

MATERIAL ASPECTS	DMA AND INDICATORS		OMISSIONS	EXTERNAL ASSURANCE		
	Disclosure	Page		Assurance	Page Reference	
ECONOMIC						
Economic Performance						
	G4 DMA	84-85	—	No		
	G4-EC2	86-91	—	No		
ENVIRONMENTAL						
Supplier Environmental Assessment	G4-DMA	30, 84-85	—	No		
	G4-EN33	30, 84-85	—	No		

MATERIAL ASPECTS	DMA AND INDICATORS		OMISSIONS	EXTERNAL ASSURANCE		
	Disclosure	Page		Assurance	Page Reference	
SOCIAL						
Labor Practices and Decent Work						
Employment	G4-DMA	40	—	No		
	G4-LA1	46	—	No		
Training and Education	G4-DMA	40	—	No		
	G4-LA9	43-44		No		
	G4-LA10	43	—	No		
	G4-LA11	42, 45	—	No		
Diversity and Equal Opportunity	G4-DMA	51	—	No		
	G4-LA12	38, 39, 51	—	No		
Society						
Anti-Corruption	G4-DMA	74	—	No		
	G4-SO4	79-81	—	No		
Product Responsibility						
Product and Service Labeling	G4-DMA	56-58	—	No		
	G4-PR5	66-67	—	No		
Customer Privacy	G4-DMA	72-73	—	No		
	G4-PR8	73		No		
Additional Indicators						
Economic Performance						
	G4-EC1	19-21	—	Yes	Financial information verified in CAFR. Auditors statement pages 25-27. Data page 80.	
	G4-EC3	21	—	Yes	Financial information verified in CAFR. Auditors statement pages 25-27. Data page 82.	
Energy	G4-EN3	96	—	No		
	G4-EN6	96	—	No		
Water	G4-EN8	98	—	No		
Emissions	G4-EN15	97	—	No		
	G4-EN16	97	—	No		
	G4-EN19	97	—	No		
Effluents and Waste	G4-EN23	99	—	No		

*Where CAFR is noted: 2015-16 CalSTRS Comprehensive Annual Financial Report, available on CalSTRS.com/publications.



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