

TOWN OF LOS GATOS
TOWN PENSION AND OPEB TRUSTS OVERSIGHT COMMITTEE AGENDA
SEPTEMBER 19, 2023
110 EAST MAIN STREET AND VIA TELECONFERENCE
TOWN COUNCIL CHAMBERS
6:15 PM

Maria Ristow, Mayor
Mary Badame, Vice Mayor
Matthew Hudes, Council Member
Rob Moore, Council Member
Rob Rennie, Council Member

PARTICIPATION IN THE PUBLIC PROCESS

How to participate: The Town of Los Gatos strongly encourages your active participation in the public process, which is the cornerstone of democracy. If you wish to speak to an item on the agenda, please follow the participation instructions on page 2 of this agenda. If you wish to speak to an item NOT on the agenda, you may do so during the “Verbal Communications” period, by following the participation instructions on page 2 of this agenda. The time allocated to speakers may change to better facilitate the Town Council meeting.

Effective Proceedings: The purpose of the Town Council meeting is to conduct the business of the community in an effective and efficient manner. For the benefit of the community, the Town of Los Gatos asks that you follow the Town’s meeting guidelines while attending Town Council meetings and treat everyone with respect and dignity. This is done by following meeting guidelines set forth in State law and in the Town Code. Disruptive conduct is not tolerated, including but not limited to: addressing the Town Council without first being recognized; interrupting speakers, Town Council or Town staff; continuing to speak after the allotted time has expired; failing to relinquish the podium when directed to do so; and repetitiously addressing the same subject.

Deadlines for Public Comment and Presentations are as follows:

- Persons wishing to make an audio/visual presentation on any agenda item must submit the presentation electronically, either in person or via email, to the Clerk’s Office no later than 3:00 p.m. on the day of the Council meeting.
- Persons wishing to submit written comments to be included in the materials provided to Town Council must provide the comments as follows:
 - For inclusion in the regular packet: by 11:00 a.m. the Thursday before the Council meeting
 - For inclusion in any Addendum: by 11:00 a.m. the Monday before the Council meeting
 - For inclusion in any Desk Item: by 11:00 a.m. on the day of the Council Meeting

Town Council Meetings Broadcast Live on KCAT, Channel 15 (on Comcast) on the 1st and 3rd Tuesdays at 7:00 p.m.
Rebroadcast of Town Council Meetings on the 2nd and 4th Tuesdays at 7:00 p.m.
Live & Archived Council Meetings can be viewed by going to:
www.LosGatosCA.gov/TownYouTube

IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT, IF YOU NEED SPECIAL ASSISTANCE TO PARTICIPATE IN THIS MEETING, PLEASE CONTACT THE CLERK DEPARTMENT AT (408) 354-6834. NOTIFICATION 48 HOURS BEFORE THE MEETING WILL ENABLE THE TOWN TO MAKE REASONABLE ARRANGEMENTS TO ENSURE ACCESSIBILITY TO THIS MEETING [28 CFR §35.102-35.104]

TOWN OF LOS GATOS
TOWN PENSION AND OPEB TRUSTS OVERSIGHT COMMITTEE AGENDA
SEPTEMBER 19, 2023
110 EAST MAIN STREET AND VIA TELECONFERENCE
TOWN COUNCIL CHAMBERS
6:15 PM

IMPORTANT NOTICE

This is a hybrid meeting and will be held in-person at the Town Council Chambers at 110 E. Main Street and virtually through the Zoom webinar application (log-in information provided below). Members of the public may provide public comments for agenda items in-person or virtually through the Zoom webinar by following the instructions listed below. The live stream of the meeting may be viewed on television and/or online at www.LosGatosCA.gov/TownYouTube.

PARTICIPATION

To provide oral comments in real-time during the meeting:

Zoom webinar: Join from a PC, Mac, iPad, iPhone or Android device: Please click this URL to join: <https://losgatosca.gov.zoom.us/j/84813184695?pwd=M3ZYcW1rOTZHbzQvTFIseVAxRHRBUT09>
Passcode: 991466 You can also type in 848 1318 4695 in the "Join a Meeting" page on the Zoom website at <https://zoom.us/join>.

When the Mayor announces the item for which you wish to speak, click the "raise hand" feature in Zoom. If you are participating by phone on the Zoom app, press *9 on your telephone keypad to raise your hand.

Join by telephone: Join by Telephone: Dial: USA 877 411 9748 US Toll-free or 636 651 3128 US Toll. Conference code: 363432
If you are participating by calling in, press #2 on your telephone keypad to raise your hand.

In-Person: If you wish to speak during the meeting, please complete a "speaker's card" located on the back of the chamber benches and return it to the Town Clerk. If you wish to speak to an item on the agenda, please list the item number. The time allocated to speakers may change to better facilitate the Town Council meeting.

When called to speak, you may be asked to provide your full name and your town/city of residence. This identifying information is optional and not a requirement for participation. Please limit your comments to three (3) minutes, or such other time as the Mayor may decide, consistent with the time limit for speakers at a Council meeting.

If you are unable to participate in real-time, you may email to Clerk@losgatosca.gov the subject line "Public Comment Item #__" (insert the item number relevant to your comment). Comments received by 11:00 a.m. the day of the meeting will be reviewed and distributed before the meeting.

MEETING CALL TO ORDER

ROLL CALL

APPROVE REMOTE PARTICIPATION *(This item is listed on the agenda in the event there is an emergency circumstance requiring a Council Member to participate remotely under AB 2449 (Government Code 54953)).*

CONSENT ITEMS *(Items appearing on the Consent Items are considered routine Town business and may be approved by one motion. Any member of the Committee may request to have an item removed from the Consent Items for comment and action. Members of the public may provide input on any or multiple Consent Item(s) when the Mayor asks for public comments on the Consent Items. If you wish to comment, please follow the Participation Instructions contained on Page 2 of this agenda. If an item is removed, the Mayor has the sole discretion to determine when the item will be heard.)*

1. Approve Minutes of the June 20, 2023 Town Pension and OPEB Oversight Trusts Meeting.

VERBAL COMMUNICATIONS *(Members of the public are welcome to address the Committee only on matters listed on the agenda. To ensure all agenda items are heard and unless additional time is authorized by the Mayor, this portion of the agenda is limited to 30 minutes and no more than three (3) minutes per speaker.)*

OTHER BUSINESS *(Up to three minutes may be allotted to each speaker on any of the following items.)*

2. Receive the California Employer's Pension Prefunding Trust (CEPPT) Strategy Market Value Summary Report for the Period Ending June 30, 2023 and Performance as of July 31, 2023.
3. Receive the California Employer's Retiree Benefit Trust (CERBT) Strategy 1 Market Value Summary Report for the Period Ending June 30, 2023 and the Performance Report as of July 31, 2023.
4. Receive the CalPERS Actuarial Valuation Reports as of June 30, 2022.

ADJOURNMENT

Writings related to an item on the Town Council meeting agenda distributed to members of the Council within 72 hours of the meeting are available for public inspection at the front desk of the Los Gatos Town Library, located at 100 Villa Avenue, and are also available for review on the official Town of Los Gatos website. Copies of desk items distributed to members of the Council at the meeting are available for review in the Town Council Chambers.

Note: The Town of Los Gatos has adopted the provisions of Code of Civil Procedure §1094.6; litigation challenging a decision of the Town Council must be brought within 90 days after the decision is announced unless a shorter time is required by State or Federal law.



**TOWN OF LOS GATOS
PENSION AND OPEB TRUSTS
OVERSIGHT COMMITTEE
REPORT**

MEETING DATE: 09/19/2023

ITEM NO: 1

**DRAFT
Minutes of the Pension and OPEB Trusts Oversight Committee Meeting
June 20, 2023**

The Pension and OPEB Trusts Oversight Committee of the Town of Los Gatos conducted a regular meeting in-person and utilizing teleconferencing means on June 20, 2023 at 6:30 p.m.

MEETING CALLED TO ORDER AT 6:00 P.M.

ROLL CALL

Present: Mayor Maria Ristow, Vice Mayor Mary Badame, Council Member Rob Moore, and Council Member Rob Rennie.

Absent: Council Member Matthew Hudes

CONSENT ITEMS (TO BE ACTED UPON BY A SINGLE MOTION)

1. Approve Minutes of the March 21, 2023, Pension and OPEB Trusts Oversight Committee Meeting.
2. Receive the CalPERS Public Employees' Retirement Fund (PERF) Performance Report as of December 31, 2022.

MOTION: Motion by Council Member Rennie to approve the Consent Items 1-2. **Seconded by Council Member Moore.**

VOTE: Motion passed 4-0-1 (Council Member Hudes was absent)

VERBAL COMMUNICATIONS

None.

OTHER BUSINESS

3. Receive the California Employer's Pension Prefunding Trust (CEPPT) Strategy Market Value Summary Report for the Period Ending March 31, 2023 and Performance as of April 30, 2023.

Gitta Ungvari, Finance Director, presented the staff report.

Opened public comment.

No one spoke.

PAGE 2 OF 2

SUBJECT: Draft Minutes of the Pension and OPEB Trusts Oversight Committee Meeting of
June 20, 2023

DATE: June 20, 2023

Closed public comment.

Council received the report, no action was taken.

4. Receive the California Employer's Retiree Benefit Trust (CERBT) Strategy 1 Market Value Summary Report for the Period Ending March 31, 2023 and the Performance Report as of April 30, 2023.

Gitta Ungvari, Finance Director, presented the staff report.

Opened public comment.

No one spoke.

Closed public comment.

Council discussed the item.

Council received the report, no action was taken.

ADJOURNMENT

The meeting adjourned at 6:36 p.m.

Respectfully Submitted:

Wendy Wood, Town Clerk



TOWN OF LOS GATOS
TOWN PENSION AND OPEB TRUSTS
OVERSIGHT COMMITTEE REPORT

MEETING DATE: 9/19/2023

ITEM NO: 2

DATE: September 11, 2023
TO: Town Pension and OPEB Trusts Oversight Committee
FROM: Laurel Prevetti, Town Manager
SUBJECT: Receive the California Employer's Pension Prefunding Trust (CEPPT) Strategy Market Value Summary Report for the Period Ending June 30, 2023 and Performance as of July 31, 2023

RECOMMENDATION:

Receive the California Employer's Pension Prefunding Trust (CEPPT) Strategy 2 Market Value Summary Report for the period ending June 30, 2023 and performance as of July 31, 2023.

BACKGROUND:

On November 5, 2019, the Town Council authorized the Town Manager to enter into an agreement with CalPERS for participation in the California Employers' Pension Prefunding Trust (CEPPT) program.

The CEPPT Fund is a Section 115 trust fund dedicated to prefunding employer contributions to defined benefit pension systems for eligible California public agencies. On March 3, 2020, the Town Pension and OPEB Trusts Oversight Committee adopted CEPPT Strategy 2 as the asset allocation for the Town's Section 115 Trust pension assets.

DISCUSSION:

On April 14, 2021, the remaining CEPPT balance at the time of approximately \$700,000 was liquidated for inclusion in a \$2,050,942 additional discretionary payment. The CEPPT account continues to be maintained by the Town (at no cost) to accommodate annual account distributions associated with the Town's General Fund Reserve Policy.

PREPARED BY: Gitta Ungvari
Finance Director

Reviewed by: Town Manager, Assistant Town Manager, and Town Attorney

DISCUSSION (continued):

Effective Fiscal Year (FY) 2015/16, Council determined that if sufficient General Fund year-end savings are available and targeted reserve levels for the Catastrophic Reserve and Budget Stabilization Reserve have been met, upon the final close of the fiscal year, a minimum of \$300,000 annually shall be deposited into the Pension/OPEB Reserve Fund. In addition, in 2018 the Council updated the General Fund Reserve Policy to provide for additional discretionary payments (ADPs) of \$390,000 per year to address the unfunded pension liability. Under the updated Policy, a 20-year amortization equivalence will be achieved.

The ending CEPPT 115 Trust account balance as of June 30, 2023, was \$1,400,163 (Attachment 1). As of July 31, 2023, the CEPPT Strategy 2 fund had a net return of 1.10% for the month and 1.10% for the Fiscal Year to Date (FYTD) (Attachment 2). Staff anticipates transferring an additional \$690,000 to the CEPPT Trust during FY 2023/24. Per the March 2023 Pension/OPEB Oversight Committee action, the Town leaves the funds in the CEPPT Trust and continuously monitors and evaluates if an Additional Discretionary Payment should be made directly to CalPERS.

The Finance Commission will receive this report at its October 11, 2023 regular meeting because the September regular meeting was cancelled due to lack of a quorum.

Attachments:

1. CEPPT Market Value Summary Report as of June 30, 2023
2. CEPPT Performance July 31, 2023



Market Value Summary:

	QTD Current Period	Fiscal Year to Date
Beginning Balance	\$1,392,175.23	\$676,150.03
Contribution	0.00	690,000.00
Disbursement	0.00	0.00
Transfer In	0.00	0.00
Transfer Out	0.00	0.00
Investment Earnings	8,784.89	36,060.80
Administrative Expenses	(526.03)	(1,350.95)
Investment Expense	(271.53)	(697.32)
Other	0.00	0.00
Ending Balance	\$1,400,162.56	\$1,400,162.56
FY End Contribution Accrual	0.00	0.00
FY End Disbursement Accrual	0.00	0.00
Grand Total	\$1,400,162.56	\$1,400,162.56

Unit Value Summary:

	QTD Current Period	Fiscal Year to Date
Beginning Units	138,648.200	68,400.224
Unit Purchases from Contributions	0.000	70,247.976
Unit Sales for Withdrawals	0.000	0.000
Unit Transfer In	0.000	0.000
Unit Transfer Out	0.000	0.000
Ending Units	138,648.200	138,648.200
Period Beginning Unit Value	10.041062	9.885202
Period Ending Unit Value	10.098671	10.098671

Please note the Grand Total is your actual fund account balance at the end of the period, including accrued contribution and disbursements. Please review your statement promptly. All information contained in your statement will be considered true and accurate unless you contact us within 30 days of receipt of this statement. If you have questions about the validity of this information, please contact CEPPT4U@calpers.ca.gov.

Statement of Transaction Detail for the Quarter Ending 06/30/2023

Town of Los Gatos

Entity #: SKHE-4589482285-501P



Date	Description	Amount	Unit Value	Units	Check/Wire	Notes
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CEPPT Strategy 2

July 31, 2023



Objective

The CEPPT Strategy 2 portfolio seeks to provide capital appreciation and income consistent with its strategic asset allocation. There is no guarantee that the portfolio will achieve its investment objective.

Strategy

The CEPPT Strategy 2 portfolio is invested in various asset classes that are passively managed to an index. CalPERS periodically adjusts the composition of the portfolio in order to match the target allocations. Generally, equities are intended to help build the value of the employer's portfolio over the long term while bonds are intended to help provide income and stability of principal. Also, strategies invested in a higher percentage of equities seek higher investment returns (but assume more risk) compared with strategies invested in a higher percentage of bonds.

Compared with CEPPT Strategy 1, this portfolio has a lower allocation to equities and a higher allocation to bonds. Historically, funds with a lower percentage of equities have displayed less price volatility and, therefore, this portfolio may experience comparatively less fluctuation of value. Employers that seek greater stability of value, in exchange for possible lower investment returns, may wish to consider this portfolio.

CalPERS Board may change the list of approved asset classes in composition as well as targeted allocation percentages and ranges at any time.

Composition

Asset Class Allocations and Benchmarks

The CEPPT Strategy 2 portfolio consists of the following asset classes and corresponding benchmarks:

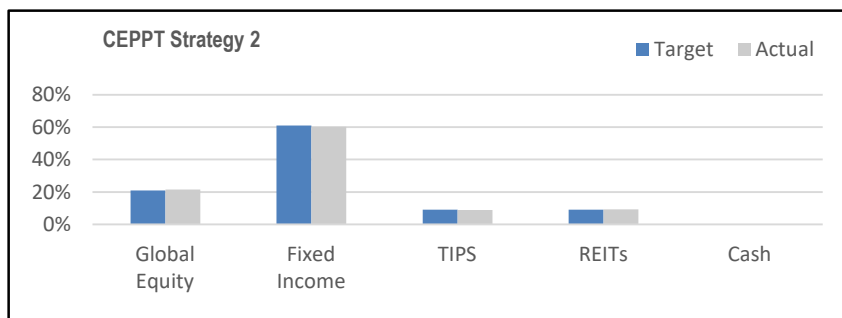
Asset Class	Target Allocation	Target Range	Benchmark
Global Equity	21%	± 5%	MSCI All Country World Index IMI (Net)
Fixed Income	61%	± 5%	Bloomberg US Aggregate Bond Index
Treasury Inflation-Protected Securities ("TIPS")	9%	± 3%	Bloomberg US TIPS Index, Series L
Real Estate Investment Trusts ("REITs")	9%	± 5%	FTSE EPRA/NAREIT Developed Index (Net)
Cash	-	+ 2%	91-Day Treasury Bill

Portfolio Benchmark

The CEPPT Strategy 2 benchmark is a composite of underlying asset class market indices, each assigned the target weight for the asset class it represents.

Target vs. Actual Asset Class Allocations

The following chart shows policy target allocations compared with actual asset allocations as of the specified reporting month-end. CalPERS may temporarily deviate from the target allocation for a particular asset class based on market, economic, or other considerations.



Assets Under Management

As of the specified reporting month-end:

CEPPT Strategy 2	Annual Expense Ratio
\$43,986,593	0.25%

CEPPT Strategy 2 Performance as of July 31, 2023

	1 Month	3 Months	Fiscal YTD	1 Year	3 Years*	5 Years*	10 Years*	Since Inception* (January 1, 2020)
Gross Return ^{1,3}	1.12%	0.94%	1.12%	-0.05%	-0.83%	-	-	0.65%
Net Return ^{2,3}	1.10%	0.88%	1.10%	-0.28%	-1.06%	-	-	0.42%
Benchmark Return	1.11%	0.91%	1.11%	-0.10%	-0.95%	-	-	0.54%
Standard Deviation ⁴	-	-	-	-	8.04%	-	-	8.05%

* Returns for periods greater than one year are annualized.

¹ Gross returns are net of SSGA operating expenses.

² Net returns are net of SSGA operating expenses, investment management, administrative and recordkeeping fees.

³ Expenses are described in more detail on page 2 of this document.

⁴ Standard deviation is based on gross returns and is reported for periods greater than 3 years.

CEPPT Strategy 2



July 31, 2023

General Information

Information Accessibility

The CEPPT Strategy 2 portfolio consists of assets managed internally by CalPERS and/or by external managers. Since it is not a mutual fund, a prospectus is not available and daily holdings are not published. CalPERS provides a quarterly statement of the employer's account and other information about the CEPPT. For total market value, detailed asset allocation, investment policy and performance information, please visit our website at www.calpers.ca.gov.

Portfolio Manager Information

The CalPERS Board, through its Investment Committee, directs the CEPPT investment strategy based on policies approved by the Board of Administration. State Street Global Advisors (SSGA) manages all underlying investments for CEPPT, which include: Global Equity, Fixed Income, Real Estate Investment Trusts, and Treasury Inflation-Protected Securities.

Custodian and Record Keeper

State Street Bank serves as custodian for the CEPPT. Northeast Retirement Services serves as recordkeeper.

Expenses

CEPPT is a self-funded trust in which participating employers pay for all administrative and investment expenses. Expenses reduce the gross investment return by the fee amount. The larger the expenses, the greater reduction of investment return. Currently, CEPPT expense ratios are 0.25%. This equates to \$2.50 per \$1,000 invested. The expenses consist of administrative expenses borne by CalPERS to administer and oversee the Trust assets, investment management and administrative fees paid to SSGA to manage all asset classes, and recordkeeping fees paid to Northeast Retirement Services to administer individual employer accounts. The expenses described herein are reflected in the net asset value per unit. The expense ratio is subject to change at any time and without prior notification due to factors such as changes to average fund assets or market conditions. CalPERS reviews the operating expenses annually and changes may be made as appropriate. Even if the portfolio loses money during a period, the expenses will still be charged.

What Employers Own

Each employer invested in CEPPT Strategy 2 owns units of this portfolio, which invests in pooled asset classes managed by CalPERS and/or external advisors. Employers do not have direct ownership of the securities in the portfolio.

Price

The value of the portfolio changes daily based upon the market value of the underlying securities. Just as prices of individual securities fluctuate, the portfolio's value also changes with market conditions.

Principal Risks of the Portfolio

The CEPPT fund is a trust fund dedicated to prefunding employer contributions to defined benefit pension plans for eligible state and local agencies. CEPPT is not, however, a defined benefit plan. There is no guarantee that the portfolio will achieve its investment objectives or provide sufficient funding to meet employer obligations.

An investment in the portfolio is not a bank deposit, nor is it insured or guaranteed by the Federal Deposit Insurance Corporation (FDIC), CalPERS, the State of California or any other government agency.

There are risks associated with investing, including possible loss of principal. The portfolio's risk depends in part on the portfolio's asset class allocations and the selection, weighting and risks of the underlying investments. For more information about investment risks, please see the document entitled "CEPPT Principal Investment Risks" located at www.calpers.ca.gov.

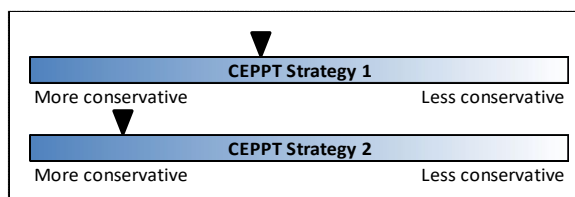
Fund Performance

Performance data shown on page 1 represents past performance and is no guarantee of future results. The investment return and principal value of an investment will fluctuate so that an employer's units, when redeemed, may be worth more or less than their original cost. Current performance may be higher or lower than historical performance data shown. For current performance information, please visit www.calpers.ca.gov and follow the links to California Employers' Pension Prefunding Trust.

CEPPT Strategy Risk Levels

CalPERS offers employers the choice of one of two investment strategies. Projected risk levels among risk strategies vary, depending upon the target asset class allocations. Generally, equities carry more risk than fixed income securities.

Asset Class Target Allocations	Strategy 1	Strategy 2
Global Equity	37%	21%
Fixed Income	44%	61%
Treasury-Inflation Protected Securities	5%	9%
Real Estate Investment Trusts	14%	9%





TOWN OF LOS GATOS
TOWN PENSION AND OPEB TRUSTS
OVERSIGHT COMMITTEE REPORT

MEETING DATE: 9/19/2023

ITEM NO: 3

DATE: September 11, 2023
TO: Town Pension and OPEB Trusts Oversight Committee
FROM: Laurel Prevetti, Town Manager
SUBJECT: Receive the California Employer's Retiree Benefit Trust (CERBT) Strategy 1 Market Value Summary Report for the Period Ending June 30, 2023 and the Performance Report as of July 31, 2023.

RECOMMENDATION:

Receive California Employer's Retiree Benefit Trust (CERBT) Strategy 1 Market Value Summary Report for the Period Ending June 30, 2023 and the Performance Report as of July 31, 2023.

BACKGROUND:

In 2009, the Council approved participating in the CERBT Fund. The CERBT Fund is an IRS Section 115 trust fund dedicated to the prefunding of other post-employment benefits ("OPEB"). The CERBT Strategy 1 is the single investment vehicle for the Town's OPEB Plan ("OPEB Plan").

DISCUSSION:

The ending OPEB 115 Trust account balance as of June 30, 2023, was \$24,318,330 compared to \$23,707,807 as of March 31, 2023 (Attachment 1). As of July 31, 2023, the CERBT Strategy 1 fund had a net return of 2.82% for the month and 2.82% as of July 31, 2023 (Attachment 2).

The Finance Commission will receive this report at its October 11, 2023 regular meeting because the September regular meeting were cancelled due to lack of a quorum.

PREPARED BY: Gitta Ungvari
Finance Director

Reviewed by: Town Manager, Assistant Town Manager, and Town Attorney

PAGE 2 OF 2

SUBJECT: CERBT

DATE: September 11, 2023

Attachments:

1. OPEB 115 Trust Market Value Summary Report as of June 30, 2023
2. CERBT Performance Report July 31, 2023



Market Value Summary:

	QTD Current Period	Fiscal Year to Date
Beginning Balance	\$23,707,807.06	\$22,861,333.23
Contribution	0.00	0.00
Disbursement	0.00	0.00
Transfer In	0.00	0.00
Transfer Out	0.00	0.00
Investment Earnings	615,575.03	1,476,759.12
Administrative Expenses	(2,918.40)	(11,415.71)
Investment Expense	(2,133.83)	(8,346.78)
Other	0.00	0.00
Ending Balance	\$24,318,329.86	\$24,318,329.86
FY End Contrib per GASB 74 Para 22	0.00	0.00
FY End Disbursement Accrual	0.00	0.00
Grand Total	\$24,318,329.86	\$24,318,329.86

Unit Value Summary:

	QTD Current Period	Fiscal Year to Date
Beginning Units	1,188,552.988	1,188,552.988
Unit Purchases from Contributions	0.000	0.000
Unit Sales for Withdrawals	0.000	0.000
Unit Transfer In	0.000	0.000
Unit Transfer Out	0.000	0.000
Ending Units	1,188,552.988	1,188,552.988
Period Beginning Unit Value	19.946782	19.234593
Period Ending Unit Value	20.460451	20.460451

Please note the Grand Total is your actual fund account balance at the end of the period, including all contributions per GASB 74 paragraph 22 and accrued disbursements. Please review your statement promptly. All information contained in your statement will be considered true and accurate unless you contact us within 30 days of receipt of this statement. If you have questions about the validity of this information, please contact CERBT4U@calpers.ca.gov.

Statement of Transaction Detail for the Quarter Ending 06/30/2023

Town of Los Gatos

Entity #: SKB0-4589482285



Date	Description	Amount	Unit Value	Units	Check/Wire	Notes
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CERBT Strategy 1

July 31, 2023



Objective

The CERBT Strategy 1 portfolio seeks to provide capital appreciation and income consistent with its strategic asset allocation. There is no guarantee that the portfolio will achieve its investment objective.

Strategy

The CERBT Strategy 1 portfolio is invested in various asset classes. CalPERS periodically adjusts the composition of the portfolio in order to match the target allocations. Generally, equities are intended to help build the value of the employer's portfolio over the long term while bonds are intended to help provide income and stability of principal. Also, strategies invested in a higher percentage of equities seek higher investment returns (but assume more risk) compared with strategies invested in a higher percentage of bonds.

Compared with CERBT Strategy 2 and Strategy 3, this portfolio has a higher allocation to equities than bonds and other assets. Historically, equities have displayed greater price volatility and, therefore, this portfolio may experience greater fluctuation of value. Employers that seek higher investment returns, and are able to accept greater risk and tolerate more fluctuation in returns, may wish to consider this portfolio.

CalPERS Board may change the list of approved asset classes in composition as well as targeted allocation percentages and ranges at any time.

Assets Under Management

As of the specified reporting month-end:

CERBT Strategy 1	Annual Operating Ratio
\$15,551,910,338	0.10%

Composition

Asset Class Allocations and Benchmarks

The CERBT Strategy 1 portfolio consists of the following asset classes and corresponding benchmarks:

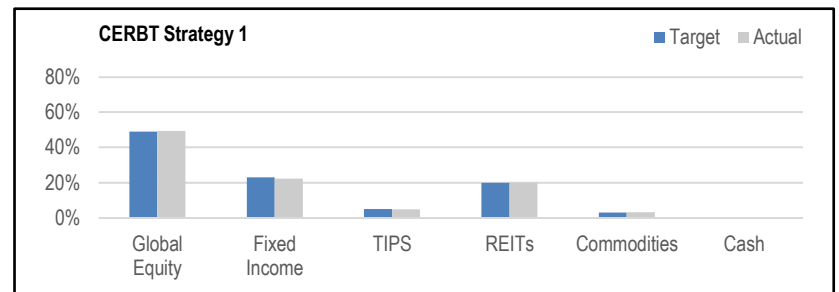
Asset Class	Target Allocation	Target Range	Benchmark
Global Equity	49%	± 5%	MSCI All Country World Index IMI (Net)
Fixed Income	23%	± 5%	Bloomberg Long Liability Index
Treasury Inflation-Protected Securities ("TIPS")	5%	± 3%	Bloomberg US TIPS Index, Series L
Real Estate Investment Trusts ("REITs")	20%	± 5%	FTSE EPRA/NAREIT Developed Index (Net)
Commodities	3%	± 3%	S&P GSCI Total Return Index
Cash	-	+ 2%	91-Day Treasury Bill

Portfolio Benchmark

The CERBT Strategy 1 benchmark is a composite of underlying asset class market indices, each assigned the target weight for the asset class it represents.

Target vs. Actual Asset Class Allocations

The following chart shows policy target allocations compared with actual asset allocations as of the specified reporting month-end. CalPERS may temporarily deviate from the target allocation to a particular asset class based on market, economic, or other considerations.



CERBT Strategy 1 Performance as of July 31, 2023

	1 Month	3 Months	Fiscal YTD	1 Year	3 Years*	5 Years*	10 Years*	Since Inception* (June 1, 2007)
Gross Return ^{1,3}	2.83%	4.29%	2.83%	3.31%	5.08%	5.57%	6.28%	5.11%
Net Return ^{2,3}	2.82%	4.27%	2.82%	3.22%	4.99%	5.48%	6.18%	5.03%
Benchmark Returns	2.82%	4.23%	2.82%	3.15%	4.88%	5.31%	5.92%	4.72%
Standard Deviation ⁴	-	-	-	-	13.84%	13.73%	10.84%	12.98%

* Returns for periods greater than one year are annualized.

¹ Gross returns are net of SSGA operating expenses.

² Net returns are net of SSGA operating expenses, investment management, administrative and recordkeeping fees.

³ Expenses are described in more detail on page 2 of this document.

⁴ Deviation is based on gross returns and is reported for periods greater than 3 years.

CERBT Strategy 1

July 31, 2023



General Information

Information Accessibility

The CERBT Strategy 1 portfolio consists of assets managed internally by CalPERS and/or by external advisors. Since it is not a mutual fund, a prospectus is not available and daily holdings are not published. CalPERS provides a quarterly statement of the employer's account and other information about the CERBT. For total market value, detailed asset allocation, investment policy and current performance information, please visit our website at: www.calpers.ca.gov.

Portfolio Manager Information

The CalPERS Board, through its Investment Committee, directs the CERBT investment strategy based on policies approved by the Board of Administration. State Street Global Advisors (SSGA) manages all underlying investments for CERBT, which include: Global Equity, Fixed Income, Real Estate Investment Trusts, Treasury Inflation-Protected Securities, and Commodities.¹

Custodian and Record Keeper

State Street Bank serves as custodian for the CERBT. Northeast Retirement Services serves as recordkeeper.

Expenses

CERBT is a self-funded trust in which participating employers pay for all administrative and investment expenses. Expenses reduce the gross investment return by the fee amount. The larger the expenses, the greater the reduction of investment return. Currently, CERBT expenses are 0.10% which consist of administrative expenses borne by CalPERS to administer and oversee the Trust assets, investment management and administrative fees paid to SSGA to manage all asset classes, and recordkeeping fees paid to Northeast Retirement Services to administer individual employer accounts. The expenses described herein are reflected in the net asset value per unit. The expense ratio is subject to change at any time and without prior notification due to factors such as changes to average fund assets or market conditions. CalPERS reviews the operating expenses annually and changes may be made as appropriate. Even if the portfolio loses money during a period, the expenses will still be charged.

What Employers Own

Each employer invested in CERBT Strategy 1 owns units of this portfolio, which invests in pooled asset classes managed by CalPERS and/or external advisors. Employers do not have direct ownership of the securities in the portfolio.

Price

The value of the portfolio changes daily based upon the market value of the underlying securities. Just as prices of individual securities fluctuate, the portfolio's value also changes with market conditions.

Principal Risks of the Portfolio

The CalPERS CERBT Fund provides California government employers with a trust through which they may prefund retiree medical costs and other post-employment benefits (OPEB). CERBT is not, however, a defined benefit plan. There is no guarantee that the portfolio will achieve its investment objectives or provide sufficient funding to meet employer obligations. Further, CalPERS will not make up the difference between an employer's CERBT assets and the actual cost of OPEB provided to an employer's plan members.

An investment in the portfolio is not a bank deposit, nor is it insured or guaranteed by the Federal Deposit Insurance Corporation (FDIC), CalPERS, the State of California or any other government agency.

There are risks associated with investing, including possible loss of principal. The portfolio's risk depends in part on the portfolio's asset class allocations and the selection, weighting and risks of the underlying investments. For more information about investment risks, please see the document entitled "CERBT Principal Investment Risks" located at www.calpers.ca.gov.

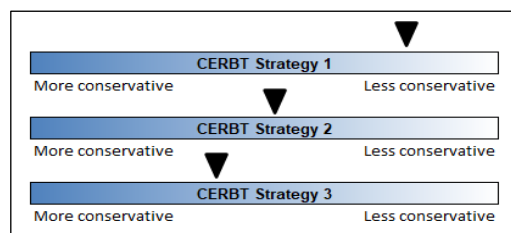
Fund Performance

Performance data shown on page 1 represents past performance and is no guarantee of future results. The investment return and principal value of an investment will fluctuate so that an employer's units, when redeemed, may be worth more or less than their original cost. Current performance may be higher or lower than historical performance data shown. For current performance information, please visit www.calpers.ca.gov and follow the links to California Employers' Retiree Benefit Trust.

CERBT Strategy Risk Levels

CalPERS offers employers the choice of one of three investment strategies. Projected risk levels among strategies vary, depending upon the target asset class allocations. Generally, equities carry more risk than fixed income securities.

Asset Class Target Allocations	Strategy 1	Strategy 2	Strategy 3
Global Equity	49%	34%	23%
Fixed Income	23%	41%	51%
Treasury Inflation-Protected Securities	5%	5%	9%
Real Estate Investment Trusts	20%	17%	14%
Commodities	3%	3%	3%



¹ Since June 2018, SSGA has passively managed all CERBT asset classes. Previously, Fixed Income, TIPS and Commodity asset classes were managed internally by CalPERS.



TOWN OF LOS GATOS
TOWN PENSION AND OPEB TRUSTS
OVERSIGHT COMMITTEE REPORT

MEETING DATE: 09/19/2023

ITEM NO: 4

DATE: September 11, 2023
TO: Town Pension and OPEB Trusts Oversight Committee
FROM: Laurel Prevetti, Town Manager
SUBJECT: Receive the CalPERS Actuarial Valuation Reports as of June 30, 2022

RECOMMENDATION:

Receive the CalPERS Actuarial Valuation Reports as of June 30, 2022.

BACKGROUND:

The Town's pension plans are administered by the Board of Administration of the California Public Employees' Retirement System (CalPERS). The Board of Administration is responsible for the management and control of CalPERS. In addition, the Board has exclusive control of the administration and investment of funds. Sworn employees are covered under the Safety Plan, which is a pooled plan, while all other employees are covered in the Miscellaneous Plan, which is a separate plan. The Miscellaneous Plan is administered by CalPERS in the Public Employees' Retirement Fund (PERF).

In order for the Town to understand the value of future pension benefit payments, actuarial valuations are performed each year for the pension plans. The CalPERS actuary estimates the payments that will be made for all potential retirees from each plan in each future year. The actuary calculates the present value of future benefits the plan will be required to pay to its current participants: those still working who will retire in the future, retirees, and those who have terminated employment but have not yet begun drawing benefits.

The 2022 valuation reports provide the determination of the minimum required employer contributions for fiscal year (FY) 2024/25. In addition, the reports also contain important information regarding the current financial status of the plans as well as projections and risk measures to aid in planning for the future.

PREPARED BY: Gitta Ungvari
Finance Director

Reviewed by: Town Manager, Assistant Town Manager, and Town Attorney

DISCUSSION:

Staff has received the annual Actuarial Valuation Reports from CalPERS for the Miscellaneous Plan (Attachment 1), the Safety Plan (Attachment 2), and the PEPRA Safety Police Plan (Attachment 3). The measurement date for each of the Plans is as of June 30, 2022.

The Town's Safety Plan funded status stood at 68.7% compared to 80.0% for the 2021 valuation. The Town's Safety PEPRA Plan had a funded status of 87.6% versus 105.3% for 2021 and the Miscellaneous Plan funded status of 75.9% compared to 87.3% in 2021.

June 30, 2022	Miscellaneous Plan	Safety Plan	PEPRA Safety Plan
Accrued Liability	\$126,242,002	\$109,557,160	\$1,724,746
Market Value of Assets	\$95,841,828	\$75,229,774	\$1,511,398
Unfunded Accrued Liability	\$30,400,174	\$34,327,386	\$213,348
Funded Ratio	75.9%	68.7%	87.6%

These reports are posted on the Town's website: <https://www.losgatosca.gov/1861/CalPERS-and-OPEB-Actuarial-Valuation-Rep>. They will be provided to the Finance Commission at its October meeting because the Commission did not have a quorum for its September meeting.

CONCLUSION:

Receive the CalPERS Actuarial Valuation Reports as of June 30, 2022.

COORDINATION:

This staff report was coordinated with the Town Manager, Assistant Town Manager, and Town Attorney.

FISCAL IMPACT:

There is no fiscal impact from receipt of these reports.

ENVIRONMENTAL ASSESSMENT:

This is not a project defined under CEQA, and no further action is required.

PAGE 3 OF 3

SUBJECT: CalPERS Actuarial Valuations 2022

DATE: September 11, 2023

Attachments:

1. CalPERS Annual Valuation Report as of June 30, 2022 – Miscellaneous Plan of the Town of Los Gatos
2. CalPERS Annual Valuation Report as of June 30, 2022 – Safety Plan of the Town of Los Gatos
3. CalPERS Annual Valuation Report as of June 30, 2022 – PEPRSA Safety Police Plan of the Town of Los Gatos



California Public Employees' Retirement System

Actuarial Office

400 Q Street, Sacramento, CA 95811 | Phone: (916) 795-3000 | Fax: (916) 795-2744

888 CalPERS (or 888-225-7377) | TTY: (877) 249-7442 | www.calpers.ca.gov

July 2023

Miscellaneous Plan of the Town of Los Gatos (CalPERS ID: 4589482285) Annual Valuation Report as of June 30, 2022

Dear Employer,

Attached to this letter is the June 30, 2022 actuarial valuation report for the rate plan noted above. **Provided in this report is the determination of the minimum required employer contributions for fiscal year (FY) 2024-25.** In addition, the report contains important information regarding the current financial status of the plan as well as projections and risk measures to aid in planning for the future.

Actuarial valuations are based on assumptions regarding future plan experience including investment return and payroll growth, eligibility for the types of benefits provided, and longevity among retirees. The CalPERS Board of Administration (board) adopts these assumptions after considering the advice of CalPERS actuarial and investment teams and other professionals. Each actuarial valuation reflects all prior differences between actual and assumed experience and adjusts the contribution requirements as needed. This valuation is based on an investment return assumption of 6.8%, which was adopted by the board in November 2021. Other assumptions used in this report are those recommended in the CalPERS Experience Study and Review of Actuarial Assumptions report from November 2021.

Required Contributions

The table below shows the minimum required employer contributions and the PEPR member rate for FY 2024-25 along with an estimate of the required employer contribution for FY 2025-26. Employee contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.**

Fiscal Year	Employer Normal Cost Rate	Employer Amortization of Unfunded Accrued Liability	PEPRA Member Contribution Rate
2024-25	11.15%	\$2,812,206	7.75%
<i>Projected Results</i>			
2025-26	11.0%	\$2,728,000	TBD

The actual investment return for FY 2022-23 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 6.8%. **To the extent the actual investment return for FY 2022-23 differs from 6.8%, the actual contribution requirements for FY 2025-26 will differ from those shown above.** For additional details regarding the assumptions and methods used for these projections, please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section. This section also contains projected required contributions through FY 2029-30.

Changes from Previous Year's Valuations

There are no significant changes in actuarial assumptions or policies in the 2022 actuarial valuation. There may be changes specific to the plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Actuarial Methods and Assumptions." The effects of any changes on the required contributions are included in the "Reconciliation of Required Employer Contributions" section.

Questions

A CalPERS actuary is available to answer questions about this report. Other questions may be directed to the Customer Contact Center at (888)-CalPERS or **(888-225-7377)**.

Sincerely,



SCOTT TERANDO, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS



RANDALL DZIUBEK, ASA, MAAA
Deputy Chief Actuary, CalPERS



**Actuarial Valuation
as of June 30, 2022**

**for the
Miscellaneous Plan
of the
Town of Los Gatos**

(CalPERS ID: 4589482285)

(Rate Plan ID: 946)

**Required Contributions
for Fiscal Year
July 1, 2024 – June 30, 2025**

Table of Contents

Actuarial Certification	1
Highlights and Executive Summary	
Introduction	3
Purpose	3
Required Contributions	4
Additional Discretionary Employer Contributions	5
Funded Status – Funding Policy Basis	6
Projected Employer Contributions	7
Cost	8
Changes Since the Prior Year's Valuation	9
Subsequent Events	9
Assets	
Reconciliation of the Market Value of Assets	11
Asset Allocation	12
CalPERS History of Investment Returns	13
Liabilities and Contributions	
Development of Accrued and Unfunded Liabilities	15
(Gain) / Loss Analysis 6/30/21 - 6/30/22	16
Schedule of Amortization Bases	17
Amortization Schedule and Alternatives	19
Reconciliation of Required Employer Contributions	21
Employer Contribution History	22
Funding History	22
Normal Cost by Benefit Group	23
PEPRA Member Contribution Rates	24
Risk Analysis	
Future Investment Return Scenarios	26
Discount Rate Sensitivity	27
Mortality Rate Sensitivity	27
Maturity Measures	28
Maturity Measures History	29
Funded Status – Termination Basis	30
Plan's Major Benefit Provisions	
Plan's Major Benefit Options	32
Appendix A – Actuarial Methods and Assumptions	
Actuarial Data	A-1
Actuarial Methods	A-1
Actuarial Assumptions	A-4
Miscellaneous	A-24
Appendix B – Principal Plan Provisions	B-1
Appendix C – Participant Data	
Summary of Valuation Data	C-1
Active Members	C-2
Transferred and Separated Members	C-3
Retired Members and Beneficiaries	C-4
Appendix D – Glossary	D-1

Actuarial Certification

To the best of my knowledge, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the Miscellaneous Plan of the Town of Los Gatos and satisfies the actuarial valuation requirements of Government Code section 7504. This valuation and related validation work was performed by the CalPERS Actuarial Office and is based on the member and financial data as of June 30, 2022 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced.

It is my opinion that the valuation has been performed in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods, as prescribed by the CalPERS Board of Administration, are internally consistent and reasonable for this plan.

The undersigned is an actuary who satisfies the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* with regard to pensions.



DAVID CLEMENT, ASA, MAAA, EA
Senior Actuary, CalPERS

Highlights and Executive Summary

- **Introduction**
- **Purpose**
- **Required Contributions**
- **Additional Discretionary Employer Contributions**
- **Funded Status – Funding Policy Basis**
- **Projected Employer Contributions**
- **Cost**
- **Changes Since the Prior Year's Valuation**
- **Subsequent Events**

Introduction

This report presents the results of the June 30, 2022 actuarial valuation of the Miscellaneous Plan of the Town of Los Gatos of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the minimum required contributions for fiscal year (FY) 2024-25.

Purpose

This report documents the results of the actuarial valuation prepared by the CalPERS Actuarial Office using data as of June 30, 2022. The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of this rate plan as of June 30, 2022;
- Determine the minimum required employer contributions for this rate plan for FY July 1, 2024 through June 30, 2025;
- Determine the required member contribution rate for FY July 1, 2024 through June 30, 2025 for employees subject to the California Public Employees' Pension Reform Act of 2013 (PEPRA); and
- Provide actuarial information as of June 30, 2022 to the CalPERS Board of Administration (board) and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement No. 68 for an Agent Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available from CalPERS and details for ordering are available on the CalPERS website (www.calpers.ca.gov).

The measurements shown in this actuarial valuation may not be applicable for other purposes. The agency should contact the plan actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; changes in plan provisions or applicable law; and differences between the required contributions determined by the valuation and the actual contributions made by the agency.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the guidance of Actuarial Standards of Practice No. 51 and recommended by the California Actuarial Advisory Panel (CAAP) in the Model Disclosure Elements document:

- A "Scenario Test," projecting future results under different investment income returns.
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates 5.8% and 7.8%.
- A "Sensitivity Analysis," showing the impact on current valuation results assuming rates of mortality are 10% lower or 10% higher than our current post-retirement mortality assumptions adopted in 2021.
- Plan maturity measures indicating how sensitive a plan may be to the risks noted above.

Required Contributions

	Fiscal Year
Required Employer Contributions	2024-25
Employer Normal Cost Rate	11.15%
<i>Plus</i>	
Required Payment on Amortization Bases	\$2,812,206
<i>Paid either as</i>	
1) Monthly Payment	\$234,351
<i>Or</i>	
2) Annual Prepayment Option*	\$2,721,207
Required PEPPRA Member Contribution Rate	7.75%
<p><i>The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll and paid as payroll is reported) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly (1) or prepaid annually (2) in dollars).</i></p> <p><i>* Only the UAL portion of the employer contribution can be prepaid (which must be received in full no later than July 31).</i></p> <p><i>For additional detail regarding the determination of the required contribution for PEPPRA members, see "PEPPRA Member Contribution Rates" in the "Liabilities and Contributions" section. Required member contributions for Classic members can be found in Appendix B.</i></p>	

	Fiscal Year	Fiscal Year
	2023-24	2024-25
Normal Cost Contribution as a Percentage of Payroll		
Total Normal Cost	18.81%	18.76%
Employee Contribution ¹	7.39%	7.61%
Employer Normal Cost ²	11.42%	11.15%
Projected Annual Payroll for Contribution Year	\$13,004,007	\$12,052,439
Estimated Employer Contributions Based On Projected Payroll		
Total Normal Cost	\$2,446,054	\$2,261,038
Offset Due to Employee Contributions	960,996	917,191
Employer Normal Cost	1,485,058	1,343,847
Unfunded Liability Contribution	2,411,960	2,812,206
% of Projected Payroll (illustrative only)	18.55%	23.33%
Estimated Total Employer Contribution	\$3,897,018	\$4,156,053
% of Projected Payroll (illustrative only)	29.97%	34.48%

¹ For classic members, this is the percentage specified in the Public Employees' Retirement Law, net of any reduction from the use of a modified formula or other factors. For PEPPRA members, the member contribution rate is based on 50% of the normal cost. A development of PEPPRA member contribution rates can be found in the "Liabilities and Contributions" section. Employee cost sharing is not shown in this report.

² The Employer Normal Cost is a blended rate for all benefit groups in the plan. For a breakout of normal cost by benefit group, see "Normal Cost by Benefit Group" in the "Liabilities and Contributions" section.

Additional Discretionary Employer Contributions

The minimum required employer contribution towards the Unfunded Accrued Liability (UAL) for this rate plan for FY 2024-25 is \$2,812,206. CalPERS allows agencies to make additional discretionary payments (ADPs) at any time and in any amount. These optional payments serve to reduce the UAL and future required contributions and can result in significant long-term savings. Agencies can also use ADPs to stabilize annual contributions as a fixed dollar amount, percent of payroll or percent of revenue.

Provided below are select ADP options for consideration. Making such an ADP during FY 2024-25 does not require an ADP be made in any future year, nor does it change the remaining amortization period of any portion of unfunded liability. For information on permanent changes to amortization periods, see the "Amortization Schedule and Alternatives" section of the report.

Agencies considering making an ADP should contact CalPERS for additional information.

Minimum Required Employer Contribution for Fiscal Year 2024-25

Estimated Normal Cost	Minimum UAL Payment	ADP	Total UAL Contribution	Estimated Total Contribution
\$1,343,847	\$2,812,206	\$0	\$2,812,206	\$4,156,053

Alternative Fiscal Year 2024-25 Employer Contributions for Greater UAL Reduction

Funding Horizon	Estimated Normal Cost	Minimum UAL Payment	ADP ¹	Total UAL Contribution	Estimated Total Contribution
15 years	\$1,343,847	\$2,812,206	\$292,190	\$3,104,396	\$4,448,243
10 years	\$1,343,847	\$2,812,206	\$1,227,198	\$4,039,404	\$5,383,251
5 years	\$1,343,847	\$2,812,206	\$4,134,305	\$6,946,511	\$8,290,358

¹ The ADP amounts are assumed to be made in the middle of the fiscal year. A payment made earlier or later in the fiscal year would have to be less or more than the amount shown to have the same effect on the UAL amortization.

Note that the calculations above are based on the projected Unfunded Accrued Liability as of June 30, 2024 as determined in the June 30, 2022 actuarial valuation. New unfunded liabilities can emerge in future years due to assumption or method changes, changes in plan provisions, and actuarial experience different than assumed. Making an ADP illustrated above for the indicated number of years will not result in a plan that is exactly 100% funded in the indicated number of years. Valuation results will vary from one year to the next and can diverge significantly from projections over a period of several years.

Funded Status – Funding Policy Basis

The table below provides information on the current funded status of the plan under the funding policy. The funded status for this purpose is based on the market value of assets relative to the funding target produced by the entry age actuarial cost method and actuarial assumptions adopted by the board. The actuarial cost method allocates the total expected cost of a member's projected benefit (**Present Value of Benefits**) to individual years of service (the **Normal Cost**). The value of the projected benefit that is not allocated to future service is referred to as the **Accrued Liability** and is the plan's funding target on the valuation date. The **Unfunded Accrued Liability** (UAL) equals the funding target minus the assets. The UAL is an absolute measure of funded status and can be viewed as employer debt. The **funded ratio** equals the assets divided by the funding target. The funded ratio is a relative measure of the funded status and allows for comparisons between plans of different sizes.

	June 30, 2021	June 30, 2022
1. Present Value of Benefits	\$141,365,707	\$144,457,200
2. Entry Age Accrued Liability	121,630,966	126,242,002
3. Market Value of Assets (MVA)	106,171,684	95,841,828
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	\$15,459,282	\$30,400,174
5. Funded Ratio [(3) / (2)]	87.3%	75.9%

A funded ratio of 100% (UAL of \$0) implies that the funding of the plan is on target and that future contributions equal to the normal cost of the active plan members will be sufficient to fully fund all retirement benefits if future experience matches the actuarial assumptions. A funded ratio of less than 100% (positive UAL) implies that in addition to normal costs, payments toward the UAL will be required. Plans with a funded ratio greater than 100% have a negative UAL (or surplus) but are required under current law to continue contributing the normal cost in most cases, preserving the surplus for future contingencies.

Calculations for the funding target reflect the expected long-term investment return of 6.8%. If it were known on the valuation date that future investment returns will average something greater/less than the expected return, calculated normal costs and accrued liabilities provided in this report would be less/greater than the results shown. Therefore, for example, if actual average future returns are less than the expected return, calculated normal costs and UAL contributions will not be sufficient to fully fund all retirement benefits. Under this scenario, required future normal cost contributions will need to increase from those provided in this report, and the plan will develop unfunded liabilities that will also add to required future contributions. For illustrative purposes, funded statuses based on a 1% lower and higher average future investment return (discount rate) are as follows:

	1% Lower Average Return	Current Assumption	1% Higher Average Return
Discount Rate	5.8%	6.8%	7.8%
1. Present Value of Benefits	\$167,463,032	\$144,457,200	\$126,352,282
2. Entry Age Accrued Liability	142,646,763	126,242,002	112,740,172
3. Market Value of Assets (MVA)	95,841,828	95,841,828	95,841,828
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	\$46,804,935	\$30,400,174	\$16,898,344
5. Funded Ratio [(3) / (2)]	67.2%	75.9%	85.0%

The "Risk Analysis" section of the report provides additional information regarding the sensitivity of valuation results to the expected investment return and other factors. Also provided in that section are measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities.

Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. The projection assumes that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. In particular, the investment return beginning with FY 2022-23 is assumed to be 6.80% per year, net of investment and administrative expenses. The projected normal cost percentages below reflect that the normal cost is expected to continue to decline over time as new employees are hired into lower cost benefit tiers. Future contribution requirements may differ significantly from those shown below. The actual long-term cost of the plan will depend on the actual benefits and expenses paid and the actual investment experience of the fund.

	Required Contribution	Projected Future Employer Contributions (Assumes 6.80% Return for Fiscal Year 2022-23 and Beyond)				
Fiscal Year	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Normal Cost %	11.15%	11.0%	10.8%	10.6%	10.4%	10.1%
UAL Payment	\$2,812,206	\$2,728,000	\$2,981,000	\$3,162,000	\$3,355,000	\$3,421,000
<i>Total as a % of Payroll*</i>	34.48%	33.0%	34.2%	34.7%	35.3%	34.9%
<i>Projected Payroll</i>	\$12,052,439	\$12,389,907	\$12,736,824	\$13,093,456	\$13,460,072	\$13,836,955

*Illustrative only and based on the projected payroll shown.

For ongoing plans, investment gains and losses are amortized using a 5-year ramp up. For more information, please see "Amortization of Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A. This method phases in the impact of the change in UAL over a 5-year period in order to reduce employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years when there is a large investment loss, the relatively small amortization payments during the ramp up period could result in contributions that are less than interest on the UAL (i.e. negative amortization) while the contribution impact of the increase in the UAL is phased in.

For projected contributions under alternate investment return scenarios, please see the "Future Investment Return Scenarios" in the "Risk Analysis" section. Our online pension plan projection tool, Pension Outlook, is available in the Employers section of the CalPERS website. Pension Outlook can help plan and budget pension costs under various scenarios.

Cost

Actuarial Determination of Plan Cost

Contributions to fund the plan are comprised of two components:

- Normal Cost, expressed as a percentage of total active payroll
- Amortization of the Unfunded Accrued Liability (UAL), expressed as a dollar amount

For fiscal years prior to 2017-18, the Amortization of UAL component was expressed as a percentage of total active payroll. Starting with FY 2017-18, the Amortization of UAL component is expressed as a dollar amount and invoiced on a monthly basis. There is an option to prepay this amount during July of each fiscal year.

The Normal Cost component is expressed as a percentage of active payroll with employer and employee contributions payable as part of the regular payroll reporting process.

The determination of both components requires complex actuarial calculations. The calculations are based on a set of actuarial assumptions which can be divided into two categories:

- Demographic assumptions (e.g., mortality rates, retirement rates, employment termination rates, disability rates)
- Economic assumptions (e.g., future investment earnings, inflation, salary growth rates)

These assumptions reflect CalPERS' best estimate of future experience of the plan and are long term in nature. We recognize that all assumptions will not be realized in any given year. For example, the investment earnings at CalPERS have averaged 6.9% over the 20 years ending June 30, 2022, yet individual fiscal year returns have ranged from -23.6% to +21.3%. In addition, CalPERS reviews all actuarial assumptions by conducting in-depth experience studies every four years, with the most recent experience study completed in 2021.

Changes Since the Prior Year's Valuation

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. Voluntary benefit changes by plan amendment are generally included in the first valuation that is prepared after the amendment becomes effective, even if the valuation date is prior to the effective date of the amendment.

This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" and Appendix B for a summary of the plan provisions used in this valuation. The effect of any mandated benefit changes or plan amendments on the unfunded liability is shown in the "(Gain) / Loss Analysis 6/30/21 – 6/30/22" and the effect on the employer contribution is shown in the "Reconciliation of Required Employer Contributions." It should be noted that no change in liability or contribution is shown for any plan changes which were already included in the prior year's valuation.

In 2022, SB 1168 increased the standard retiree lump sum death benefit from \$500 to \$2,000 for any death occurring on or after July 1, 2023. The impact, if any, is included in plan changes in the "(Gain) / Loss Analysis 6/30/21 – 6/30/22" and the "Reconciliation of Required Employer Contributions."

Actuarial Methods and Assumptions

There are no significant changes to the actuarial methods or assumptions for the June 30, 2022 actuarial valuation.

Subsequent Events

This actuarial valuation report reflects fund investment return through June 30, 2022 and statutory/regulatory changes and board actions through January 2023.

During the time period between the valuation date and the publication of this report, inflation has been significantly higher than the expected inflation of 2.3% per annum. Since inflation influences cost-of-living increases for retirees and beneficiaries and active member pay increases, higher inflation is likely to put at least some upward pressure on contribution requirements and downward pressure on the funded status in the June 30, 2023 valuation. The actual impact of higher inflation on future valuation results will depend on, among other factors, how long higher inflation persists. At this time, we continue to believe the long-term inflation assumption of 2.3% is appropriate.

To the best of our knowledge, there have been no other subsequent events that could materially affect current or future certifications rendered in this report.

Assets

- **Reconciliation of the Market Value of Assets**
- **Asset Allocation**
- **CalPERS History of Investment Returns**

Reconciliation of the Market Value of Assets

1. Market Value of Assets as of 6/30/21 including Receivables	\$106,171,684
2. Change in Receivables for Service Buybacks	(4,500)
3. Employer Contributions	3,472,727
4. Employee Contributions	864,321
5. Benefit Payments to Retirees and Beneficiaries	(6,568,801)
6. Refunds	(54,313)
7. Transfers	0
8. Service Credit Purchase (SCP) Payments and Interest	11,242
9. Administrative Expenses	(83,396)
10. Miscellaneous Adjustments	0
11. Investment Return (Net of Investment Expenses)	(7,967,136)
12. Market Value of Assets as of 6/30/22 including Receivables	<u>\$95,841,828</u>

Asset Allocation

CalPERS adheres to an Asset Allocation Strategy which establishes asset class allocation policy targets and ranges and manages those asset class allocations within their policy ranges. CalPERS Investment Belief No. 6 recognizes that strategic asset allocation is the dominant determinant of portfolio risk and return.

The asset allocation shown below reflects the allocation of the Public Employees' Retirement Fund (PERF) in its entirety. The assets for Town of Los Gatos Miscellaneous Plan are a subset of the PERF and are invested accordingly.

On November 17, 2021, the board adopted changes to the strategic asset allocation. The new allocation was effective July 1, 2022, and is shown below, expressed as a percentage of total assets.

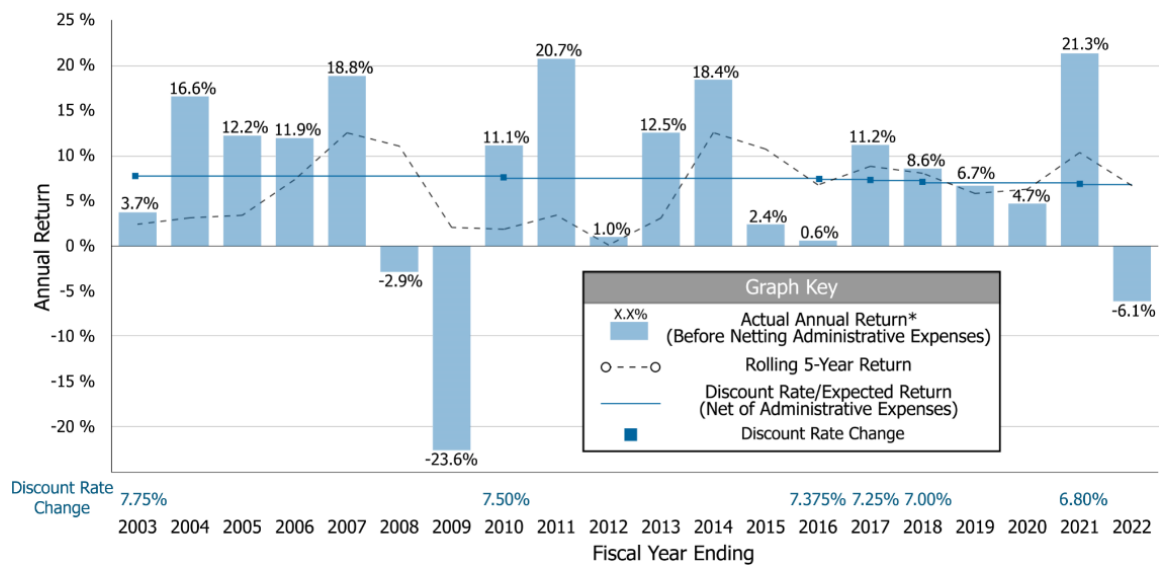
Strategic Asset Allocation Policy Targets

Asset Class	Actual Allocation 9/30/2022	Policy Target Allocation effective 7/1/2022
Global Public Equity		
Market Capitalization Weighted	33.7%	30.0%
Factor Weighted	12.6%	12.0%
Private Equity	11.6%	13.0%
Income		
Treasuries	3.9%	5.0%
Mortgage-backed Securities	5.6%	5.0%
Investment Grade Corporates	5.8%	10.0%
High Yield Bonds	4.6%	5.0%
Emerging Market Sovereign Bonds	2.1%	5.0%
Total Fund Income	1.5%	-
Real Assets	17.1%	15.0%
Private Debt	1.8%	5.0%
Other Trust Level	3.8%	-
Leverage		
Strategic	(0.3%)	(5.0%)
Active	<u>(3.8%)</u>	<u>-</u>
Total Fund	100.00%	100.0%

CalPERS History of Investment Returns

The following is a chart with the 20-year historical annual returns of the PERF for each fiscal year ending on June 30 as reported by the Investment Office. Investment returns reported are net of investment expenses but without reduction for administrative expenses. The assumed rate of return, however, is net of both investment and administrative expenses. Also, the Investment Office uses a three-month lag on private equity and real assets for investment performance reporting purposes. This can lead to a timing difference in the returns below and those used for financial reporting purposes. The investment gain or loss calculation in this report relies on final assets that have been audited and are appropriate for financial reporting. Because of these differences, the effective investment return for funding purposes can be higher or lower than the return reported by the Investment Office shown here.

History of Investment Returns (2003 - 2022)



* As reported by the Investment Office with a 3-month lag on private equity and real assets.

The table below shows annualized investment returns of the PERF for various time periods ending on June 30, 2022 (figures reported are net of investment expenses but without reduction for administrative expenses). These returns are the annual rates that if compounded over the indicated number of years would equate to the actual time-weighted investment performance of the PERF. It should be recognized that in any given year the rate of return is volatile. The portfolio has an expected volatility of 12.1% per year based on the most recent Asset Liability Management study. The realized volatility is a measure of the risk of the portfolio expressed as the standard deviation of the fund's total monthly return distribution, expressed as an annual percentage. Due to their volatile nature, when looking at investment returns, it is more instructive to look at returns over longer time horizons.

History of CalPERS Compound Annual Rates of Return and Volatilities					
	1 year	5 year	10 year	20 year	30 year
Compound Annual Return	-6.1%	6.7%	7.7%	6.9%	7.7%
Realized Volatility	—	8.3%	7.1%	8.5%	8.6%

Liabilities and Contributions

- **Development of Accrued and Unfunded Liabilities**
- **(Gain) / Loss Analysis 6/30/21 - 6/30/22**
- **Schedule of Amortization Bases**
- **Amortization Schedule and Alternatives**
- **Reconciliation of Required Employer Contributions**
- **Employer Contribution History**
- **Funding History**
- **Normal Cost by Benefit Group**
- **PEPRA Member Contribution Rates**

Development of Accrued and Unfunded Liabilities

	June 30, 2021	June 30, 2022
1. Present Value of Projected Benefits		
a) Active Members	\$47,556,868	\$45,017,281
b) Transferred Members	12,121,143	11,512,505
c) Separated Members	2,841,076	3,976,700
d) Members and Beneficiaries Receiving Payments	78,846,620	83,950,714
e) Total	\$141,365,707	\$144,457,200
2. Present Value of Future Employer Normal Costs	\$11,458,455	\$10,593,720
3. Present Value of Future Employee Contributions	\$8,276,286	\$7,621,478
4. Entry Age Accrued Liability		
a) Active Members [(1a) - (2) - (3)]	\$27,822,127	\$26,802,083
b) Transferred Members (1b)	12,121,143	11,512,505
c) Separated Members (1c)	2,841,076	3,976,700
d) Members and Beneficiaries Receiving Payments (1d)	78,846,620	83,950,714
e) Total	\$121,630,966	\$126,242,002
5. Market Value of Assets (MVA)	\$106,171,684	\$95,841,828
6. Unfunded Accrued Liability (UAL) [(4e) - (5)]	\$15,459,282	\$30,400,174
7. Funded Ratio [(5) / (4e)]	87.3%	75.9%

(Gain)/Loss Analysis 6/30/21 – 6/30/22

To calculate the cost requirements of the plan, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year, actual experience is compared to the expected experience based on the actuarial assumptions. This results in actuarial gains or losses, as shown below.

1. Total (Gain)/Loss for the Year

a) Unfunded Accrued Liability (UAL) as of 6/30/21	\$15,459,282
b) Expected payment on the UAL during 2021-22	2,176,101
c) Interest through 6/30/22 $[(1.068 \times (1a) - ((1.068)^2 - 1) \times (1b))]$	978,462
d) Expected UAL before all other changes $[(1a) - (1b) + (1c)]$	14,261,643
e) Change due to plan changes ¹	164,628
f) Change due to AL Significant Increase	0
g) Change due to assumption change	0
h) Change due to method change	0
i) Change due to discount rate change with Funding Risk Mitigation	0
j) Expected UAL after all other changes $[(1d) + (1e) + (1f) + (1g) + (1h) + (1i)]$	14,426,271
k) Actual UAL as of 6/30/22	30,400,174
l) Total (Gain)/Loss for 2021-22 $[(1k) - (1j)]$	<u>\$15,973,903</u>

2. Investment (Gain)/Loss for the Year

a) Market Value of Assets as of 6/30/21	\$106,171,684
b) Prior fiscal year receivables	(36,798)
c) Current fiscal year receivables	32,299
d) Contributions received	4,337,048
e) Benefits and refunds paid	(6,623,114)
f) Transfers, SCP payments and interest, and miscellaneous adjustments	11,242
g) Expected return at 6.8% per year	7,219,229
h) Expected assets as of 6/30/22 $[(2a) + (2b) + (2c) + (2d) + (2e) + (2f) + (2g)]$	111,111,589
i) Actual Market Value of Assets as of 6/30/22	95,841,828
j) Investment (Gain)/Loss $[(2h) - (2i)]$	<u>\$15,269,761</u>

3. Non-Investment (Gain)/Loss for the Year

a) Total (Gain)/Loss (1l)	\$15,973,903
b) Investment (Gain)/Loss (2j)	<u>15,269,761</u>
c) Non-Investment (Gain)/Loss $[(3a) - (3b)]$	<u>\$704,142</u>

¹ Includes the effect, if any, of SB 1168, which increased the standard post-retirement lump sum death benefit from \$500 to \$2,000 for deaths occurring on or after July 1, 2023.

Schedule of Amortization Bases

Below is the schedule of the plan's amortization bases. Note that there is a two-year lag between the valuation date and the start of the contribution year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2022.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2024-25.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their required employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the expected payment on the UAL for the fiscal year and adjusting for interest. The expected payment on the UAL for a fiscal year is equal to the Expected Employer Contribution for the fiscal year minus the Expected Normal Cost for the year. The Employer Contribution for the first fiscal year is determined by the actuarial valuation two years ago and the contribution for the second year is from the actuarial valuation one year ago. Additional discretionary payments are reflected in the Expected Payments column in the fiscal year they were made by the agency.

Reason for Base	Date Est.	Ramp Level 2024-25	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Expected Payment 2023-24	Balance 6/30/24	Minimum Required Payment 2024-25
Assumption Change	6/30/03	No Ramp		2.80%	1	839,363	301,887	584,457	307,764	306,144	316,382
Method Change	6/30/04	No Ramp		2.80%	2	(92,766)	(25,521)	(72,700)	(26,006)	(50,768)	(26,733)
Benefit Change	6/30/07	No Ramp		2.80%	4	1,127,728	215,080	982,141	218,783	822,827	224,909
Assumption Change	6/30/09	No Ramp		2.80%	7	2,068,192	278,574	1,920,939	282,535	1,759,580	290,446
Special (Gain)/Loss	6/30/09	No Ramp		2.80%	17	2,070,795	158,741	2,047,560	159,471	2,021,990	163,936
Special (Gain)/Loss	6/30/10	No Ramp		2.80%	18	1,747,886	129,551	1,732,859	130,031	1,716,314	133,672
Assumption Change	6/30/11	No Ramp		2.80%	9	1,472,190	168,489	1,398,176	170,546	1,317,003	175,321
Special (Gain)/Loss	6/30/11	No Ramp		2.80%	19	813,002	58,402	807,931	58,567	802,345	60,207
(Gain)/Loss	6/30/12	No Ramp		2.80%	20	1,814,360	126,588	1,806,915	126,837	1,798,707	130,388
Payment (Gain)/Loss	6/30/12	No Ramp		2.80%	20	202,399	14,121	201,569	14,149	200,654	14,545
(Gain)/Loss	6/30/13	100%	Up/Down	2.80%	21	8,757,716	629,877	8,702,300	631,633	8,641,301	649,319
(Gain)/Loss	6/30/14	100%	Up/Down	2.80%	22	(8,068,839)	(563,605)	(8,035,068)	(564,693)	(7,997,876)	(580,504)
Assumption Change	6/30/14	100%	Up/Down	2.80%	12	4,370,127	468,350	4,183,284	473,540	3,978,372	486,799
Assumption Change	6/30/16	100%	Up/Down	2.80%	14	1,804,186	171,892	1,749,230	173,470	1,688,907	178,327
(Gain)/Loss	6/30/17	100%	Up/Down	2.80%	25	(1,964,114)	(102,927)	(1,991,305)	(128,596)	(1,993,817)	(132,196)
Assumption Change	6/30/17	100%	Up/Down	2.80%	15	1,601,293	118,054	1,588,179	148,793	1,542,406	152,959
(Gain)/Loss	6/30/18	100%	Up/Down	2.80%	26	(744,952)	(29,331)	(765,297)	(39,048)	(776,983)	(50,176)
Assumption Change	6/30/18	100%	Up/Down	2.80%	16	3,655,125	199,382	3,697,624	267,747	3,672,362	344,056
Method Change	6/30/18	100%	Up/Down	2.80%	16	798,094	43,535	807,374	58,462	801,858	75,124
Non-Investment (Gain)/Loss	6/30/19	No Ramp		0.00%	17	1,463,604	137,166	1,421,376	134,763	1,378,760	134,763

Schedule of Amortization Bases (continued)

Reason for Base	Date Est.	Ramp Level 2024-25	Ramp Shape	Escala- tion Rate	Amort. Period	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Expected Payment 2023-24	Balance 6/30/24	Minimum Required Payment 2024-25
Investment (Gain)/Loss	6/30/19	80%	Up Only	0.00%	17	470,861	19,696	482,525	29,013	485,353	38,683
Investment (Gain)/Loss	6/30/20	60%	Up Only	0.00%	18	2,148,774	47,069	2,246,248	92,337	2,303,568	138,506
Non-Investment (Gain)/Loss	6/30/20	No Ramp		0.00%	18	(541,291)	(49,487)	(526,957)	(48,597)	(512,568)	(48,597)
Assumption Change	6/30/21	No Ramp		0.00%	19	65,208	(70,838)	142,849	12,845	139,288	12,846
Net Investment (Gain)	6/30/21	40%	Up Only	0.00%	19	(11,417,111)	0	(12,193,475)	(262,095)	(12,751,772)	(524,190)
Non-Investment (Gain)/Loss	6/30/21	No Ramp		0.00%	19	(107,159)	0	(114,446)	(10,291)	(111,593)	(10,291)
Risk Mitigation	6/30/21	No Ramp		0.00%	0	3,091,818	(96,139)	3,401,416	3,515,162	0	0
Risk Mitigation Offset	6/30/21	No Ramp		0.00%	0	(3,184,846)	0	(3,401,416)	(3,515,162)	0	0
Benefit Change	6/30/22	No Ramp		0.00%	20	164,628	(1,140)	177,001	(1,172)	190,248	17,108
Investment (Gain)/Loss	6/30/22	20%	Up Only	0.00%	20	15,269,761	0	16,308,105	0	17,417,056	374,374
Non-Investment (Gain)/Loss	6/30/22	No Ramp		0.00%	20	704,142	0	752,024	0	803,162	72,223
Total						30,400,174	2,347,466	30,041,418	2,410,788	29,592,828	2,812,206

Amortization Schedule and Alternatives

The amortization schedule on the previous page shows the minimum contributions required according to the CalPERS amortization policy. Many agencies have expressed a desire for a more stable pattern of payments or have indicated interest in paying off the unfunded accrued liabilities more quickly than required. As such, we have provided alternative amortization schedules to help analyze the current amortization schedule and illustrate the potential savings of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternative "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. To initiate a fresh start, please contact the plan actuary.

The current amortization schedule typically contains both positive and negative bases. Positive bases result from plan changes, assumption changes, method changes or plan experience that increase unfunded liability. Negative bases result from plan changes, assumption changes, method changes, or plan experience that decrease unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years, such as:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

In any year when one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over an appropriate period.

The current amortization schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy.

Amortization Schedule and Alternatives (continued)

Date	<u>Current Amortization Schedule</u>		<u>Alternative Schedules</u>			
	Balance	Payment	15 Year Amortization		10 Year Amortization	
			Balance	Payment	Balance	Payment
6/30/2024	29,592,828	2,812,206	29,592,828	3,104,396	29,592,828	4,039,404
6/30/2025	28,698,892	2,728,072	28,396,931	3,104,396	27,430,655	4,039,404
6/30/2026	27,831,115	2,980,696	27,119,713	3,104,396	25,121,454	4,039,404
6/30/2027	26,643,257	3,161,540	25,755,644	3,104,396	22,655,228	4,039,404
6/30/2028	25,187,735	3,355,221	24,298,818	3,104,396	20,021,298	4,039,404
6/30/2029	23,433,077	3,420,645	22,742,928	3,104,396	17,208,261	4,039,403
6/30/2030	21,491,492	3,487,902	21,081,237	3,104,397	14,203,939	4,039,404
6/30/2031	19,348,373	3,204,656	19,306,550	3,104,396	10,995,322	4,039,404
6/30/2032	17,352,240	3,144,433	17,411,186	3,104,396	7,568,519	4,039,404
6/30/2033	15,282,606	2,854,338	15,386,937	3,104,397	3,908,693	4,039,403
6/30/2034	13,372,033	2,730,405	13,225,038	3,104,396		
6/30/2035	11,459,616	2,556,638	10,916,131	3,104,397		
6/30/2036	9,596,737	2,255,032	8,450,217	3,104,396		
6/30/2037	7,918,874	2,074,732	5,816,622	3,104,397		
6/30/2038	6,313,243	1,883,366	3,003,942	3,104,396		
6/30/2039	4,796,197	1,734,428				
6/30/2040	3,329,911	1,624,058				
6/30/2041	1,877,976	988,065				
6/30/2042	984,570	567,726				
6/30/2043	464,813	480,357				
6/30/2044						
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
Total		48,044,516		46,565,944		40,394,038
Interest Paid		18,451,688		16,973,116		10,801,210
Estimated Savings				1,478,572		7,650,478

Reconciliation of Required Employer Contributions

Normal Cost (% of Payroll)

1. For Period 7/1/23 – 6/30/24	
a) Employer Normal Cost	11.42%
b) Employee contribution	7.39%
c) Total Normal Cost	18.81%
2. Changes since the prior year annual valuation	
a) Effect of demographic experience	(0.06%)
b) Effect of plan changes	0.01%
c) Effect of discount rate change due to Funding Risk Mitigation	0.00%
d) Effect of assumption changes	0.00%
e) Effect of method changes	0.00%
f) Net effect of the changes above [sum of (a) through (e)]	(0.05%)
3. For Period 7/1/24 – 6/30/25	
a) Employer Normal Cost	11.15%
b) Employee contribution	7.61%
c) Total Normal Cost	18.76%
Employer Normal Cost Change [(3a) – (1a)]	(0.27%)
Employee Contribution Change [(3b) – (1b)]	0.22%

Unfunded Liability Contribution (\$)

1. For Period 7/1/23 – 6/30/24	2,411,960
2. Changes since the prior year annual valuation	
a) Effect of adjustments to prior year's amortization schedule	0
b) Effect of elimination of amortization bases	0
c) Effect of progression of amortization bases ¹	(63,459)
d) Effect of investment (gain)/loss during prior year ²	374,374
e) Effect of non-investment (gain)/loss during prior year	72,223
f) Effect of re-amortizing existing bases due to Funding Risk Mitigation	0
g) Effect of Golden Handshake	0
h) Effect of plan changes	17,108
i) Effect of AL Significant Increase (Government Code section 20791)	0
j) Effect of assumption changes	0
k) Effect of adjustments to the amortization schedule (e.g., Fresh Start)	0
l) Effect of method change	0
m) Net effect of the changes above [sum of (a) through (l)]	400,246
3. For Period 7/1/24 – 6/30/25 [(1) + (2m)]	2,812,206

The amounts shown for the period 7/1/23 – 6/30/24 may be different if a prepayment of unfunded actuarial liability is made or a plan change became effective after the prior year's actuarial valuation was performed.

¹ Includes scheduled escalation in individual amortization base payments due to the 5-year ramp and payroll growth assumption used in the pre-2019 amortization policy.

² The unfunded liability contribution for the investment (gain)/loss during the year prior to the valuation date is 20% of the "full" annual requirement due to the 5-year ramp. Increases to this amount that occur during the ramp period will be included in line c) for each of the next four years.

Employer Contribution History

The table below provides a recent history of the required and discretionary employer contributions for the plan. The required amounts are based on the actuarial valuation from two years prior without subsequent adjustments, if any. Additional discretionary payments before July 1, 2018 or after June 30, 2023 are not included.

Fiscal Year	Employer Normal Cost	Unfunded Rate	Unfunded Liability Payment (\$)	Additional Discretionary Payments
2015 - 16	10.530%	14.900%	N/A	N/A
2016 - 17	10.441%	16.515%	N/A	N/A
2017 - 18	9.932%	N/A	1,700,602	N/A
2018 - 19	10.001%	N/A	1,998,006	0
2019 - 20	10.226%	N/A	2,328,669	4,753,965
2020 - 21	10.458%	N/A	2,563,289	5,631,307
2021 - 22	10.37%	N/A	2,736,531	0
2022 - 23	10.20%	N/A	2,515,583	0
2023 - 24	11.42%	N/A	2,411,960	
2024 - 25	11.15%	N/A	2,812,206	

Funding History

The table below shows the recent history of actuarial accrued liability, market value of assets, unfunded accrued liability, funded ratio and annual covered payroll.

Valuation Date	Accrued Liability (AL)	Market Value of Assets (MVA)	Unfunded Accrued Liability (UAL)	Funded Ratio	Annual Covered Payroll
6/30/2013	\$81,189,610	\$58,626,172	\$22,563,438	72.2%	\$8,161,471
6/30/2014	87,887,082	66,990,804	20,896,278	76.2%	8,240,718
6/30/2015	90,796,173	66,288,507	24,507,666	73.0%	8,930,406
6/30/2016	94,603,822	64,502,429	30,101,393	68.2%	8,761,524
6/30/2017	99,902,777	69,526,822	30,375,955	69.6%	9,319,861
6/30/2018	107,075,648	73,291,140	33,784,508	68.4%	9,938,654
6/30/2019	112,050,553	76,137,861	35,912,692	67.9%	10,889,467
6/30/2020	115,223,358	82,711,453	32,511,905	71.8%	11,759,144
6/30/2021	121,630,966	106,171,684	15,459,282	87.3%	11,970,102
6/30/2022	126,242,002	95,841,828	30,400,174	75.9%	11,094,190

Normal Cost by Benefit Group

The table below displays the Total Normal Cost broken out by benefit group for FY 2024-25. The Total Normal Cost is the annual cost of service accrual for the fiscal year for active employees and can be viewed as the long-term contribution rate for the benefits contracted. Generally, the normal cost for a benefit group subject to more generous benefit provisions will exceed the normal cost for a group with less generous benefits. However, based on the characteristics of the members (particularly when the number of actives is small), this may not be the case. Future measurements of the Total Normal Cost for each group may differ significantly from the current values due to such factors as: changes in the demographics of the group, changes in economic and demographic assumptions, changes in plan benefits or applicable law.

Plan Identifier	Benefit Group Name	Total Normal Cost FY 2024-25	Number of Actives	Payroll on 6/30/2022
946	Miscellaneous First Level	21.19%	28	\$3,061,206
27442	Miscellaneous PEPRALevel	15.59%	58	\$4,962,786
30563	Miscellaneous Second Level	21.51%	21	\$3,070,198
	Plan Total	18.76%	107	\$11,094,190

Note that if a Benefit Group above has multiple bargaining units, each of which has separately contracted for different benefits such as Employer Paid Member Contributions, then the Normal Cost shown for the respective benefit level does not reflect those differences. Additionally, if a Second Level Benefit Group amended to the same benefit formula as a First Level Benefit Group, their Normal Costs may be dissimilar due to demographic or other population differences. For questions in these situations, please contact the plan actuary.

PEPRA Member Contribution Rates

The California Public Employees' Pension Reform Act of 2013 ("PEPRA") established new benefit formulas, final compensation period, and contribution requirements for "new" employees (generally those first hired into a CalPERS-covered position on or after January 1, 2013). In accordance with Government Code section 7522.30(b), "new members ... shall have an initial contribution rate of at least 50% of the normal cost rate." The normal cost for the plan is dependent on the benefit levels, actuarial assumptions, and demographics of the plan, particularly members' entry age into the plan. Should the total normal cost of the plan change by more than 1% from the base total normal cost established for the plan, the new member rate shall be 50% of the new normal cost rounded to the nearest quarter percent.

The table below shows the determination of the PEPRA member contribution rates effective July 1, 2024, based on 50% of the total normal cost rate for each respective plan as of the June 30, 2022 valuation.

Plan Identifier	Benefit Group Name	Basis for Current Rate		Rates Effective July 1, 2024			
		Total Normal Cost	Member Rate	Total Normal Cost	Change	Change Needed	Member Rate
27442	Miscellaneous PEPRA Level	14.430%	7.25%	15.59%	1.160%	Yes	7.75%

For purposes of setting member rates, it is preferable to determine total normal cost using a large active population so that the rate remains relatively stable. While each CalPERS non-pooled plan has a sufficiently large active population for this purpose, the PEPRA active population by itself may not be sufficiently large. The total PEPRA normal cost will be determined based on the plan's PEPRA membership only if the number of members covered under the PEPRA formula meets either:

1. 50% of the active population, or
2. 25% of the active population and 100 or more PEPRA members

Until one of these conditions is met, the plan's total PEPRA normal cost will be determined using the entire active plan population (both PEPRA and Classic) based on the PEPRA benefit provisions. For this reason, the PEPRA member contribution rate determined in the table above may not equal 50% of the total normal cost of the PEPRA group shown on the "Normal Cost by Benefit Group" page.

Risk Analysis

- **Future Investment Return Scenarios**
- **Discount Rate Sensitivity**
- **Mortality Rate Sensitivity**
- **Maturity Measures**
- **Maturity Measures History**
- **Funded Status – Termination Basis**

Future Investment Return Scenarios

Analysis using the investment return scenarios from the Asset Liability Management process completed in 2021 was performed to determine the effects of various future investment returns on required employer contributions. The projections below reflect the impact of the CalPERS Funding Risk Mitigation policy. The projected normal cost rates reflect that the rates are anticipated to decline over time as new employees are hired into lower-cost benefit tiers. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The first table shows projected contribution requirements if the fund were to earn either 3.0% or 10.8% annually. These alternate investment returns were chosen because 90% of long-term average returns are expected to fall between them over the 20-year period ending June 30, 2042.

Assumed Annual Return FY 2022-23 through FY 2041-42	Projected Employer Contributions				
	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
3.0% (5th percentile)					
Normal Cost Rate	11.0%	10.8%	10.6%	10.4%	10.1%
UAL Contribution	\$2,816,000	\$3,246,000	\$3,693,000	\$4,243,000	\$4,756,000
10.8% (95th percentile)					
Normal Cost Rate	11.2%	11.3%	11.3%	11.3%	11.3%
UAL Contribution	\$2,647,000	\$2,737,000	\$2,667,000	\$2,511,000	\$1,186,000

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 3.0% or greater than 10.8% over a 20-year period, the likelihood of a single investment return less than 3.0% or greater than 10.8% in any given year is much greater. The following analysis illustrates the effect of an extreme, single year investment return.

The portfolio has an expected volatility (or standard deviation) of 12.0% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -5.2% or less and a 2.5% probability that the annual return will be -17.2% or less. These returns represent one and two standard deviations below the expected return of 6.8%.

The following table shows the effect of a one or two standard deviation investment loss in FY 2022-23 on the FY 2025-26 contribution requirements. Note that a single-year investment gain or loss decreases or increases the required UAL contribution amount incrementally for each of the next five years, not just one, due to the 5-year ramp in the amortization policy. However, the contribution requirements beyond the first year are also impacted by investment returns beyond the first year. Historically, significant downturns in the market are often followed by higher than average returns. Such investment gains would offset the impact of these single year negative returns in years beyond FY 2025-26.

Assumed Annual Return for Fiscal Year 2022-23	Required Employer Contributions	Projected Employer Contributions
	FY 2024-25	FY 2025-26
(17.2%) (2 standard deviation loss)		
Normal Cost Rate	11.15%	11.0%
UAL Contribution	\$2,812,206	\$3,285,000
(5.2%) (1 standard deviation loss)		
Normal Cost Rate	11.15%	11.0%
UAL Contribution	\$2,812,206	\$3,007,000

- Without investment gains (returns higher than 6.8%) in year FY 2023-24 or later, projected contributions rates would continue to rise over the next four years due to the continued phase-in of the impact of the illustrated investment loss in FY 2022-23.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2025-26 as well as to model other investment return scenarios.

Discount Rate Sensitivity

The discount rate assumption is calculated as the sum of the assumed real rate of return and the assumed annual price inflation, currently 4.5% and 2.3%, respectively. Changing either the price inflation assumption or the real rate of return assumption will change the discount rate. The sensitivity of the valuation results to the discount rate assumption depends on which component of the discount rate is changed. Shown below are various valuation results as of June 30, 2022 assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 6.8% as well as alternate discount rates of 5.8% and 7.8%. The rates of 5.8% and 7.8% were selected since they illustrate the impact of a 1.0% increase or decrease to the 6.8% assumption.

Sensitivity to the Real Rate of Return Assumption

As of June 30, 2022	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	5.8%	6.8%	7.8%
Price Inflation	2.3%	2.3%	2.3%
Real Rate of Return	3.5%	4.5%	5.5%
a) Total Normal Cost	23.50%	18.76%	15.15%
b) Accrued Liability	\$142,646,763	\$126,242,002	\$112,740,172
c) Market Value of Assets	\$95,841,828	\$95,841,828	\$95,841,828
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$46,804,935	\$30,400,174	\$16,898,344
e) Funded Ratio	67.2%	75.9%	85.0%

Sensitivity to the Price Inflation Assumption

As of June 30, 2022	1% Lower Inflation Rate	Current Assumptions	1% Higher Inflation Rate
Discount Rate	5.8%	6.8%	7.8%
Price Inflation	1.3%	2.3%	3.3%
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost	19.79%	18.76%	16.99%
b) Accrued Liability	\$130,514,794	\$126,242,002	\$116,382,665
c) Market Value of Assets	\$95,841,828	\$95,841,828	\$95,841,828
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$34,672,966	\$30,400,174	\$20,540,837
e) Funded Ratio	73.4%	75.9%	82.4%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2022 plan costs and funded status under two different longevity scenarios, namely assuming rates of post-retirement mortality are 10% lower or 10% higher than our current mortality assumptions adopted in 2021. This type of analysis highlights the impact on the plan of a change in the mortality assumption.

As of June 30, 2022	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	19.06%	18.76%	18.48%
b) Accrued Liability	\$128,918,836	\$126,242,002	\$123,786,782
c) Market Value of Assets	\$95,841,828	\$95,841,828	\$95,841,828
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$33,077,008	\$30,400,174	\$27,944,954
e) Funded Ratio	74.3%	75.9%	77.4%

Maturity Measures

As pension plans mature they become more sensitive to risks. Understanding plan maturity and how it affects the ability of a pension plan sponsor to tolerate risk is important in understanding how the pension plan is impacted by investment return volatility, other economic variables and changes in longevity or other demographic assumptions. One way to look at the maturity level of CalPERS and its plans is to look at the ratio of a plan's retiree liability to its total liability. A pension plan in its infancy will have a very low ratio of retiree liability to total liability. As the plan matures, the ratio increases. A mature plan will often have a ratio above 60%-65%.

Ratio of Retiree Accrued Liability to Total Accrued Liability	June 30, 2021	June 30, 2022
1. Retiree Accrued Liability	78,846,620	83,950,714
2. Total Accrued Liability	121,630,966	126,242,002
3. Ratio of Retiree AL to Total AL [(1) / (2)]	65%	66%

Another measure of the maturity level of CalPERS and its plans is the ratio of actives to retirees, also called the support ratio. A pension plan in its infancy will have a very high ratio of active to retired members. As the plan matures and members retire, the ratio declines. A mature plan will often have a ratio near or below one.

To calculate the support ratio for the rate plan, retirees and beneficiaries receiving a continuance are each counted as one, even though they may have only worked a portion of their careers as an active member of this rate plan. For this reason, the support ratio, while intuitive, maybe less informative than the ratio of retiree liability to total accrued liability above. For comparison, the support ratio for all CalPERS public agency plans is 0.82 and is calculated consistently with how it is for the individual rate plan. Note that to calculate the support ratio for all public agency plans, a retiree with service from more than one CalPERS agency is counted as a retiree more than once.

Support Ratio	June 30, 2021	June 30, 2022
1. Number of Actives	119	107
2. Number of Retirees	255	263
3. Support Ratio [(1) / (2)]	0.47	0.41

The actuarial calculations supplied in this communication are based on various assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary growth, investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Maturity Measures (continued)

Asset Volatility Ratio

Shown in the table below is the asset volatility ratio (AVR), which is the ratio of market value of assets to payroll. Plans that have a higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with AVR of 8 may experience twice the contribution volatility due to investment return volatility than a plan with AVR of 4. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as a plan matures.

Liability Volatility Ratio

Also shown in the table below is the liability volatility ratio (LVR), which is the ratio of accrued liability to payroll. Plans that have a higher LVR experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, a plan with LVR of 8 is expected to have twice the contribution volatility of a plan with LVR of 4 when there is a change in accrued liability, such as when there is a change in actuarial assumptions. It should be noted that this ratio indicates a longer-term potential for contribution volatility, since the AVR, described above, will tend to move closer to the LVR as the funded ratio approaches 100%.

Contribution Volatility	June 30, 2021	June 30, 2022
1. Market Value of Assets without Receivables	\$106,134,885	\$95,809,529
2. Payroll	11,970,102	11,094,190
3. Asset Volatility Ratio (AVR) [(1) / (2)]	8.9	8.6
4. Accrued Liability	\$121,630,966	\$126,242,002
5. Liability Volatility Ratio (LVR) [(4) / (2)]	10.2	11.4

Maturity Measures History

Valuation Date	Ratio of Retiree Accrued Liability to Total Accrued Liability	Support Ratio	Asset Volatility Ratio	Liability Volatility Ratio
6/30/2017	66%	0.49	7.5	10.7
6/30/2018	66%	0.48	7.4	10.8
6/30/2019	65%	0.48	7.0	10.3
6/30/2020	65%	0.49	7.0	9.8
6/30/2021	65%	0.47	8.9	10.2
6/30/2022	66%	0.41	8.6	11.4

Funded Status – Termination Basis

The funded status measured on a termination basis is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2022. The accrued liability on a termination basis (termination liability) is calculated differently from the plan's ongoing funding liability. For the termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees. Unlike the actuarial cost method used for ongoing plans, the termination liability is the present value of the benefits earned through the valuation date.

A more conservative investment policy and asset allocation strategy was adopted by the board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while limiting the funding risk. However, this asset allocation has a lower expected rate of return than the remainder of the PERF and consequently, a lower discount rate assumption. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable, the table below shows a range for the termination liability based on the lowest and highest interest rates observed during an approximate 19-month period from 12 months before the valuation date to seven months after.

Market Value of Assets (MVA)	Discount Rate: 1.75% Price Inflation: 2.50%			Discount Rate: 4.50% Price Inflation: 2.75%		
	Termination Liability ^{1,2}	Funded Ratio	Unfunded Termination Liability	Termination Liability ^{1,2}	Funded Ratio	Unfunded Termination Liability
\$95,841,828	\$252,435,240	38.0%	\$156,593,412	\$164,578,699	58.2%	\$68,736,871

¹ The termination liabilities calculated above include a 5% contingency load. The contingency load and other actuarial assumptions can be found in Appendix A.

² The discount rate used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 3.38% on June 30, 2022, the valuation date.

In order to terminate the plan, first contact our Pension Contract Services unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow the plan actuary to provide a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. Before beginning this process, please consult with the plan actuary.

Plan's Major Benefit Provisions

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Appendix B.

Member Category	Benefit Group					
	Misc	Misc	Misc	Misc	Misc	
Demographics						
Actives	No	Yes	Yes	Yes	No	
Transfers/Separated	Yes	Yes	Yes	Yes	No	
Receiving	Yes	Yes	No	Yes	Yes	
Benefit Provision						
Benefit Formula	2% @ 55	2.5% @ 55	2% @ 62	2% @ 60		
Social Security Coverage	No	No	No	No		
Full/Modified	Full	Full	Full	Full		
Employee Contribution Rate		8.00%	7.25%	7.00%		
Final Average Compensation Period	One Year	One Year	Three Year	Three Year		
Sick Leave Credit	No	No	No	No		
Non-Industrial Disability	Standard	Standard	Standard	Standard		
Industrial Disability	No	No	No	No		
Pre-Retirement Death Benefits						
Optional Settlement 2	No	No	No	No		
1959 Survivor Benefit Level	Level 4	Level 4	Level 4	Level 4		
Special	No	No	No	No		
Alternate (firefighters)	No	No	No	No		
Post-Retirement Death Benefits						
Lump Sum	\$2000	\$2000	\$2000	\$2000	\$2000	
Survivor Allowance (PRSA)	Yes	Yes	Yes	Yes	Yes	
COLA	2%	2%	2%	2%	2%	

Appendices

- **Appendix A – Actuarial Methods and Assumptions**
- **Appendix B – Principal Plan Provisions**
- **Appendix C – Participant Data**
- **Appendix D – Glossary**

Appendix A

Actuarial Methods and Assumptions

- **Actuarial Data**
- **Actuarial Methods**
- **Actuarial Assumptions**
- **Miscellaneous**

Actuarial Data

As stated in the Actuarial Certification, the data which serves as the basis of this valuation has been obtained from the various CalPERS databases. We have reviewed the valuation data and believe that it is reasonable and appropriate in aggregate. We are unaware of any potential data issues that would have a material effect on the results of this valuation, except that data does not always contain the latest salary information for former members now in reciprocal systems and does not recognize the potential for unusually large salary deviation in certain cases such as elected officials. Therefore, salary information in these cases may not be accurate. These situations are relatively infrequent, however, and generally do not have a material impact on the required employer contributions.

Actuarial Methods

Actuarial Cost Method

The actuarial cost method used is the Entry Age Actuarial Cost Method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces level annual cost as a percentage of pay in each year from the member's entry age to their assumed retirement age on the valuation date. The cost allocated to the current fiscal year is called the normal cost.

The actuarial accrued liability for active members is then calculated as the portion of the total cost of the plan allocated to prior years. The actuarial accrued liability for members currently receiving benefits and for members entitled to deferred benefits is equal to the present value of the benefits expected to be paid. No normal costs are applicable for these participants.

CalPERS uses an in-house proprietary actuarial model for calculating plan costs. We believe this model is fit for its intended purpose and meets all applicable Actuarial Standards of Practice. Furthermore, the actuarial results of our model are independently confirmed periodically by outside auditing actuaries. The actuarial assumptions used are internally consistent and the generated results are reasonable.

Amortization of Unfunded Actuarial Accrued Liability

The excess of the total actuarial accrued liability over the market value of plan assets is called the unfunded actuarial accrued liability (UAL). Funding requirements are determined by adding the normal cost and a payment toward the UAL. The UAL payment is equal to the sum of individual amortization payments, each representing a different source of UAL for a given measurement period.

Amortization payments are determined according to the CalPERS amortization policy. The board adopted a new policy effective for the June 30, 2019 actuarial valuation. The new policy applies prospectively only; amortization bases (sources of UAL) established prior to the June 30, 2019 valuation will continue to be amortized according to the prior policy.

Prior Policy (Bases Established prior to June 30, 2019)

Amortization payments are determined as a level percentage of payroll whereby the payment increases each year at an escalation rate. Gains or losses are amortized over a fixed 30-year period with a 5-year ramp up at the beginning and a 5-year ramp down at the end of the amortization period. All changes in liability due to plan amendments (other than golden handshakes) are amortized over a 20-year period with no ramp. Changes in actuarial assumptions or changes in actuarial methodology are amortized over a 20-year period with a 5-year ramp up at the beginning and a 5-year ramp down at the end of the amortization period. Changes in unfunded accrued liability due to a Golden Handshake will be amortized over a period of five years. Bases established prior to June 30, 2013 may be amortized differently. A summary is provided in the following table:

Driver	Source				
	(Gain)/Loss		Assumption/Method Change	Benefit Change	Golden Handshake
	Investment	Non-investment			
Amortization Period	30 Years	30 Years	20 Years	20 Years	5 Years
Escalation Rate					
- Active Plans	2.80%	2.80%	2.80%	2.80%	2.80%
- Inactive Plans	0%	0%	0%	0%	0%
Ramp Up	5	5	5	0	0
Ramp Down	5	5	5	0	0

The 5-year ramp up means that the payments in the first four years of the amortization period are 20%, 40%, 60% and 80% of the “full” payment which begins in year five. The 5-year ramp down means that the reverse is true in the final four years of the amortization period.

Current Policy (Bases Established on or after June 30, 2019)

Amortization payments are determined as a level dollar amount. Investment gains or losses are amortized over a fixed 20-year period with a 5-year ramp up at the beginning of the amortization period. Non-investment gains or losses are amortized over a fixed 20-year period with no ramps. All changes in liability due to plan amendments (other than golden handshakes) are amortized over a 20-year period with no ramps. Changes in actuarial assumptions or changes in actuarial methodology are amortized over a 20-year period with no ramps. Changes in unfunded accrued liability due to a Golden Handshake are amortized over a period of five years. A summary is provided in the table below:

	Source				
	(Gain)/Loss		Assumption/Method Change	Benefit Change	Golden Handshake
	Investment	Non-investment			
Amortization Period	20 Years	20 Years	20 Years	20 Years	5 Years
Escalation Rate	0%	0%	0%	0%	0%
Ramp Up	5	0	0	0	0
Ramp Down	0	0	0	0	0

Exceptions for Inconsistencies

An exception to the amortization rules above is used whenever their application results in inconsistencies. In these cases, a “fresh start” approach is used. This means that the current unfunded actuarial liability is projected and amortized over a set number of years. For example, a fresh start is needed in the following situations:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

It should be noted that the actuary may determine that a fresh start is necessary under other circumstances. In all cases of a fresh start, the period is set by the actuary at what is deemed appropriate; however, the period will not be greater than 20 years.

Exceptions for Plans in Surplus

If a surplus exists (i.e., the Market Value of Assets exceeds the plan's accrued liability) any prior amortization layers shall be considered fully amortized, and the surplus shall not be amortized.

In the event of any subsequent unfunded liability, a Fresh Start shall be used with an amortization period of 20 years or less.

Exceptions for Small Amounts

Where small unfunded liabilities are identified in annual valuations which result in small payment amounts, the actuary may shorten the remaining period for these bases.

- When the balance of a single amortization base has an absolute value less than \$250, the amortization period is reduced to one year.
- When the entire unfunded liability is a small amount, the actuary may perform a Fresh Start and use an appropriate amortization period.

Exceptions for Inactive Plans

The following exceptions apply to plans classified as Inactive. These plans have no active members and no expectation to have active members in the future.

- Amortization of the unfunded liability is on a "level dollar" basis rather than a "level percent of pay" basis. For amortization layers, which utilize a ramp up and ramp down, the "ultimate" payment is constant.
- Actuarial judgment will be used to shorten amortization periods for Inactive plans with existing periods that are deemed too long given the duration of the liability. The specific demographics of the plan will be used to determine if shorter periods may be more appropriate.

Exceptions for Inactive Agencies

For a public agency with no active members in any CalPERS rate plan, the unfunded liability shall be amortized over a closed amortization period of no more than 15 years.

Asset Valuation Method

The Actuarial Value of Assets is set equal to the market value of assets. Asset values include accounts receivable.

PEPRA Normal Cost Rate Methodology

Per Government Code section 7522.30(b), the "normal cost rate" shall mean the annual actuarially determined normal cost for the plan of retirement benefits provided to the new member and shall be established based on actuarial assumptions used to determine the liabilities and costs as part of the annual actuarial valuation. The plan of retirement benefits shall include any elements that would impact the actuarial determination of the normal cost, including, but not limited to, the retirement formula, eligibility and vesting criteria, ancillary benefit provisions, and any automatic cost-of-living adjustments as determined by the public retirement system.

For purposes of setting member rates, it is preferable to determine total normal cost using a large active population so that the rate remains relatively stable. While each CalPERS non-pooled plan has a sufficiently large active population for this purpose, the PEPRA active population by itself may not be sufficiently large. The total PEPRA normal cost will be determined based on the plan's PEPRA membership only if the number of members covered under the PEPRA formula meets either:

1. 50% of the active population, or
2. 25% of the active population and 100 or more PEPRA members

Until one of these conditions is met, the plan's total PEPRA normal cost will be determined using the entire active plan population (both PEPRA and Classic) based on the PEPRA benefit provisions.

Actuarial Assumptions

In 2021, CalPERS completed its most recent asset liability management study incorporating actuarial assumptions and strategic asset allocation. In November 2021, the board adopted changes to the asset allocation that increased the expected volatility of returns. The adopted asset allocation was expected to have a long-term blended return that continued to support a discount rate assumption of 6.80%. The board also approved several changes to the demographic assumptions that more closely aligned with actual experience.

For more details and additional rationale for the selection of the actuarial assumptions, please refer to the CalPERS Experience Study and Review of Actuarial Assumptions report from November 2021 that can be found on the CalPERS website under: Forms and Publications. Click on “View All” and search for Experience Study.

All actuarial assumptions (except the discount rates used for the accrued liability on a termination basis) represent an estimate of future experience rather than observations of the estimates inherent in market data.

Economic Assumptions

Discount Rate

The prescribed discount rate assumption, adopted by the board on November 17, 2021, is 6.80% compounded annually (net of investment and administrative expenses) as of June 30, 2022.

Termination Liability Discount Rate

The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date.

The accrued liabilities on a termination basis in this report are calculated using an observed range of market interest rates. This range is based on the lowest and highest 20-year Treasury bond observed during an approximate 19-month period from 12 months before the valuation date to seven months after. The 20-year Treasury bond has a similar duration to most plan liabilities and serves as a good proxy for the termination discount rate. The 20-year Treasury yield was 3.38% on June 30, 2022.

Salary Growth

Annual increases vary by category, entry age, and duration of service. A sample of assumed increases are shown below. Wage inflation assumption in the valuation year (2.80% for 2022) is added to these factors for total salary growth.

Public Agency Miscellaneous

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.0764	0.0621	0.0521
1	0.0663	0.0528	0.0424
2	0.0576	0.0449	0.0346
3	0.0501	0.0381	0.0282
4	0.0435	0.0324	0.0229
5	0.0378	0.0276	0.0187
10	0.0201	0.0126	0.0108
15	0.0155	0.0102	0.0071
20	0.0119	0.0083	0.0047
25	0.0091	0.0067	0.0031
30	0.0070	0.0054	0.0020

Public Agency Fire

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1517	0.1549	0.0631
1	0.1191	0.1138	0.0517
2	0.0936	0.0835	0.0423
3	0.0735	0.0613	0.0346
4	0.0577	0.0451	0.0284
5	0.0453	0.0331	0.0232
10	0.0188	0.0143	0.0077
15	0.0165	0.0124	0.0088
20	0.0145	0.0108	0.0101
25	0.0127	0.0094	0.0115
30	0.0112	0.0082	0.0132

Public Agency Police

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1181	0.1051	0.0653
1	0.0934	0.0812	0.0532
2	0.0738	0.0628	0.0434
3	0.0584	0.0485	0.0353
4	0.0462	0.0375	0.0288
5	0.0365	0.0290	0.0235
10	0.0185	0.0155	0.0118
15	0.0183	0.0150	0.0131
20	0.0181	0.0145	0.0145
25	0.0179	0.0141	0.0161
30	0.0178	0.0136	0.0179

Salary Growth (continued)

Public Agency County Peace Officers			
<u>Duration of Service</u>	<u>(Entry Age 20)</u>	<u>(Entry Age 30)</u>	<u>(Entry Age 40)</u>
0	0.1238	0.1053	0.0890
1	0.0941	0.0805	0.0674
2	0.0715	0.0616	0.0510
3	0.0544	0.0471	0.0387
4	0.0413	0.0360	0.0293
5	0.0314	0.0276	0.0222
10	0.0184	0.0142	0.0072
15	0.0174	0.0124	0.0073
20	0.0164	0.0108	0.0074
25	0.0155	0.0094	0.0075
30	0.0147	0.0083	0.0077

Schools			
<u>Duration of Service</u>	<u>(Entry Age 20)</u>	<u>(Entry Age 30)</u>	<u>(Entry Age 40)</u>
0	0.0275	0.0275	0.0200
1	0.0422	0.0373	0.0298
2	0.0422	0.0373	0.0298
3	0.0422	0.0373	0.0298
4	0.0388	0.0314	0.0245
5	0.0308	0.0239	0.0179
10	0.0236	0.0160	0.0121
15	0.0182	0.0135	0.0103
20	0.0145	0.0109	0.0085
25	0.0124	0.0102	0.0058
30	0.0075	0.0053	0.0019

- The Miscellaneous salary scale is used for Local Prosecutors.
- The Police salary scale is used for Other Safety, Local Sheriff, and School Police.

Price Inflation

2.30% compounded annually.

Wage Inflation

2.80% compounded annually (used in projecting individual salary increases).

Payroll Growth

2.80% compounded annually (used in projecting the payroll over which the unfunded liability is amortized for level percent of payroll bases). This assumption is used for all plans with active members.

Non-valued Potential Additional Liabilities

The potential liability loss for a cost-of-living increase exceeding the 2.30% price inflation assumption and any potential liability loss from future member service purchases that are not reflected in the valuation.

Miscellaneous Loading Factors

Credit for Unused Sick Leave

Total years of service is increased by 1% for those plans that have adopted the provision of providing Credit for Unused Sick Leave.

Conversion of Employer Paid Member Contributions (EPMC)

Total years of service is increased by the Employee Contribution Rate for those plans with the provision providing for the Conversion of Employer Paid Member Contributions (EPMC) during the final compensation period.

Norris Decision (Best Factors)

Employees hired prior to July 1, 1982 have projected benefit amounts increased in order to reflect the use of “Best Factors” in the calculation of optional benefit forms. This is due to a 1983 Supreme Court decision, known as the Norris decision, which required males and females to be treated equally in the determination of benefit amounts. Consequently, anyone already employed at that time is given the best possible conversion factor when optional benefits are determined. No loading is necessary for employees hired after July 1, 1982.

Termination Liability

The termination liabilities include a 5% contingency load. This load is for unforeseen improvements in mortality.

Demographic Assumptions

Pre-Retirement Mortality

The mortality assumptions are based on mortality rates resulting from the most recent CalPERS Experience Study adopted by the CalPERS Board in November 2021. For purposes of the mortality rates, the rates incorporate generational mortality to capture on-going mortality improvement. Generational mortality explicitly assumes that members born more recently will live longer than the members born before them thereby capturing the mortality improvement seen in the past and expected continued improvement. For more details, please refer to the 2021 experience study report that can be found on the CalPERS website.

Rates vary by age and gender are shown in the table below. This table only contains a sample of the 2017 base table rates for illustrative purposes. The non-industrial death rates are used for all plans. The industrial death rates are used for Safety plans (except for local Safety members described in Section 20423.6 where the agency has not specifically contracted for industrial death benefits.)

Age	Miscellaneous		Safety			
	Non-Industrial Death (Not Job-Related)		Non-Industrial Death (Not Job-Related)		Industrial Death (Job-Related)	
	Male	Female	Male	Female	Male	Female
20	0.00039	0.00014	0.00038	0.00014	0.00004	0.00002
25	0.00033	0.00013	0.00034	0.00018	0.00004	0.00002
30	0.00044	0.00019	0.00042	0.00025	0.00005	0.00003
35	0.00058	0.00029	0.00048	0.00034	0.00005	0.00004
40	0.00075	0.00039	0.00055	0.00042	0.00006	0.00005
45	0.00093	0.00054	0.00066	0.00053	0.00007	0.00006
50	0.00134	0.00081	0.00092	0.00073	0.00010	0.00008
55	0.00198	0.00123	0.00138	0.00106	0.00015	0.00012
60	0.00287	0.00179	0.00221	0.00151	0.00025	0.00017
65	0.00403	0.00250	0.00346	0.00194	0.00038	0.00022
70	0.00594	0.00404	0.00606	0.00358	0.00067	0.00040
75	0.00933	0.00688	0.01099	0.00699	0.00122	0.00078
80	0.01515	0.01149	0.02027	0.01410	0.00225	0.00157

- The pre-retirement mortality rates above are for 2017 and are projected generationally for future years using 80% of the Society of Actuaries' Scale MP-2020.
- Miscellaneous plans usually have industrial death rates set to zero unless the agency has specifically contracted for industrial death benefits. If so, each non-industrial death rate shown above will be split into two components: 99% will become the non-industrial death rate and 1% will become the industrial death rate.

Post-Retirement Mortality

Rates vary by age, type of retirement, and gender. See sample rates in table below. These rates are used for all plans.

Age	Service Retirement		Non-Industrial Disability (Not Job-Related)		Industrial Disability (Job-Related)	
	Male	Female	Male	Female	Male	Female
50	0.00267	0.00199	0.01701	0.01439	0.00430	0.00311
55	0.00390	0.00325	0.02210	0.01734	0.00621	0.00550
60	0.00578	0.00455	0.02708	0.01962	0.00944	0.00868
65	0.00857	0.00612	0.03334	0.02276	0.01394	0.01190
70	0.01333	0.00996	0.04001	0.02910	0.02163	0.01858
75	0.02391	0.01783	0.05376	0.04160	0.03446	0.03134
80	0.04371	0.03403	0.07936	0.06112	0.05853	0.05183
85	0.08274	0.06166	0.11561	0.09385	0.10137	0.08045
90	0.14539	0.11086	0.16608	0.14396	0.16584	0.12434
95	0.24665	0.20364	0.24665	0.20364	0.24665	0.20364
100	0.36198	0.31582	0.36198	0.31582	0.36198	0.31582
105	0.52229	0.44679	0.52229	0.44679	0.52229	0.44679
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The post-retirement mortality rates above are for 2017 and are projected generationally for future years using 80% of the Society of Actuaries' Scale MP-2020.

Marital Status

For active members, a percentage who are married upon retirement is assumed according to the member category as shown in the following table.

Member Category	Percent Married
Miscellaneous Member	70%
Local Police	85%
Local Fire	85%
Other Local Safety	70%
School Police	85%
Local County Peace Officers	75%

Age of Spouse

It is assumed that female spouses are 3 years younger than male spouses. This assumption is used for all plans.

Separated Members

It is assumed that separated members refund immediately if non-vested. Separated members who are vested are assumed to retire at age 59 for Miscellaneous members and age 54 for Safety members.

Termination with Refund

Rates vary by entry age and service for Miscellaneous plans. Rates vary by service for Safety plans.
See sample rates in tables below.

Public Agency Miscellaneous

Duration of Service	Entry Age 20		Entry Age 25		Entry Age 30		Entry Age 35		Entry Age 40		Entry Age 45	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0	0.1851	0.1944	0.1769	0.1899	0.1631	0.1824	0.1493	0.1749	0.1490	0.1731	0.1487	0.1713
1	0.1531	0.1673	0.1432	0.1602	0.1266	0.1484	0.1101	0.1366	0.1069	0.1323	0.1037	0.1280
2	0.1218	0.1381	0.1125	0.1307	0.0970	0.1183	0.0815	0.1058	0.0771	0.0998	0.0726	0.0938
3	0.0927	0.1085	0.0852	0.1020	0.0727	0.0912	0.0601	0.0804	0.0556	0.0737	0.0511	0.0669
4	0.0672	0.0801	0.0616	0.0752	0.0524	0.0670	0.0431	0.0587	0.0392	0.0523	0.0352	0.0459
5	0.0463	0.0551	0.0423	0.0517	0.0358	0.0461	0.0292	0.0404	0.0261	0.0350	0.0230	0.0296
10	0.0112	0.0140	0.0101	0.0129	0.0083	0.0112	0.0064	0.0094	0.0048	0.0071	0.0033	0.0049
15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Public Agency Safety

Duration of Service	Fire		Police		County Peace Officer	
	Male	Female	Male	Female	Male	Female
0	0.1022	0.1317	0.1298	0.1389	0.1086	0.1284
1	0.0686	0.1007	0.0789	0.0904	0.0777	0.0998
2	0.0441	0.0743	0.0464	0.0566	0.0549	0.0759
3	0.0272	0.0524	0.0274	0.0343	0.0385	0.0562
4	0.0161	0.0349	0.0170	0.0206	0.0268	0.0402
5	0.0092	0.0214	0.0113	0.0128	0.0186	0.0276
10	0.0015	0.0000	0.0032	0.0047	0.0046	0.0038
15	0.0000	0.0000	0.0000	0.0000	0.0023	0.0036
20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

- The police termination and refund rates are also used for Public Agency Local Prosecutors, Other Safety, Local Sheriff, and School Police.

Termination with Refund (continued)

Schools												
Duration of Service	Entry Age 20		Entry Age 25		Entry Age 30		Entry Age 35		Entry Age 40		Entry Age 45	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0	0.2054	0.2120	0.1933	0.1952	0.1730	0.1672	0.1527	0.1392	0.1423	0.1212	0.1318	0.1032
1	0.1922	0.2069	0.1778	0.1883	0.1539	0.1573	0.1300	0.1264	0.1191	0.1087	0.1083	0.0910
2	0.1678	0.1859	0.1536	0.1681	0.1298	0.1383	0.1060	0.1086	0.0957	0.0934	0.0853	0.0782
3	0.1384	0.1575	0.1256	0.1417	0.1042	0.1155	0.0829	0.0893	0.0736	0.0774	0.0643	0.0656
4	0.1085	0.1274	0.0978	0.1143	0.0800	0.0925	0.0622	0.0707	0.0542	0.0620	0.0462	0.0533
5	0.0816	0.0991	0.0732	0.0887	0.0590	0.0713	0.0449	0.0539	0.0383	0.0476	0.0317	0.0413
10	0.0222	0.0248	0.0200	0.0221	0.0163	0.0174	0.0125	0.0128	0.0094	0.0100	0.0063	0.0072
15	0.0106	0.0132	0.0095	0.0113	0.0077	0.0083	0.0058	0.0052	0.0040	0.0039	0.0021	0.0026
20	0.0059	0.0065	0.0050	0.0054	0.0035	0.0036	0.0021	0.0019	0.0010	0.0009	0.0000	0.0000
25	0.0029	0.0034	0.0025	0.0029	0.0018	0.0020	0.0010	0.0012	0.0005	0.0006	0.0000	0.0000
30	0.0012	0.0015	0.0011	0.0013	0.0011	0.0011	0.0010	0.0009	0.0005	0.0005	0.0000	0.0000
35	0.0006	0.0007	0.0006	0.0007	0.0005	0.0006	0.0005	0.0005	0.0003	0.0002	0.0000	0.0000

Termination with Vested Benefits

Rates vary by entry age and service for Miscellaneous plans. Rates vary by service for Safety plans.
See sample rates in tables below.

Public Agency Miscellaneous

Duration of Service	Entry Age 20		Entry Age 25		Entry Age 30		Entry Age 35		Entry Age 40	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
5	0.0381	0.0524	0.0381	0.0524	0.0358	0.0464	0.0334	0.0405	0.0301	0.0380
10	0.0265	0.0362	0.0265	0.0362	0.0254	0.0334	0.0244	0.0307	0.0197	0.0236
15	0.0180	0.0252	0.0180	0.0252	0.0166	0.0213	0.0152	0.0174	0.0119	0.0132
20	0.0141	0.0175	0.0141	0.0175	0.0110	0.0131	0.0079	0.0087	0.0000	0.0000
25	0.0084	0.0108	0.0084	0.0108	0.0064	0.0076	0.0000	0.0000	0.0000	0.0000
30	0.0047	0.0056	0.0047	0.0056	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0038	0.0041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Public Agency Safety

Duration of Service	Fire		Police		County Peace Officer	
	Male	Female	Male	Female	Male	Female
5	0.0089	0.0224	0.0156	0.0272	0.0177	0.0266
10	0.0066	0.0164	0.0113	0.0198	0.0126	0.0189
15	0.0048	0.0120	0.0083	0.0144	0.0089	0.0134
20	0.0035	0.0088	0.0060	0.0105	0.0063	0.0095
25	0.0024	0.0061	0.0042	0.0073	0.0042	0.0063
30	0.0012	0.0031	0.0021	0.0037	0.0021	0.0031
35	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

- After termination with vested benefits, a Miscellaneous member is assumed to retire at age 59 and a Safety member at age 54.
- The Police termination with vested benefits rates are also used for Public Agency Local Prosecutors, Other Safety, Local Sheriff, and School Police.

Schools

Duration of Service	Entry Age 20		Entry Age 25		Entry Age 30		Entry Age 35		Entry Age 40	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
5	0.0359	0.0501	0.0359	0.0501	0.0332	0.0402	0.0305	0.0304	0.0266	0.0272
10	0.0311	0.0417	0.0311	0.0417	0.0269	0.0341	0.0228	0.0265	0.0193	0.0233
15	0.0193	0.0264	0.0193	0.0264	0.0172	0.0220	0.0151	0.0175	0.0123	0.0142
20	0.0145	0.0185	0.0145	0.0185	0.0113	0.0141	0.0080	0.0097	0.0000	0.0000
25	0.0089	0.0123	0.0089	0.0123	0.0074	0.0093	0.0000	0.0000	0.0000	0.0000
30	0.0057	0.0064	0.0057	0.0064	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0040	0.0049	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Non-Industrial (Not Job-Related) Disability

Rates vary by age and gender for Miscellaneous plans. Rates vary by age and category for Safety plans.

Age	Miscellaneous		Fire	Police	County Peace Officer	Schools	
	Male	Female	Male and Female	Male and Female	Male and Female	Male	Female
20	0.0001	0.0000	0.0001	0.0001	0.0001	0.0000	0.0002
25	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0002
30	0.0002	0.0003	0.0001	0.0001	0.0001	0.0002	0.0002
35	0.0004	0.0007	0.0001	0.0002	0.0003	0.0005	0.0004
40	0.0009	0.0012	0.0001	0.0002	0.0006	0.0010	0.0008
45	0.0015	0.0019	0.0002	0.0003	0.0011	0.0019	0.0015
50	0.0015	0.0019	0.0004	0.0005	0.0016	0.0027	0.0021
55	0.0014	0.0013	0.0006	0.0007	0.0009	0.0024	0.0017
60	0.0012	0.0009	0.0006	0.0011	0.0005	0.0020	0.0010

- The Miscellaneous non-industrial disability rates are used for Local Prosecutors.
- The police non-industrial disability rates are also used for Other Safety, Local Sheriff, and School Police.

Industrial (Job-Related) Disability

Rates vary by age and category.

Age	Fire	Police	County Peace Officer
20	0.0001	0.0000	0.0004
25	0.0002	0.0017	0.0013
30	0.0006	0.0048	0.0025
35	0.0012	0.0079	0.0037
40	0.0023	0.0110	0.0051
45	0.0040	0.0141	0.0067
50	0.0208	0.0185	0.0092
55	0.0307	0.0479	0.0151
60	0.0438	0.0602	0.0174

- The police industrial disability rates are also used for Local Sheriff and Other Safety.
- 50% of the police industrial disability rates are used for School Police.
- 1% of the police industrial disability rates are used for Local Prosecutors.
- Normally, rates are zero for Miscellaneous plans unless the agency has specifically contracted for industrial disability benefits. If so, each Miscellaneous non-industrial disability rate will be split into two components: 50% will become the non-industrial disability rate and 50% will become the industrial disability rate.

Service Retirement

Retirement rates vary by age, service, and formula, except for the Safety Half Pay at 55 and 2% at 55 formulas, where retirement rates vary by age only.

Public Agency Miscellaneous 1.5% at 65

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.008	0.011	0.013	0.015	0.017	0.019
51	0.007	0.010	0.012	0.013	0.015	0.017
52	0.010	0.014	0.017	0.019	0.021	0.024
53	0.008	0.012	0.015	0.017	0.019	0.022
54	0.012	0.016	0.019	0.022	0.025	0.028
55	0.018	0.025	0.031	0.035	0.038	0.043
56	0.015	0.021	0.025	0.029	0.032	0.036
57	0.020	0.028	0.033	0.038	0.043	0.048
58	0.024	0.033	0.040	0.046	0.052	0.058
59	0.028	0.039	0.048	0.054	0.060	0.067
60	0.049	0.069	0.083	0.094	0.105	0.118
61	0.062	0.087	0.106	0.120	0.133	0.150
62	0.104	0.146	0.177	0.200	0.223	0.251
63	0.099	0.139	0.169	0.191	0.213	0.239
64	0.097	0.136	0.165	0.186	0.209	0.233
65	0.140	0.197	0.240	0.271	0.302	0.339
66	0.092	0.130	0.157	0.177	0.198	0.222
67	0.129	0.181	0.220	0.249	0.277	0.311
68	0.092	0.129	0.156	0.177	0.197	0.221
69	0.092	0.130	0.158	0.178	0.199	0.224
70	0.103	0.144	0.175	0.198	0.221	0.248

Public Agency Miscellaneous 2% at 60

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.010	0.011	0.014	0.014	0.017	0.017
51	0.017	0.013	0.014	0.010	0.010	0.010
52	0.014	0.014	0.018	0.015	0.016	0.016
53	0.015	0.012	0.013	0.010	0.011	0.011
54	0.006	0.010	0.017	0.016	0.018	0.018
55	0.012	0.016	0.024	0.032	0.036	0.036
56	0.010	0.014	0.023	0.030	0.034	0.034
57	0.006	0.018	0.030	0.040	0.044	0.044
58	0.022	0.023	0.033	0.042	0.046	0.046
59	0.039	0.033	0.040	0.047	0.050	0.050
60	0.063	0.069	0.074	0.090	0.137	0.116
61	0.044	0.058	0.066	0.083	0.131	0.113
62	0.084	0.107	0.121	0.153	0.238	0.205
63	0.173	0.166	0.165	0.191	0.283	0.235
64	0.120	0.145	0.164	0.147	0.160	0.172
65	0.138	0.160	0.214	0.216	0.237	0.283
66	0.198	0.228	0.249	0.216	0.228	0.239
67	0.207	0.242	0.230	0.233	0.233	0.233
68	0.201	0.234	0.225	0.231	0.231	0.231
69	0.152	0.173	0.164	0.166	0.166	0.166
70	0.200	0.200	0.200	0.200	0.200	0.200

Service Retirement

Public Agency Miscellaneous 2% at 55

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.014	0.014	0.017	0.021	0.023	0.024
51	0.013	0.017	0.017	0.018	0.018	0.019
52	0.013	0.018	0.018	0.020	0.020	0.021
53	0.013	0.019	0.021	0.024	0.025	0.026
54	0.017	0.025	0.028	0.032	0.033	0.035
55	0.045	0.042	0.053	0.086	0.098	0.123
56	0.018	0.036	0.056	0.086	0.102	0.119
57	0.041	0.046	0.056	0.076	0.094	0.120
58	0.052	0.044	0.048	0.074	0.106	0.123
59	0.043	0.058	0.073	0.092	0.105	0.126
60	0.059	0.064	0.083	0.115	0.154	0.170
61	0.087	0.074	0.087	0.107	0.147	0.168
62	0.115	0.123	0.151	0.180	0.227	0.237
63	0.116	0.127	0.164	0.202	0.252	0.261
64	0.084	0.138	0.153	0.190	0.227	0.228
65	0.167	0.187	0.210	0.262	0.288	0.291
66	0.187	0.258	0.280	0.308	0.318	0.319
67	0.195	0.235	0.244	0.277	0.269	0.280
68	0.228	0.248	0.250	0.241	0.245	0.245
69	0.188	0.201	0.209	0.219	0.231	0.231
70	0.229	0.229	0.229	0.229	0.229	0.229

Public Agency Miscellaneous 2.5% at 55

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.014	0.017	0.027	0.035	0.046	0.050
51	0.019	0.021	0.025	0.030	0.038	0.040
52	0.018	0.020	0.026	0.034	0.038	0.037
53	0.013	0.021	0.031	0.045	0.052	0.053
54	0.025	0.025	0.030	0.046	0.057	0.068
55	0.029	0.042	0.064	0.109	0.150	0.225
56	0.036	0.047	0.068	0.106	0.134	0.194
57	0.051	0.047	0.060	0.092	0.116	0.166
58	0.035	0.046	0.062	0.093	0.119	0.170
59	0.029	0.053	0.072	0.112	0.139	0.165
60	0.039	0.069	0.094	0.157	0.177	0.221
61	0.080	0.077	0.086	0.140	0.167	0.205
62	0.086	0.131	0.149	0.220	0.244	0.284
63	0.135	0.135	0.147	0.214	0.222	0.262
64	0.114	0.128	0.158	0.177	0.233	0.229
65	0.112	0.174	0.222	0.209	0.268	0.273
66	0.235	0.254	0.297	0.289	0.321	0.337
67	0.237	0.240	0.267	0.249	0.267	0.277
68	0.258	0.271	0.275	0.207	0.210	0.212
69	0.117	0.208	0.266	0.219	0.250	0.270
70	0.229	0.229	0.229	0.229	0.229	0.229

Service Retirement

Public Agency Miscellaneous 2.7% at 55

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.011	0.016	0.022	0.033	0.034	0.038
51	0.018	0.019	0.023	0.032	0.031	0.031
52	0.019	0.020	0.026	0.035	0.034	0.037
53	0.020	0.020	0.025	0.043	0.048	0.053
54	0.018	0.030	0.040	0.052	0.053	0.070
55	0.045	0.058	0.082	0.138	0.208	0.278
56	0.057	0.062	0.080	0.121	0.178	0.222
57	0.045	0.052	0.071	0.106	0.147	0.182
58	0.074	0.060	0.074	0.118	0.163	0.182
59	0.058	0.067	0.086	0.123	0.158	0.187
60	0.087	0.084	0.096	0.142	0.165	0.198
61	0.073	0.084	0.101	0.138	0.173	0.218
62	0.130	0.133	0.146	0.187	0.214	0.249
63	0.122	0.140	0.160	0.204	0.209	0.243
64	0.104	0.124	0.154	0.202	0.214	0.230
65	0.182	0.201	0.242	0.264	0.293	0.293
66	0.272	0.249	0.273	0.285	0.312	0.312
67	0.182	0.217	0.254	0.249	0.264	0.264
68	0.223	0.197	0.218	0.242	0.273	0.273
69	0.217	0.217	0.217	0.217	0.217	0.217
70	0.227	0.227	0.227	0.227	0.227	0.227

Public Agency Miscellaneous 3% at 60

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.015	0.020	0.025	0.039	0.040	0.044
51	0.041	0.034	0.032	0.041	0.036	0.037
52	0.024	0.020	0.022	0.039	0.040	0.041
53	0.018	0.024	0.032	0.047	0.048	0.057
54	0.033	0.033	0.035	0.051	0.049	0.052
55	0.137	0.043	0.051	0.065	0.076	0.108
56	0.173	0.038	0.054	0.075	0.085	0.117
57	0.019	0.035	0.059	0.088	0.111	0.134
58	0.011	0.040	0.070	0.105	0.133	0.162
59	0.194	0.056	0.064	0.081	0.113	0.163
60	0.081	0.085	0.133	0.215	0.280	0.333
61	0.080	0.090	0.134	0.170	0.223	0.292
62	0.137	0.153	0.201	0.250	0.278	0.288
63	0.128	0.140	0.183	0.227	0.251	0.260
64	0.174	0.147	0.173	0.224	0.239	0.264
65	0.152	0.201	0.262	0.299	0.323	0.323
66	0.272	0.273	0.317	0.355	0.380	0.380
67	0.218	0.237	0.268	0.274	0.284	0.284
68	0.200	0.228	0.269	0.285	0.299	0.299
69	0.250	0.250	0.250	0.250	0.250	0.250
70	0.245	0.245	0.245	0.245	0.245	0.245

Service Retirement

Public Agency Miscellaneous 2% at 62						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.000	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000	0.000
52	0.005	0.008	0.012	0.015	0.019	0.031
53	0.007	0.011	0.014	0.018	0.021	0.032
54	0.007	0.011	0.015	0.019	0.023	0.034
55	0.010	0.019	0.028	0.036	0.061	0.096
56	0.014	0.026	0.038	0.050	0.075	0.108
57	0.018	0.029	0.039	0.050	0.074	0.107
58	0.023	0.035	0.048	0.060	0.073	0.099
59	0.025	0.038	0.051	0.065	0.092	0.128
60	0.031	0.051	0.071	0.091	0.111	0.138
61	0.038	0.058	0.079	0.100	0.121	0.167
62	0.044	0.074	0.104	0.134	0.164	0.214
63	0.077	0.105	0.134	0.163	0.192	0.237
64	0.072	0.101	0.129	0.158	0.187	0.242
65	0.108	0.141	0.173	0.206	0.239	0.300
66	0.132	0.172	0.212	0.252	0.292	0.366
67	0.132	0.172	0.212	0.252	0.292	0.366
68	0.120	0.156	0.193	0.229	0.265	0.333
69	0.120	0.156	0.193	0.229	0.265	0.333
70	0.120	0.156	0.193	0.229	0.265	0.333

Service Retirement

Public Agency Fire Half Pay at 55 and 2% at 55			
Age	Rate	Age	Rate
50	0.016	56	0.111
51	0.000	57	0.000
52	0.034	58	0.095
53	0.020	59	0.044
54	0.041	60	1.000
55	0.075		

Public Agency Police Half Pay at 55 and 2% at 55			
Age	Rate	Age	Rate
50	0.026	56	0.069
51	0.000	57	0.051
52	0.016	58	0.072
53	0.027	59	0.070
54	0.010	60	0.300
55	0.167		

Service Retirement

Public Agency Police 2% at 50						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.018	0.077	0.056	0.046	0.043	0.046
51	0.022	0.087	0.060	0.048	0.044	0.047
52	0.020	0.102	0.081	0.071	0.069	0.075
53	0.016	0.072	0.053	0.045	0.042	0.046
54	0.006	0.071	0.071	0.069	0.072	0.080
55	0.009	0.040	0.099	0.157	0.186	0.186
56	0.020	0.051	0.108	0.165	0.194	0.194
57	0.036	0.072	0.106	0.139	0.156	0.156
58	0.001	0.046	0.089	0.130	0.152	0.152
59	0.066	0.094	0.119	0.143	0.155	0.155
60	0.177	0.177	0.177	0.177	0.177	0.177
61	0.134	0.134	0.134	0.134	0.134	0.134
62	0.184	0.184	0.184	0.184	0.184	0.184
63	0.250	0.250	0.250	0.250	0.250	0.250
64	0.177	0.177	0.177	0.177	0.177	0.177
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to County Peace officers, Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 2% at 50						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.054	0.054	0.056	0.080	0.064	0.066
51	0.020	0.020	0.021	0.030	0.024	0.024
52	0.037	0.037	0.038	0.054	0.043	0.045
53	0.051	0.051	0.053	0.076	0.061	0.063
54	0.082	0.082	0.085	0.121	0.097	0.100
55	0.139	0.139	0.139	0.139	0.139	0.139
56	0.129	0.129	0.129	0.129	0.129	0.129
57	0.085	0.085	0.085	0.085	0.085	0.085
58	0.119	0.119	0.119	0.119	0.119	0.119
59	0.167	0.167	0.167	0.167	0.167	0.167
60	0.152	0.152	0.152	0.152	0.152	0.152
61	0.179	0.179	0.179	0.179	0.179	0.179
62	0.179	0.179	0.179	0.179	0.179	0.179
63	0.179	0.179	0.179	0.179	0.179	0.179
64	0.179	0.179	0.179	0.179	0.179	0.179
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 3% at 55						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.019	0.053	0.045	0.054	0.057	0.061
51	0.002	0.017	0.028	0.044	0.053	0.060
52	0.002	0.031	0.037	0.051	0.059	0.066
53	0.026	0.049	0.049	0.080	0.099	0.114
54	0.019	0.034	0.047	0.091	0.121	0.142
55	0.006	0.115	0.141	0.199	0.231	0.259
56	0.017	0.188	0.121	0.173	0.199	0.199
57	0.008	0.137	0.093	0.136	0.157	0.157
58	0.017	0.126	0.105	0.164	0.194	0.194
59	0.026	0.146	0.110	0.167	0.195	0.195
60	0.155	0.155	0.155	0.155	0.155	0.155
61	0.210	0.210	0.210	0.210	0.210	0.210
62	0.262	0.262	0.262	0.262	0.262	0.262
63	0.172	0.172	0.172	0.172	0.172	0.172
64	0.227	0.227	0.227	0.227	0.227	0.227
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to County Peace officers, Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 3% at 55						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.003	0.006	0.013	0.019	0.025	0.028
51	0.004	0.008	0.017	0.026	0.034	0.038
52	0.005	0.011	0.022	0.033	0.044	0.049
53	0.005	0.034	0.024	0.038	0.069	0.138
54	0.007	0.047	0.032	0.051	0.094	0.187
55	0.010	0.067	0.046	0.073	0.134	0.266
56	0.010	0.063	0.044	0.069	0.127	0.253
57	0.135	0.100	0.148	0.196	0.220	0.220
58	0.083	0.062	0.091	0.120	0.135	0.135
59	0.137	0.053	0.084	0.146	0.177	0.177
60	0.162	0.063	0.099	0.172	0.208	0.208
61	0.598	0.231	0.231	0.231	0.231	0.231
62	0.621	0.240	0.240	0.240	0.240	0.240
63	0.236	0.236	0.236	0.236	0.236	0.236
64	0.236	0.236	0.236	0.236	0.236	0.236
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 3% at 50						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.124	0.103	0.113	0.143	0.244	0.376
51	0.060	0.081	0.087	0.125	0.207	0.294
52	0.016	0.055	0.111	0.148	0.192	0.235
53	0.072	0.074	0.098	0.142	0.189	0.237
54	0.018	0.049	0.105	0.123	0.187	0.271
55	0.069	0.074	0.081	0.113	0.209	0.305
56	0.064	0.108	0.113	0.125	0.190	0.288
57	0.056	0.109	0.160	0.182	0.210	0.210
58	0.108	0.129	0.173	0.189	0.214	0.214
59	0.093	0.144	0.204	0.229	0.262	0.262
60	0.343	0.180	0.159	0.188	0.247	0.247
61	0.221	0.221	0.221	0.221	0.221	0.221
62	0.213	0.213	0.213	0.213	0.213	0.213
63	0.233	0.233	0.233	0.233	0.233	0.233
64	0.234	0.234	0.234	0.234	0.234	0.234
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to County Peace officers, Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 3% at 50						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.095	0.048	0.053	0.093	0.134	0.175
51	0.016	0.032	0.053	0.085	0.117	0.149
52	0.013	0.032	0.054	0.087	0.120	0.154
53	0.085	0.044	0.049	0.089	0.129	0.170
54	0.038	0.065	0.074	0.105	0.136	0.167
55	0.042	0.043	0.049	0.085	0.132	0.215
56	0.133	0.103	0.075	0.113	0.151	0.209
57	0.062	0.048	0.060	0.124	0.172	0.213
58	0.124	0.097	0.092	0.153	0.194	0.227
59	0.092	0.071	0.078	0.144	0.192	0.233
60	0.056	0.044	0.061	0.131	0.186	0.233
61	0.282	0.219	0.158	0.198	0.233	0.260
62	0.292	0.227	0.164	0.205	0.241	0.269
63	0.196	0.196	0.196	0.196	0.196	0.196
64	0.197	0.197	0.197	0.197	0.197	0.197
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2% at 57						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.040	0.040	0.040	0.040	0.040	0.080
51	0.028	0.028	0.028	0.028	0.040	0.066
52	0.028	0.028	0.028	0.028	0.043	0.061
53	0.028	0.028	0.028	0.028	0.057	0.086
54	0.028	0.028	0.028	0.032	0.069	0.110
55	0.050	0.050	0.050	0.067	0.099	0.179
56	0.046	0.046	0.046	0.062	0.090	0.160
57	0.054	0.054	0.054	0.072	0.106	0.191
58	0.060	0.060	0.060	0.066	0.103	0.171
59	0.060	0.060	0.060	0.069	0.105	0.171
60	0.113	0.113	0.113	0.113	0.113	0.171
61	0.108	0.108	0.108	0.108	0.108	0.128
62	0.113	0.113	0.113	0.113	0.113	0.159
63	0.113	0.113	0.113	0.113	0.113	0.159
64	0.113	0.113	0.113	0.113	0.113	0.239
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to County Peace officers, Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 2% at 57						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.005	0.005	0.005	0.005	0.008	0.012
51	0.006	0.006	0.006	0.006	0.009	0.013
52	0.012	0.012	0.012	0.012	0.019	0.028
53	0.033	0.033	0.033	0.033	0.050	0.075
54	0.045	0.045	0.045	0.045	0.069	0.103
55	0.061	0.061	0.061	0.061	0.094	0.140
56	0.055	0.055	0.055	0.055	0.084	0.126
57	0.081	0.081	0.081	0.081	0.125	0.187
58	0.059	0.059	0.059	0.059	0.091	0.137
59	0.055	0.055	0.055	0.055	0.084	0.126
60	0.085	0.085	0.085	0.085	0.131	0.196
61	0.085	0.085	0.085	0.085	0.131	0.196
62	0.085	0.085	0.085	0.085	0.131	0.196
63	0.085	0.085	0.085	0.085	0.131	0.196
64	0.085	0.085	0.085	0.085	0.131	0.196
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2.5% at 57						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.050	0.050	0.050	0.050	0.050	0.100
51	0.038	0.038	0.038	0.038	0.055	0.089
52	0.038	0.038	0.038	0.038	0.058	0.082
53	0.036	0.036	0.036	0.036	0.073	0.111
54	0.036	0.036	0.036	0.041	0.088	0.142
55	0.061	0.061	0.061	0.082	0.120	0.217
56	0.056	0.056	0.056	0.075	0.110	0.194
57	0.060	0.060	0.060	0.080	0.118	0.213
58	0.072	0.072	0.072	0.079	0.124	0.205
59	0.072	0.072	0.072	0.083	0.126	0.205
60	0.135	0.135	0.135	0.135	0.135	0.205
61	0.130	0.130	0.130	0.130	0.130	0.153
62	0.135	0.135	0.135	0.135	0.135	0.191
63	0.135	0.135	0.135	0.135	0.135	0.191
64	0.135	0.135	0.135	0.135	0.135	0.287
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to County Peace officers, Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 2.5% at 57						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.007	0.007	0.007	0.007	0.010	0.015
51	0.008	0.008	0.008	0.008	0.012	0.018
52	0.016	0.016	0.016	0.016	0.025	0.038
53	0.042	0.042	0.042	0.042	0.064	0.096
54	0.057	0.057	0.057	0.057	0.088	0.132
55	0.074	0.074	0.074	0.074	0.114	0.170
56	0.066	0.066	0.066	0.066	0.102	0.153
57	0.090	0.090	0.090	0.090	0.139	0.208
58	0.071	0.071	0.071	0.071	0.110	0.164
59	0.066	0.066	0.066	0.066	0.101	0.151
60	0.102	0.102	0.102	0.102	0.157	0.235
61	0.102	0.102	0.102	0.102	0.157	0.236
62	0.102	0.102	0.102	0.102	0.157	0.236
63	0.102	0.102	0.102	0.102	0.157	0.236
64	0.102	0.102	0.102	0.102	0.157	0.236
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2.7% at 57						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.050	0.050	0.050	0.050	0.050	0.100
51	0.040	0.040	0.040	0.040	0.058	0.094
52	0.038	0.038	0.038	0.038	0.058	0.083
53	0.038	0.038	0.038	0.038	0.077	0.117
54	0.038	0.038	0.038	0.044	0.093	0.150
55	0.068	0.068	0.068	0.091	0.134	0.242
56	0.063	0.063	0.063	0.084	0.123	0.217
57	0.060	0.060	0.060	0.080	0.118	0.213
58	0.080	0.080	0.080	0.088	0.138	0.228
59	0.080	0.080	0.080	0.092	0.140	0.228
60	0.150	0.150	0.150	0.150	0.150	0.228
61	0.144	0.144	0.144	0.144	0.144	0.170
62	0.150	0.150	0.150	0.150	0.150	0.213
63	0.150	0.150	0.150	0.150	0.150	0.213
64	0.150	0.150	0.150	0.150	0.150	0.319
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to County Peace officers, Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 2.7% at 57						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.007	0.007	0.007	0.007	0.010	0.015
51	0.008	0.008	0.008	0.008	0.013	0.019
52	0.016	0.016	0.016	0.016	0.025	0.038
53	0.044	0.044	0.044	0.044	0.068	0.102
54	0.061	0.061	0.061	0.061	0.093	0.140
55	0.083	0.083	0.083	0.083	0.127	0.190
56	0.074	0.074	0.074	0.074	0.114	0.171
57	0.090	0.090	0.090	0.090	0.139	0.208
58	0.079	0.079	0.079	0.079	0.122	0.182
59	0.073	0.073	0.073	0.073	0.112	0.168
60	0.114	0.114	0.114	0.114	0.175	0.262
61	0.114	0.114	0.114	0.114	0.175	0.262
62	0.114	0.114	0.114	0.114	0.175	0.262
63	0.114	0.114	0.114	0.114	0.175	0.262
64	0.114	0.114	0.114	0.114	0.175	0.262
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Schools 2% at 55						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.003	0.004	0.006	0.007	0.010	0.010
51	0.004	0.005	0.007	0.008	0.011	0.011
52	0.005	0.007	0.008	0.009	0.012	0.012
53	0.007	0.008	0.010	0.012	0.015	0.015
54	0.006	0.009	0.012	0.015	0.020	0.021
55	0.011	0.023	0.034	0.057	0.070	0.090
56	0.012	0.027	0.036	0.056	0.073	0.095
57	0.016	0.027	0.036	0.055	0.068	0.087
58	0.019	0.030	0.040	0.062	0.078	0.103
59	0.023	0.034	0.046	0.070	0.085	0.109
60	0.022	0.043	0.062	0.095	0.113	0.141
61	0.030	0.051	0.071	0.103	0.124	0.154
62	0.065	0.098	0.128	0.188	0.216	0.248
63	0.075	0.112	0.144	0.197	0.222	0.268
64	0.091	0.116	0.138	0.180	0.196	0.231
65	0.163	0.164	0.197	0.232	0.250	0.271
66	0.208	0.204	0.243	0.282	0.301	0.315
67	0.189	0.185	0.221	0.257	0.274	0.287
68	0.127	0.158	0.200	0.227	0.241	0.244
69	0.168	0.162	0.189	0.217	0.229	0.238
70	0.191	0.190	0.237	0.250	0.246	0.254

Schools 2% at 62						
Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.000	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000	0.000
52	0.004	0.007	0.010	0.011	0.013	0.015
53	0.004	0.008	0.010	0.013	0.014	0.016
54	0.005	0.011	0.015	0.018	0.020	0.022
55	0.014	0.027	0.038	0.045	0.050	0.056
56	0.013	0.026	0.037	0.043	0.048	0.055
57	0.013	0.027	0.038	0.045	0.050	0.055
58	0.017	0.034	0.047	0.056	0.062	0.069
59	0.019	0.037	0.052	0.062	0.068	0.076
60	0.026	0.053	0.074	0.087	0.097	0.108
61	0.030	0.058	0.081	0.095	0.106	0.119
62	0.053	0.105	0.147	0.174	0.194	0.217
63	0.054	0.107	0.151	0.178	0.198	0.222
64	0.053	0.105	0.147	0.174	0.194	0.216
65	0.072	0.142	0.199	0.235	0.262	0.293
66	0.077	0.152	0.213	0.252	0.281	0.314
67	0.070	0.139	0.194	0.229	0.255	0.286
68	0.063	0.124	0.173	0.205	0.228	0.255
69	0.066	0.130	0.183	0.216	0.241	0.270
70	0.071	0.140	0.196	0.231	0.258	0.289

Miscellaneous

Internal Revenue Code Section 415

The limitations on benefits imposed by Internal Revenue Code Section 415 are taken into account in this valuation. Each year the impact of any changes in this limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base. This results in lower contributions for those employers contributing to the Replacement Benefit Fund and protects CalPERS from prefunding expected benefits in excess of limits imposed by federal tax law. The Section 415(b) dollar limit for the 2022 calendar year is \$245,000.

Internal Revenue Code Section 401(a)(17)

The limitations on compensation imposed by Internal Revenue Code Section 401(a)(17) are taken into account in this valuation. Each year, the impact of any changes in the compensation limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base. The compensation limit for classic members for the 2022 calendar year is \$305,000.

Appendix B

Principal Plan Provisions

The following is a description of the principal plan provisions used in calculating costs and liabilities. We have indicated whether a plan provision is standard or optional. Standard benefits are applicable to all members while optional benefits vary among employers. Optional benefits that apply to a single period of time, such as Golden Handshakes, have not been included. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the Public Employees' Retirement Law and the California Public Employees' Pension Reform Act of 2013. The law itself governs in all situations.

Service Retirement

Eligibility

A classic CalPERS member or PEPRA Safety member becomes eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other retirement systems with which CalPERS has reciprocity agreements). For employees hired into a plan with the 1.5% at age 65 formula, eligibility for service retirement is age 55 with at least 5 years of service. PEPRA Miscellaneous members become eligible for service retirement upon attainment of age 52 with at least 5 years of service.

Benefit

The service retirement benefit is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation*.

- The *benefit factor* depends on the benefit formula specified in the agency's contract. The table below shows the factors for each of the available formulas. Factors vary by the member's age at retirement. Listed are the factors for retirement at whole year ages:

Miscellaneous Plan Formulas

Retirement Age	1.5% at 65	2% at 60	2% at 55	2.5% at 55	2.7% at 55	3% at 60	PEPRA 2% at 62
50	0.5000%	1.092%	1.426%	2.000%	2.000%	2.000%	N/A
51	0.5667%	1.156%	1.522%	2.100%	2.140%	2.100%	N/A
52	0.6334%	1.224%	1.628%	2.200%	2.280%	2.200%	1.000%
53	0.7000%	1.296%	1.742%	2.300%	2.420%	2.300%	1.100%
54	0.7667%	1.376%	1.866%	2.400%	2.560%	2.400%	1.200%
55	0.8334%	1.460%	2.000%	2.500%	2.700%	2.500%	1.300%
56	0.9000%	1.552%	2.052%	2.500%	2.700%	2.600%	1.400%
57	0.9667%	1.650%	2.104%	2.500%	2.700%	2.700%	1.500%
58	1.0334%	1.758%	2.156%	2.500%	2.700%	2.800%	1.600%
59	1.1000%	1.874%	2.210%	2.500%	2.700%	2.900%	1.700%
60	1.1667%	2.000%	2.262%	2.500%	2.700%	3.000%	1.800%
61	1.2334%	2.134%	2.314%	2.500%	2.700%	3.000%	1.900%
62	1.3000%	2.272%	2.366%	2.500%	2.700%	3.000%	2.000%
63	1.3667%	2.418%	2.418%	2.500%	2.700%	3.000%	2.100%
64	1.4334%	2.418%	2.418%	2.500%	2.700%	3.000%	2.200%
65	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.300%
66	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.400%
67 & up	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.500%

Safety Plan Formulas

Retirement Age	Half Pay at 55*	2% at 55	2% at 50	3% at 55	3% at 50
50	1.783%	1.426%	2.000%	2.400%	3.000%
51	1.903%	1.522%	2.140%	2.520%	3.000%
52	2.035%	1.628%	2.280%	2.640%	3.000%
53	2.178%	1.742%	2.420%	2.760%	3.000%
54	2.333%	1.866%	2.560%	2.880%	3.000%
55 & Up	2.500%	2.000%	2.700%	3.000%	3.000%

* For this formula, the benefit factor also varies by entry age. The factors shown are for members with an entry age of 35 or greater. If entry age is less than 35, then the age 55 benefit factor is 50% divided by the difference between age 55 and entry age. The benefit factor for ages prior to age 55 is the same proportion of the age 55 benefit factor as in the above table.

PEPRA Safety Plan Formulas

Retirement Age	2% at 57	2.5% at 57	2.7% at 57
50	1.426%	2.000%	2.000%
51	1.508%	2.071%	2.100%
52	1.590%	2.143%	2.200%
53	1.672%	2.214%	2.300%
54	1.754%	2.286%	2.400%
55	1.836%	2.357%	2.500%
56	1.918%	2.429%	2.600%
57 & Up	2.000%	2.500%	2.700%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. An agency may contract for an optional benefit where any unused sick leave accumulated at the time of retirement will be converted to credited service at a rate of 0.004 years of service for each day of sick leave.
- The *final compensation* is the monthly average of the member's highest 36 or 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). The standard benefit is 36 months. Employers had the option of providing a final compensation equal to the highest 12 consecutive months for classic plans only. Final compensation must be defined by the highest 36 consecutive months' pay under the 1.5% at 65 formula. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security contribution and benefit base. For employees that participate in Social Security this cap is \$134,974 for 2022 and for those employees that do not participate in Social Security the cap for 2022 is \$161,969. Adjustments to the caps are permitted annually based on changes to the CPI for all urban consumers.
- PEPRA benefit formulas have no Social Security offsets and Social Security coverage is optional. For Classic benefit formulas, employees must be covered by Social Security with the 1.5% at 65 formula. Social Security is optional for all other Classic benefit formulas. For employees covered by Social Security, the modified formula is the standard benefit. Under this type of formula, the final compensation is offset by \$133.33 (or by one third if the final compensation is less than \$400). Employers may contract for the full benefit with Social Security that will eliminate the offset applicable to the final compensation. For employees not covered by Social Security, the full

benefit is paid with no offsets. Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is \$317 if members are not covered by Social Security or \$513 if members are covered by Social Security.

- The Miscellaneous and PEPRASafety service retirement benefit is not capped. The Classic Safety service retirement benefit is capped at 90% of final compensation.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, **and** has earned at least 5 years of credited service (total service across all CalPERS employers, and with certain other retirement systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits

The CalPERS classic members and PEPRASafety members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for deferred status and upon attainment of age 50 (55 for employees hired into a 1.5% at 65 plan). PEPRAMiscellaneous members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for deferred status and upon attainment of age 52.

Benefit

The vested deferred retirement benefit is the same as the service retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes *disabled* and has at least 5 years of credited service (total service across all CalPERS employers, and with certain other retirement systems with which CalPERS has reciprocity agreements). There is no special age requirement. *Disabled* means the member is unable to perform his or her job because of an illness or injury, which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively employed by any CalPERS employer at the time of disability in order to be eligible for this benefit.

Standard Benefit

The standard Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.8% of final compensation, multiplied by *service*, which is determined as follows:

- *Service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or
- *Service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33⅓% of final compensation.

Improved Benefit

Employers have the option of providing the improved Non-Industrial Disability Retirement benefit. This benefit provides a monthly allowance equal to 30% of final compensation for the first 5 years of service, plus 1% for each additional year of service to a maximum of 50% of final compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job Related) Disability Retirement

This is a standard benefit for Safety members except those described in Section 20423.6. For excluded Safety members and all Miscellaneous members, employers have the option of providing this benefit. An employer may choose to provide the increased benefit option or the improved benefit option.

Eligibility

An employee is eligible for Industrial Disability Retirement if he or she becomes disabled while working, where disabled means the member is unable to perform the duties of the job because of a work-related illness or injury, which is expected to be permanent or to last indefinitely. A CalPERS member who has left active employment within this group is not eligible for this benefit, except to the extent described below.

Standard Benefit

The standard Industrial Disability Retirement benefit is a monthly allowance equal to 50% of final compensation.

Increased Benefit (75% of Final Compensation)

The increased Industrial Disability Retirement benefit is a monthly allowance equal to 75% of final compensation for total disability.

Improved Benefit (50% to 90% of Final Compensation)

The improved Industrial Disability Retirement benefit is a monthly allowance equal to the Workman's Compensation Appeals Board permanent disability rate percentage (if 50% or greater, with a maximum of 90%) times the final compensation.

For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return of accumulated member contributions with respect to employment in this group. With the standard or increased benefit, a member may also choose to receive the annuitization of the accumulated member contributions.

If a member is eligible for service retirement and if the service retirement benefit is more than the industrial disability retirement benefit, the member may choose to receive the larger benefit.

Post-Retirement Death Benefit

Standard Lump Sum Payment

Upon the death of a retiree, a one-time lump sum payment of \$500 will be made to the retiree's designated survivor(s), or to the retiree's estate. The lump sum payment amount increases to \$2,000 for any death occurring on or after July 1, 2023 due to SB 1168.

Optional Lump Sum Payment

In lieu of the standard lump sum death benefit, employers have the option of providing a lump sum death benefit of \$600, \$3,000, \$4,000 or \$5,000.

Form of Payment for Retirement Allowance

Standard Form of Payment

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

Improved Form of Payment (Post-Retirement Survivor Allowance)

Employers have the option to contract for the post-retirement survivor allowance.

For retirement allowances with respect to service subject to a modified Classic formula, 25% of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. For retirement allowances with respect to service subject to a PEPPA formula or a full or supplemental Classic formula, 50% of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. This additional benefit is referred to as post-retirement survivor allowance (PRSA) or simply as survivor continuance.

In other words, 25% or 50% of the allowance, the continuance portion, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried child(ren) until they attain age 18; or, if no eligible child(ren), to a qualifying dependent parent) for the rest of his or her lifetime. This benefit will not be discontinued in the event the spouse remarries.

The remaining 75% or 50% of the retirement allowance, which may be referred to as the option portion of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this option portion to be paid to any designated beneficiary after the retiree's death. Benefit options applicable to the option portion are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the option portion.

Pre-Retirement Death Benefits

Basic Death Benefit

This is a standard benefit.

Eligibility

An employee's beneficiary (or estate) may receive the basic death benefit if the member dies while actively employed. A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this basic death benefit.

Benefit

The basic death benefit is a lump sum in the amount of the member's accumulated contributions, where interest is credited annually at the greater of 6% or the prevailing discount rate through the date of death, plus a lump sum in the amount of one month's salary for each completed year of current service, up to a maximum of six months' salary. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

1957 Survivor Benefit

This is a standard benefit.

Eligibility

An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50 for classic and PEPRA Safety members and age 52 for PEPRA Miscellaneous members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other retirement systems with which CalPERS has reciprocity agreements). A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. An eligible survivor means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried child(ren) under age 18. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this 1957 Survivor benefit.

Benefit

The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified service retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to dependent child(ren), the benefit will be discontinued upon death or attainment of age 18, unless the child(ren) is disabled. The total amount paid will be at least equal to the basic death benefit.

Optional Settlement 2 Death Benefit

This is an optional benefit.

Eligibility

An employee's *eligible survivor* may receive the Optional Settlement 2 Death benefit if the member dies while actively employed, has attained at least age 50 for classic and PEPRSA Safety members and age 52 for PEPRSA Miscellaneous members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other retirement systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this Optional Settlement 2 Death benefit.

Benefit

The Optional Settlement 2 Death benefit is a monthly allowance equal to the service retirement benefit that the member would have received had the member retired on the date of his or her death and elected 100% to continue to the eligible survivor after the member's death. The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried child(ren) under age 18, if applicable. The total amount paid will be at least equal to the basic death benefit.

Special Death Benefit

This is a standard benefit for Safety members except those described in Section 20423.6. For excluded Safety members and all Miscellaneous members, employers have the option of providing this benefit.

Eligibility

An employee's *eligible survivor(s)* may receive the special death benefit if the member dies while actively employed and the death is job-related. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried child(ren) under age 22. An eligible survivor who chooses to receive this benefit will not receive any other death benefit.

Benefit

The special death benefit is a monthly allowance equal to 50% of final compensation and will be increased whenever the compensation paid to active employees is increased but ceasing to increase when the member would have attained age 50. The allowance is payable to the surviving spouse until death at which time the allowance is continued to any unmarried child(ren) under age 22. There is a guarantee that the total amount paid will at least equal the basic death benefit.

If the member's death is the result of an accident or injury caused by external violence or physical force incurred in the performance of the member's duty, and there are *eligible* surviving child(ren) (*eligible* means unmarried child(ren) under age 22) in addition to an eligible spouse, then an **additional monthly allowance** is paid equal to the following:

- | | |
|-----------------------------------|-----------------------------|
| • if 1 eligible child: | 12.5% of final compensation |
| • if 2 eligible children: | 20.0% of final compensation |
| • if 3 or more eligible children: | 25.0% of final compensation |

Alternate Death Benefit for Local Fire Members

This is an optional benefit available only to local fire members.

Eligibility

An employee's *eligible survivor(s)* may receive the alternate death benefit in lieu of the basic death benefit or the 1957 Survivor benefit if the member dies while actively employed and has at least 20 years of total CalPERS service. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried child(ren) under age 18.

Benefit

The Alternate Death benefit is a monthly allowance equal to the service retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2. (A retiree who elects Optional Settlement 2 receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) If the member has not yet attained age 50, the benefit is equal to that which would be payable if the member had retired at age 50, based on service credited at the time of death. The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried child(ren) under age 18, if applicable. The total amount paid will be at least equal to the basic death benefit.

Cost-of-Living Adjustments (COLA)

Standard Benefit

Retirement and survivor allowances are adjusted each year in May for cost of living, beginning the second calendar year after the year of retirement. The standard cost-of-living adjustment (COLA) is 2%. Annual adjustments are calculated by first determining the lesser of 1) 2% compounded from the end of the year of retirement or 2) actual rate of price inflation. The resulting increase is divided by the total increase provided in prior years. For any given year, the COLA adjustment may be less than 2% (when the rate of price inflation is low), may be greater than the rate of price inflation (when the rate of price inflation is low after several years of high price inflation) or may even be greater than 2% (when price inflation is high after several years of low price inflation).

Improved Benefit

Employers have the option of providing a COLA of 3%, 4%, or 5%, determined in the same manner as described above for the standard 2% COLA. An improved COLA is not available with the 1.5% at 65 formula.

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against price inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 80% of the initial allowance at retirement adjusted for price inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan.

Employee Contributions

Each employee contributes toward his or her retirement based upon the retirement formula. The standard employee contribution is as described below.

- The percent contributed below the monthly compensation breakpoint is 0%.
- The monthly compensation breakpoint is \$0 for full and supplemental formula members and \$133.33 for employees covered by the modified formula.
- The percent contributed above the monthly compensation breakpoint depends upon the benefit formula, as shown in the table below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at 65	2%
Miscellaneous, 2% at 60	7%
Miscellaneous, 2% at 55	7%
Miscellaneous, 2.5% at 55	8%
Miscellaneous, 2.7% at 55	8%
Miscellaneous, 3% at 60	8%
Miscellaneous, 2% at 62	50% of the Total Normal Cost
Miscellaneous, 1.5% at 65	50% of the Total Normal Cost
Safety, Half Pay at 55	Varies by entry age
Safety, 2% at 55	7%
Safety, 2% at 50	9%
Safety, 3% at 55	9%
Safety, 3% at 50	9%
Safety, 2% at 57	50% of the Total Normal Cost
Safety, 2.5% at 57	50% of the Total Normal Cost
Safety, 2.7% at 57	50% of the Total Normal Cost

The employer may choose to “pick-up” these contributions for classic members (Employer Paid Member Contributions or EPMC). EPMC is prohibited for new PEPRA members.

An employer may also include Employee Cost Sharing in the contract, where employees agree to share the cost of the employer contribution. These contributions are paid in addition to the member contribution.

Auxiliary organizations of the CSU system may elect reduced contribution rates, in which case the offset is \$317 and the contribution rate is 6% if members are not covered by Social Security. If members are covered by Social Security, the offset is \$513 and the contribution rate is 5%.

Refund of Employee Contributions

If the member’s service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited with 6% interest compounded annually.

1959 Survivor Benefit

This is a pre-retirement death benefit available only to members not covered by Social Security. Any agency joining CalPERS subsequent to 1993 is required to provide this benefit if the members are not covered by Social Security. The benefit is optional for agencies joining CalPERS prior to 1994. Levels 1, 2, and 3 are now closed. Any new agency or any agency wishing to add this benefit or increase the current level may only choose the 4th or Indexed Level.

This benefit is not included in the results presented in this valuation. More information on this benefit is available on the CalPERS website.

Appendix C

Participant Data

- **Summary of Valuation Data**
- **Active Members**
- **Transferred and Separated Members**
- **Retired Members and Beneficiaries**

Summary of Valuation Data

	June 30, 2021	June 30, 2022
1. Active Members		
a) Counts	119	107
b) Average Attained Age	45.11	45.61
c) Average Entry Age to Rate Plan	37.18	37.29
d) Average Years of Credited Service	7.64	8.02
e) Average Annual Covered Pay	\$100,589	\$103,684
f) Annual Covered Payroll	11,970,102	11,094,190
g) Projected Annual Payroll for Contribution Year	13,004,007	12,052,439
h) Present Value of Future Payroll	112,528,084	103,821,233
2. Transferred Members		
a) Counts	101	105
b) Average Attained Age	45.97	45.39
c) Average Years of Credited Service	3.37	3.22
d) Average Annual Covered Pay	\$125,515	\$124,142
3. Separated Members		
a) Counts	91	104
b) Average Attained Age	47.14	46.99
c) Average Years of Credited Service	2.28	2.52
d) Average Annual Covered Pay	\$65,978	\$70,100
4. Retired Members and Beneficiaries		
a) Counts	255	263
b) Average Attained Age	70.53	70.90
c) Average Annual Benefits	\$25,084	\$26,193
d) Total Annual Benefits	\$6,396,442	\$6,888,871
5. Active to Retired Ratio [(1a) / (4a)]	0.47	0.41

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Average Annual Benefits represents benefit amounts payable by this plan only. Some members may have service with another agency and would therefore have a larger total benefit than would be included as part of the average shown here.

Active Members

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Active Members by Age and Service

Attained Age	Years of Service at Valuation Date						Total
	0-4	5-9	10-14	15-19	20-24	25+	
15-24	3	0	0	0	0	0	3
25-29	8	2	0	0	0	0	10
30-34	7	6	0	0	0	0	13
35-39	4	3	1	0	0	0	8
40-44	6	5	1	0	1	1	14
45-49	5	8	2	2	1	0	18
50-54	7	2	1	3	2	1	16
55-59	3	3	2	0	3	0	11
60-64	3	4	0	1	1	1	10
65 and Over	2	0	0	0	0	2	4
All Ages	48	33	7	6	8	5	107

Distribution of Average Annual Salaries by Age and Service

Attained Age	Years of Service at Valuation Date						Average Salary
	0-4	5-9	10-14	15-19	20-24	25+	
15-24	\$69,366	\$0	\$0	\$0	\$0	\$0	\$69,366
25-29	75,822	106,995	0	0	0	0	82,056
30-34	83,378	99,282	0	0	0	0	90,718
35-39	61,739	101,784	98,426	0	0	0	81,342
40-44	103,487	103,452	117,974	0	91,005	95,351	103,037
45-49	127,894	110,526	103,749	127,787	78,874	0	114,757
50-54	121,528	68,920	132,101	141,012	183,169	138,590	128,038
55-59	118,174	79,670	106,548	0	95,747	0	99,443
60-64	99,141	180,369	0	24,507	141,627	88,546	127,358
65 and Over	76,531	0	0	0	0	79,108	77,819
Average	\$95,029	\$109,540	\$109,871	\$117,186	\$120,636	\$96,140	\$103,684

Transferred and Separated Members

Distribution of Transfers to Other CalPERS Plans by Age, Service, and average Salary

Attained Age	Years of Service at Valuation Date						Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25+		
15-24	0	0	0	0	0	0	0	\$0
25-29	10	0	0	0	0	0	10	99,376
30-34	10	1	0	0	0	0	11	89,534
35-39	8	0	0	0	0	0	8	137,537
40-44	14	5	1	0	0	0	20	134,648
45-49	17	3	0	3	0	0	23	133,207
50-54	8	3	1	0	0	0	12	118,271
55-59	8	2	1	0	0	0	11	137,743
60-64	4	4	2	0	0	0	10	126,487
65 and Over	0	0	0	0	0	0	0	0
All Ages	79	18	5	3	0	0	105	\$124,142

Distribution of Separated Participants with Funds on Deposit by Age, Service, and average Salary

Attained Age	Years of Service at Valuation Date						Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25+		
15-24	0	0	0	0	0	0	0	\$0
25-29	3	0	0	0	0	0	3	75,134
30-34	4	2	0	0	0	0	6	92,753
35-39	14	2	0	0	0	0	16	69,713
40-44	19	2	0	0	0	0	21	68,781
45-49	18	1	1	0	0	0	20	67,502
50-54	19	2	1	1	0	0	23	88,812
55-59	4	1	1	0	0	0	6	55,471
60-64	4	0	0	0	0	0	4	18,125
65 and Over	4	1	0	0	0	0	5	30,127
All Ages	89	11	3	1	0	0	104	\$70,100

Retired Members and Beneficiaries

Distribution of Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0
35-39	0	0	1	0	0	0	1
40-44	0	0	0	0	0	0	0
45-49	0	0	2	0	0	0	2
50-54	2	0	1	0	0	0	3
55-59	19	0	0	0	0	0	19
60-64	28	0	4	0	0	5	37
65-69	60	2	1	0	0	2	65
70-74	47	0	0	0	0	2	49
75-79	41	1	0	0	0	3	45
80-84	22	1	0	0	0	8	31
85 and Over	9	0	0	0	0	2	11
All Ages	228	4	9	0	0	22	263

Distribution of Average Annual Disbursements to Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 30	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30-34	0	0	0	0	0	0	0
35-39	0	0	317	0	0	0	317
40-44	0	0	0	0	0	0	0
45-49	0	0	325	0	0	0	325
50-54	23,565	0	2,660	0	0	0	16,597
55-59	19,648	0	0	0	0	0	19,648
60-64	30,944	0	1,095	0	0	6,237	24,378
65-69	34,061	22,339	560	0	0	11,405	32,487
70-74	28,995	0	0	0	0	45,775	29,680
75-79	21,859	2,029	0	0	0	10,590	20,667
80-84	25,107	5,181	0	0	0	22,900	23,895
85 and Over	30,160	0	0	0	0	27,294	29,639
All Ages	\$28,129	\$12,972	\$952	\$0	\$0	\$18,868	\$26,193

Retired Members and Beneficiaries (continued)

Distribution of Retirees and Beneficiaries by Years Retired and Retirement Type*

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	46	0	1	0	0	9	56
5-9	54	0	4	0	0	4	62
10-14	59	0	0	0	0	4	63
15-19	33	1	2	0	0	1	37
20-24	24	1	1	0	0	3	29
25-29	8	1	1	0	0	0	10
30 and Over	4	1	0	0	0	1	6
All Years	228	4	9	0	0	22	263

Distribution of Average Annual Disbursements to Retirees and Beneficiaries by Years Retired and Retirement Type*

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 5 Yrs	\$27,872	\$0	\$317	\$0	\$0	\$17,224	\$25,669
5-9	32,830	0	1,361	0	0	30,653	30,659
10-14	26,791	0	0	0	0	24,042	26,616
15-19	27,633	40,957	829	0	0	1,923	25,849
20-24	23,497	3,722	560	0	0	9,235	20,549
25-29	25,063	2,029	586	0	0	0	20,312
30 and Over	25,342	5,181	0	0	0	11,684	19,706
All Years	\$28,129	\$12,972	\$952	\$0	\$0	\$18,868	\$26,193

* Counts of members do not include alternate payees receiving benefits while the member is still working. Therefore, the total counts may not match information on C-1 of the report. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Appendix D

Glossary

Glossary

Accrued Liability (Actuarial Accrued Liability)

The Present Value of Benefits minus the present value of future Normal Cost or the Present Value of Benefits allocated to prior years. Different actuarial cost methods and different assumptions will lead to different measures of Accrued Liability.

Actuarial Assumptions

Assumptions made about certain events that will affect pension costs. Assumptions generally can be broken down into two categories: demographic and economic. Demographic assumptions include such things as mortality, disability, and retirement rates. Economic assumptions include discount rate, wage inflation, and price inflation.

Actuarial Methods

Procedures employed by actuaries to achieve certain funding goals of a pension plan. Actuarial methods include an actuarial cost method, an amortization policy, and an asset valuation method.

Actuarial Valuation

The determination as of a valuation date of the Normal Cost, Accrued Liability, and related actuarial present values for a pension plan. These valuations are performed annually or when an employer is contemplating a change in plan provisions.

Actuary

A business professional proficient in mathematics and statistics who measures and manages risk. A public retirement system actuary in California performs actuarial valuations necessary to properly fund a pension plan and disclose its liabilities and must satisfy the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* with regard to pensions.

Amortization Bases

Separate payment schedules for different portions of the Unfunded Accrued Liability (UAL). The total UAL of a rate plan can be segregated by cause. The impact of such individual causes on the UAL are quantified at the time of their occurrence, resulting in new amortization bases. Each base is separately amortized and paid for over a specific period of time. Generally, in an actuarial valuation, the separate bases consist of changes in UAL due to contract amendments, actuarial assumption changes, method changes, and/or gains and losses.

Amortization Period

The number of years required to pay off an Amortization Base.

Classic Member (under PEPPRA)

A member who joined a public retirement system prior to January 1, 2013 and who is not defined as a new member under PEPPRA. (See definition of New Member below.)

Discount Rate

This is the rate used to discount the expected future benefit payments to the valuation date to determine the Projected Value of Benefits. Different discount rates will produce different measures of the Projected Value of Benefits. The discount rate for funding purposes is based on the assumed long-term rate of return on plan assets, net of investment and administrative expenses. This rate is called the “actuarial interest rate” in Section 20014 of the California Public Employees’ Retirement Law.

Entry Age

The earliest age at which a plan member begins to accrue benefits under a defined benefit pension plan. In most cases, this is the age of the member on their date of hire.

Entry Age Actuarial Cost Method

An actuarial cost method that allocates the cost of the projected benefits on an individual basis as a level percent of earnings for the individual between entry age and retirement age. This method yields a total normal cost rate, expressed as a percentage of payroll, which is designed to remain level throughout the member’s career.

Fresh Start

A Fresh Start is when multiple amortization bases are combined into a single base and amortized over a new Amortization Period.

Glossary (continued)

Funded Ratio

Defined as the Market Value of Assets divided by the Accrued Liability. Different actuarial cost methods and different assumptions will lead to different measures of Funded Ratio. The Funded Ratio with the Accrued Liability equal to the funding target is a measure of how well funded a rate plan is. A ratio greater than 100% means the rate plan has more assets than the funding target and the employer need only contribute the Normal Cost. A ratio less than 100% means assets are less than the funding target and contributions in addition to Normal Cost are required.

Funded Status

Any comparison of a particular measure of plan assets to a particular measure of pension obligations. The methods and assumptions used to calculate a funded status should be consistent with the purpose of the measurement.

Funding Target

The Accrued Liability measure upon which the funding requirements are based. The funding target is the Accrued Liability under the Entry Age Actuarial Cost Method using the assumptions adopted by the board.

GASB 68

Statement No. 68 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting and financial reporting for pensions.

New Member (under PEPPRA)

A new member includes an individual who becomes a member of a public retirement system for the first time on or after January 1, 2013, and who was not a member of another public retirement system prior to that date, and who is not subject to reciprocity with another public retirement system.

Normal Cost

The portion of the Present Value of Benefits allocated to the upcoming fiscal year for active employees. Different actuarial cost methods and different assumptions will lead to different measures of Normal Cost. The Normal Cost under the Entry Age Actuarial Cost Method, using the assumptions adopted by the board, plus the required amortization of the UAL, if any, make up the required contributions.

PEPPRA

The California Public Employees' Pension Reform Act of 2013.

Present Value of Benefits (PVB)

The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Traditional Unit Credit Actuarial Cost Method

An actuarial cost method that sets the Accrued Liability equal to the Present Value of Benefits assuming no future pay increases or service accruals. The Traditional Unit Credit Cost Method is used to measure the accrued liability on a termination basis.

Unfunded Accrued Liability (UAL)

The Accrued Liability minus the Market Value of Assets. If the UAL for a rate plan is positive, the employer is required to make contributions in excess of the Normal Cost.



**California Public Employees' Retirement System
Actuarial Office**

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July 2023

**Safety Plan of the Town of Los Gatos (CalPERS ID: 4589482285)
Annual Valuation Report as of June 30, 2022**

Dear Employer,

Attached to this letter is the June 30, 2022 actuarial valuation report for the rate plan noted above. **Provided in this report is the determination of the minimum required employer contributions for fiscal year (FY) 2024-25.** In addition, the report contains important information regarding the current financial status of the plan as well as projections and risk measures to aid in planning for the future.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the plan including the development of the current and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to the plan as of June 30, 2022.

Section 2 can be found on the CalPERS website (www.calpers.ca.gov). From the home page, go to "Forms & Publications" and select "View All". In the search box, enter "Risk Pool" and from the results list download the Safety Risk Pool Actuarial Valuation Report for June 30, 2022.

Actuarial valuations are based on assumptions regarding future plan experience including investment return and payroll growth, eligibility for the types of benefits provided, and longevity among retirees. The CalPERS Board of Administration (board) adopts these assumptions after considering the advice of CalPERS actuarial and investment teams and other professionals. Each actuarial valuation reflects all prior differences between actual and assumed experience and adjusts the contribution requirements as needed. This valuation is based on an investment return assumption of 6.8%, which was adopted by the board in November 2021. Other assumptions used in this report are those recommended in the CalPERS Experience Study and Review of Actuarial Assumptions report from November 2021.

Required Contributions

The table below shows the minimum required employer contributions for FY 2024-25 along with estimates of the required contributions for FY 2025-26. Employee contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.**

Fiscal Year	Employer Normal Cost Rate	Employer Amortization of Unfunded Accrued Liability
2024-25	29.30%	\$2,707,269
<i>Projected Results</i>		
2025-26	29.3%	\$2,911,000

The actual investment return for FY 2022-23 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 6.8%. ***To the extent the actual investment return for FY 2022-23 differs from 6.8%, the actual contribution requirements for FY 2025-26 will differ from those shown above.*** For additional details regarding the assumptions and methods used for these projections, please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section. This section also contains projected required contributions through FY 2029-30.

Changes from Previous Year's Valuations

There are no significant changes in actuarial assumptions or policies in the 2022 actuarial valuation. There may be changes specific to the plan such as contract amendments and funding changes.

Further descriptions of general changes are included in "Highlights and Executive Summary" and in Appendix A of the Section 2 report in "Actuarial Methods and Assumptions." The effects of any changes on the required contributions are included in "Reconciliation of Required Employer Contributions," also in the Section 2 report.

Questions

A CalPERS actuary is available to answer questions about this report. Other questions may be directed to the Customer Contact Center at (888)-CalPERS or (888-225-7377).

Sincerely,



SCOTT TERANDO, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS



RANDALL DZIUBEK, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS



**Actuarial Valuation
as of June 30, 2022**

**for the
Safety Plan
of the
Town of Los Gatos**
(CalPERS ID: 4589482285)

**Required Contributions
for Fiscal Year
July 1, 2024 - June 30, 2025**

Table of Contents

Section 1 – Plan Specific Information

Section 2 – Risk Pool Actuarial Valuation Information

Section 1

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Plan Specific Information for the Safety Plan of the Town of Los Gatos

**(CalPERS ID: 4589482285)
(Rate Plan ID: 947)**

Table of Contents

Actuarial Certification	1
Highlights and Executive Summary	
Introduction	3
Purpose of Section 1	3
Required Contributions	4
Additional Discretionary Employer Contributions	5
Funded Status – Funding Policy Basis	6
Projected Employer Contributions	7
Other Pooled Safety Risk Pool Rate Plans	8
Cost	9
Changes Since the Prior Year's Valuation	10
Subsequent Events	10
Assets and Liabilities	
Breakdown of Entry Age Accrued Liability	12
Allocation of Plan's Share of Pool's Experience/Assumption Change	12
Development of Plan's Share of Pool's Market Value of Assets	12
Schedule of Amortization Bases	13
Amortization Schedule and Alternatives	15
Employer Contribution History	17
Funding History	17
Risk Analysis	
Future Investment Return Scenarios	19
Discount Rate Sensitivity	20
Mortality Rate Sensitivity	20
Maturity Measures	21
Maturity Measures History	22
Funded Status – Termination Basis	23
Participant Data	24
List of Class 1 Benefit Provisions	24
Plan's Major Benefit Options	25

Actuarial Certification

To the best of our knowledge, this report, comprised of Sections 1 and 2, is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the Safety Plan of the Town of Los Gatos and satisfies the actuarial valuation requirements of Government Code section 7504. This valuation is based on the member and financial data as of June 30, 2022 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. Section 1 of this report is based on the member and financial data for Town of Los Gatos, while Section 2 is based on the corresponding information for all agencies participating in the Safety Risk Pool to which the plan belongs.

As set forth in Section 2 of this report, the pool actuaries have certified that, in their opinion, the valuation of the Safety Risk Pool has been performed in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the risk pool as of the date of this valuation and as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for the rate plan, it is my opinion as the plan actuary that the Unfunded Accrued Liability amortization bases as of June 30, 2022 and employer contribution as of July 1, 2024 have been properly and accurately determined in accordance with the principles and standards stated above.

The undersigned is an actuary who satisfies the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* with regard to pensions.



DAVID CLEMENT, ASA, MAAA, EA
Senior Actuary, CalPERS

Highlights and Executive Summary

- **Introduction**
- **Purpose of Section 1**
- **Required Contributions**
- **Additional Discretionary Employer Contributions**
- **Funded Status – Funding Policy Basis**
- **Projected Employer Contributions**
- **Other Pooled Safety Risk Pool Rate Plans**
- **Cost**
- **Changes Since the Prior Year's Valuation**
- **Subsequent Events**

Introduction

This report presents the results of the June 30, 2022 actuarial valuation of the Safety Plan of the Town of Los Gatos of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the minimum required contributions for fiscal year (FY) 2024-25.

Purpose of Section 1

This Section 1 report for the Safety Plan of the Town of Los Gatos of CalPERS was prepared by the Actuarial Office using data as of June 30, 2022. The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of this rate plan as of June 30, 2022;
- Determine the minimum required employer contributions for this rate plan for FY July 1, 2024 through June 30, 2025;
- Determine the required member contribution rate for FY July 1, 2024 through June 30, 2025 for employees subject to the California Public Employees' Pension Reform Act of 2013 (PEPRA); and
- Provide actuarial information as of June 30, 2022 to the CalPERS Board of Administration (board) and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available on the CalPERS website (www.calpers.ca.gov).

The measurements shown in this actuarial valuation may not be applicable for other purposes. The agency should contact the plan actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; changes in plan provisions or applicable law; and differences between the required contributions determined by the valuation and the actual contributions made by the agency.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the guidance of Actuarial Standard of Practice No. 51 and recommended by the California Actuarial Advisory Panel (CAAP) in the Model Disclosure Elements document:

- A "Scenario Test," projecting future results under different investment income returns.
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 5.8% and 7.8%.
- A "Sensitivity Analysis," showing the impact on current valuation results assuming rates of mortality are 10% lower or 10% higher than our current post-retirement mortality assumptions adopted in 2021.
- Plan maturity measures indicating how sensitive a plan may be to the risks noted above.

Required Contributions

	Fiscal Year
Required Employer Contributions	2024-25
Employer Normal Cost Rate	29.30%
<i>Plus</i>	
Required Payment on Amortization Bases ¹	\$2,707,269
<i>Paid either as</i>	
1) Monthly Payment	\$225,605.75
<i>Or</i>	
2) Annual Prepayment Option*	\$2,619,665
<i>The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll and paid as payroll is reported) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly (1) or prepaid annually (2) in dollars).</i>	
<i>* Only the UAL portion of the employer contribution can be prepaid (which must be received in full no later than July 31).</i>	

	Fiscal Year	Fiscal Year
	2023-24	2024-25
Development of Normal Cost as a Percentage of Payroll		
Base Total Normal Cost for Formula	34.64%	34.85%
Surcharge for Class 1 Benefits ²		
a) FAC 1	1.46%	1.46%
b) PRSA	1.98%	1.98%
Phase out of Normal Cost Difference ³	0.00%	0.00%
Plan's Total Normal Cost	38.08%	38.29%
Offset Due to Employee Contributions	8.99%	8.99%
Employer Normal Cost Rate	29.09%	29.30%

¹ The required payment on amortization bases does not take into account any additional discretionary payment made after April 28, 2023.

² Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges.

³ When a rate plan joins the pool, the difference in normal cost between the pool and the rate plan is phased out over a five-year period in accordance with the CalPERS contribution allocation policy.

Additional Discretionary Employer Contributions

The minimum required employer contribution towards the Unfunded Accrued Liability (UAL) for this rate plan for FY 2024-25 is \$2,707,269. CalPERS allows agencies to make additional discretionary payments (ADPs) at any time and in any amount. These optional payments serve to reduce the UAL and future required contributions and can result in significant long-term savings. Agencies can also use ADPs to stabilize annual contributions as a fixed dollar amount, percent of payroll or percent of revenue.

Provided below are select ADP options for consideration. Making such an ADP during FY 2024-25 does not require an ADP be made in any future year, nor does it change the remaining amortization period of any portion of unfunded liability. For information on permanent changes to amortization periods, see the "Amortization Schedule and Alternatives" section of the report.

Agencies considering making an ADP should contact CalPERS for additional information.

Minimum Required Employer Contribution for Fiscal Year 2024-25

Estimated Normal Cost	Minimum UAL Payment	ADP	Total UAL Contribution	Estimated Total Contribution
\$883,538	\$2,707,269	\$0	\$2,707,269	\$3,590,807

Alternative Fiscal Year 2024-25 Employer Contributions for Greater UAL Reduction

Funding Horizon	Estimated Normal Cost	Minimum UAL Payment	ADP ¹	Total UAL Contribution	Estimated Total Contribution
20 years	\$883,538	\$2,707,269	\$382,697	\$3,089,966	\$3,973,504
15 years	\$883,538	\$2,707,269	\$897,446	\$3,604,715	\$4,488,253
10 years	\$883,538	\$2,707,269	\$1,983,144	\$4,690,413	\$5,573,951
5 years	\$883,538	\$2,707,269	\$5,358,774	\$8,066,043	\$8,949,581

¹ The ADP amounts are assumed to be made in the middle of the fiscal year. A payment made earlier or later in the fiscal year would have to be less or more than the amount shown to have the same effect on the UAL amortization.

Note that the calculations above are based on the projected UAL as of June 30, 2024 as determined in the June 30, 2022 actuarial valuation. New unfunded liabilities can emerge in future years due to assumption or method changes, changes in plan provisions, and actuarial experience different than assumed. Making an ADP illustrated above for the indicated number of years will not result in a plan that is exactly 100% funded in the indicated number of years. Valuation results will vary from one year to the next and can diverge significantly from projections over a period of several years.

Funded Status – Funding Policy Basis

The table below provides information on the current funded status of the plan under the funding policy. The funded status for this purpose is based on the market value of assets relative to the funding target produced by the entry age actuarial cost method and actuarial assumptions adopted by the board. The actuarial cost method allocates the total expected cost of a member's projected benefit (**Present Value of Benefits**) to individual years of service (the **Normal Cost**). The value of the projected benefit that is not allocated to future service is referred to as the **Accrued Liability** and is the plan's funding target on the valuation date. The **Unfunded Accrued Liability (UAL)** equals the funding target minus the assets. The UAL is an absolute measure of funded status and can be viewed as employer debt. The **funded ratio** equals the assets divided by the funding target. The funded ratio is a relative measure of the funded status and allows for comparisons between plans of different sizes.

	June 30, 2021	June 30, 2022
1. Present Value of Benefits	\$116,359,789	\$118,055,631
2. Entry Age Accrued Liability	106,756,840	109,557,160
3. Market Value of Assets (MVA)	85,438,794	75,229,774
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	\$21,318,046	\$34,327,386
5. Funded Ratio [(3) / (2)]	80.0%	68.7%

A funded ratio of 100% (UAL of \$0) implies that the funding of the plan is on target and that future contributions equal to the normal cost of the active plan members will be sufficient to fully fund all retirement benefits if future experience matches the actuarial assumptions. A funded ratio of less than 100% (positive UAL) implies that in addition to normal costs, payments toward the UAL will be required. Plans with a funded ratio greater than 100% have a negative UAL (or surplus) but are required under current law to continue contributing the normal cost in most cases, preserving the surplus for future contingencies.

Calculations for the funding target reflect the expected long-term investment return of 6.8%. If it were known on the valuation date that future investment returns will average something greater/less than the expected return, calculated normal costs and accrued liabilities provided in this report would be less/greater than the results shown. Therefore, for example, if actual average future returns are less than the expected return, calculated normal costs and UAL contributions will not be sufficient to fully fund all retirement benefits. Under this scenario, required future normal cost contributions will need to increase from those provided in this report, and the plan will develop unfunded liabilities that will also add to required future contributions. For illustrative purposes, funded statuses based on a 1% lower and higher average future investment return (discount rate) are as follows:

	1% Lower Average Return	Current Assumption	1% Higher Average Return
Discount Rate	5.8%	6.8%	7.8%
1. Entry Age Accrued Liability	\$124,272,014	\$109,557,160	\$97,507,692
2. Market Value of Assets (MVA)	75,229,774	75,229,774	75,229,774
3. Unfunded Accrued Liability (UAL) [(1) – (2)]	\$49,042,240	\$34,327,386	\$22,277,918
4. Funded Ratio [(2) / (1)]	60.5%	68.7%	77.2%

The "Risk Analysis" section of the report provides additional information regarding the sensitivity of valuation results to the expected investment return and other factors. Also provided in that section are measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities.

Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. The projection assumes that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. In particular, the investment return beginning with FY 2022-23 is assumed to be 6.80% per year, net of investment and administrative expenses. Future contribution requirements may differ significantly from those shown below. The actual long-term cost of the plan will depend on the actual benefits and expenses paid and the actual investment experience of the fund.

	Required Contribution	Projected Future Employer Contributions (Assumes 6.80% Return for Fiscal Year 2022-23 and Beyond)				
Fiscal Year	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
	Rate Plan 947 Results					
Normal Cost %	29.30%	29.3%	29.3%	29.3%	29.3%	29.3%
UAL Payment	\$2,707,269	\$2,911,000	\$3,108,000	\$3,267,000	\$3,633,000	\$3,708,000

For ongoing plans, investment gains and losses are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of the Section 2 Report. This method phases in the impact of the change in UAL over a 5-year period in order to reduce employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years when there is a large investment loss, the relatively small amortization payments during the ramp up period could result in contributions that are less than interest on the UAL (i.e. negative amortization) while the contribution impact of the increase in the UAL is phased in.

For projected contributions under alternate investment return scenarios, please see the "Future Investment Return Scenarios" in the "Risk Analysis" section. Our online pension plan projection tool, Pension Outlook, is available in the Employers section of the CalPERS website. Pension Outlook can help plan and budget pension costs under various scenarios.

Other Pooled Safety Risk Pool Rate Plans

All of the results presented in this Section 1 report, except those shown on this page, correspond to rate plan 947. In many cases, employers have additional rate plans within the same risk pool. For cost analysis and budgeting it is useful to consider contributions for these rate plans as a whole rather than individually. The estimated contribution amounts and rates for all of the employer's rate plans in the Safety Risk Pool are shown below and assume that the total employer payroll within the Safety Risk Pool will grow according to the overall payroll growth assumption of 2.80% per year for three years. In a refinement since the prior year's report, Classic members who are projected to terminate employment are assumed to be replaced by PEPRAs members.

	Fiscal Year 2023-24	Fiscal Year 2024-25
Estimated Combined Employer Contributions for all Pooled Safety Rate Plans		
Projected Payroll for the Contribution Year	\$6,026,373	\$5,883,540
Estimated Employer Normal Cost	\$1,497,671	\$1,305,715
Required Payment on Amortization Bases	\$2,271,254	\$2,731,370
Estimated Total Employer Contributions	\$3,768,925	\$4,037,085
Estimated Total Employer Contribution Rate (illustrative only)	62.54%	68.62%

Cost

Actuarial Determination of Plan Cost

Contributions to fund the plan are comprised of two components:

- Normal Cost, expressed as a percentage of total active payroll
- Amortization of the Unfunded Accrued Liability (UAL), expressed as a dollar amount

For fiscal years prior to 2015-16, the Amortization of UAL component was expressed as a percentage of total active payroll. Starting with FY 2015-16, the Amortization of UAL component was expressed as a dollar amount and invoiced on a monthly basis. There is an option to prepay this amount during July of each fiscal year.

The Normal Cost component is expressed as a percentage of active payroll with employer and employee contributions payable as part of the regular payroll reporting process.

The determination of both components requires complex actuarial calculations. The calculations are based on a set of actuarial assumptions which can be divided into two categories:

- Demographic assumptions (e.g., mortality rates, retirement rates, employment termination rates, disability rates)
- Economic assumptions (e.g., future investment earnings, inflation, salary growth rates)

These assumptions reflect CalPERS' best estimate of future experience of the plan and are long term in nature. We recognize that all assumptions will not be realized in any given year. For example, the investment earnings at CalPERS have averaged 6.9% over the 20 years ending June 30, 2022, yet individual fiscal year returns have ranged from -23.6% to +21.3%. In addition, CalPERS reviews all actuarial assumptions by conducting in-depth experience studies every four years, with the most recent experience study completed in 2021.

Changes Since the Prior Year's Valuation

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. Voluntary benefit changes by plan amendment are generally included in the first valuation that is prepared after the amendment becomes effective, even if the valuation date is prior to the effective date of the amendment.

This valuation generally reflects plan amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" in this report and Appendix B of the Section 2 Report for a summary of the plan provisions used in this valuation.

In 2022, SB 1168 increased the standard retiree lump sum death benefit from \$500 to \$2,000 for any death occurring on or after July 1, 2023. For pooled plans this is a Class 3 benefit and there is no normal cost surcharge. The impact on the unfunded liability is included in the pool's (gain)/loss.

Actuarial Methods and Assumptions

There are no significant changes to the actuarial methods or assumptions for the June 30, 2022 actuarial valuation.

Subsequent Events

This actuarial valuation report reflects fund investment return through June 30, 2022 and statutory/regulatory changes and board actions through January 2023.

During the time period between the valuation date and the publication of this report, inflation has been significantly higher than the expected inflation of 2.3% per annum. Since inflation influences cost-of-living increases for retirees and beneficiaries and active member pay increases, higher inflation is likely to put at least some upward pressure on contribution requirements and downward pressure on the funded status in the June 30, 2023 valuation. The actual impact of higher inflation on future valuation results will depend on, among other factors, how long higher inflation persists. At this time, we continue to believe the long-term inflation assumption of 2.3% is appropriate.

To the best of our knowledge, there have been no other subsequent events that could materially affect current or future certifications rendered in this report.

Assets and Liabilities

- **Breakdown of Entry Age Accrued Liability**
- **Allocation of Plan's Share of Pool's Experience/Assumption Change**
- **Development of Plan's Share of Pool's Market Value of Assets**
- **Schedule of Amortization Bases**
- **Amortization Schedule and Alternatives**
- **Employer Contribution History**
- **Funding History**

Breakdown of Entry Age Accrued Liability

Active Members	\$22,079,617
Transferred Members	3,837,731
Separated Members	713,361
Members and Beneficiaries Receiving Payments	<u>82,926,451</u>
Total	\$109,557,160

Allocation of Plan's Share of Pool's Experience/Assumption Change

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The Pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1. Plan's Accrued Liability	\$109,557,160
2. Projected UAL Balance at 6/30/2022	20,782,117
3. Other UAL Adjustments (Golden Handshake, Prior Service Purchase, etc.)	0
4. Adjusted UAL Balance at 6/30/2022 for Asset Share	20,782,117
5. Pool's Accrued Liability ¹	28,855,988,965
6. Sum of Pool's Individual Plan UAL Balances at 6/30/2022 ¹	4,262,073,817
7. Pool's 2021-22 Investment (Gain)/Loss ¹	3,300,630,707
8. Pool's 2021-22 Non-Investment (Gain)/Loss ¹	429,637,362
9. Plan's Share of Pool's Investment (Gain)/Loss: $[(1) - (4)] \div [(5) - (6)] \times (7)$	11,914,070
10. Plan's Share of Pool's Non-Investment (Gain)/Loss: $(1) \div (5) \times (8)$	1,631,199
11. Plan's New (Gain)/Loss as of 6/30/2022: $(9) + (10)$	13,545,269
12. Increase in Pool's Accrued Liability due to Change in Assumptions ¹	0
13. Plan's Share of Pool's Change in Assumptions: $(1) \div (5) \times (12)$	0
14. Increase in Pool's Accrued Liability due to Funding Risk Mitigation ¹	0
15. Plan's Share of Pool's Change due to Funding Risk Mitigation: $(1) \div (5) \times (14)$	0
16. Offset due to Funding Risk Mitigation	0
17. Plan's Investment (Gain)/Loss: $(9) - (16)$	11,914,070

¹ Does not include plans that transferred to Pool on the valuation date.

Development of the Plan's Share of Pool's Market Value of Assets

18. Plan's UAL: $(2) + (3) + (11) + (13) + (15)$	\$34,327,386
19. Plan's Share of Pool's MVA: $(1) - (18)$	\$75,229,774

Schedule of Amortization Bases

Below is the schedule of the plan's amortization bases. Note that there is a two-year lag between the valuation date and the start of the contribution year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2022.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2024-25.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their required employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the expected payment on the UAL for the fiscal year and adjusting for interest. The expected payment for the first fiscal year is determined by the actuarial valuation two years ago and the contribution for the second year is from the actuarial valuation one year ago. Additional discretionary payments are reflected in the Expected Payments column in the fiscal year they were made by the agency.

Reason for Base	Date Est.	Ramp Level 2024-25	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Expected Payment 2023-24	Balance 6/30/24	Minimum Required Payment 2024-25
Investment (Gain)/Loss	6/30/13	100%	Up/Down	2.80%	21	8,892,456	639,568	8,836,187	641,351	8,774,249	659,309
Non-Investment (Gain)/Loss	6/30/13	100%	Up/Down	2.80%	21	(109,063)	(7,844)	(108,373)	(7,866)	(107,613)	(8,086)
Share of Pre-2013 Pool UAL	6/30/13	No Ramp		2.80%	13	6,910,872	624,538	6,735,388	629,722	6,542,614	647,354
Assumption Change	6/30/14	100%	Up/Down	2.80%	12	4,126,047	442,192	3,949,639	447,092	3,756,171	459,610
Investment (Gain)/Loss	6/30/14	100%	Up/Down	2.80%	22	(6,909,573)	(482,631)	(6,880,653)	(483,562)	(6,848,805)	(497,102)
Non-Investment (Gain)/Loss	6/30/14	100%	Up/Down	2.80%	22	84,769	5,921	84,414	5,932	84,024	6,099
Investment (Gain)/Loss	6/30/15	100%	Up/Down	2.80%	23	4,273,249	290,446	4,263,671	290,762	4,253,115	298,903
Non-Investment (Gain)/Loss	6/30/15	100%	Up/Down	2.80%	23	(15,503)	(1,054)	(15,468)	(1,055)	(15,430)	(1,084)
Assumption Change	6/30/16	100%	Up/Down	2.80%	14	1,621,214	154,460	1,571,831	155,877	1,517,626	160,242
Investment (Gain)/Loss	6/30/16	100%	Up/Down	2.80%	24	5,500,124	364,405	5,497,541	364,504	5,494,680	374,710
Non-Investment (Gain)/Loss	6/30/16	100%	Up/Down	2.80%	24	(894,101)	(59,238)	(893,681)	(59,254)	(893,216)	(60,913)
Assumption Change	6/30/17	100%	Up/Down	2.80%	15	2,128,049	156,889	2,110,621	197,739	2,049,792	203,276
Investment (Gain)/Loss	6/30/17	100%	Up/Down	2.80%	25	(2,749,101)	(144,064)	(2,787,158)	(179,991)	(2,790,675)	(185,031)
Non-Investment (Gain)/Loss	6/30/17	100%	Up/Down	2.80%	25	69,254	3,629	70,213	4,534	70,302	4,661
Assumption Change	6/30/18	100%	Up/Down	2.80%	16	3,231,564	176,278	3,269,137	236,720	3,246,802	304,186
Investment (Gain)/Loss	6/30/18	100%	Up/Down	2.80%	26	(849,030)	(33,429)	(872,217)	(44,503)	(885,537)	(57,187)
Method Change	6/30/18	100%	Up/Down	2.80%	16	731,649	39,911	740,155	53,595	735,098	68,870
Non-Investment (Gain)/Loss	6/30/18	100%	Up/Down	2.80%	26	402,734	15,857	413,733	21,110	420,051	27,126
Investment (Gain)/Loss	6/30/19	80%	Up Only	0.00%	17	405,896	16,978	415,951	25,010	418,389	33,346
Non-Investment (Gain)/Loss	6/30/19	No Ramp		0.00%	17	450,806	42,249	437,799	41,508	424,673	41,509

Schedule of Amortization Bases (continued)

Reason for Base	Date Est.	Ramp Level 2024-25	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Expected Payment 2023-24	Balance 6/30/24	Minimum Required Payment 2024-25
Investment (Gain)/Loss	6/30/20	60%	Up Only	0.00%	18	1,883,405	41,256	1,968,841	80,934	2,019,082	121,400
Non-Investment (Gain)/Loss	6/30/20	No Ramp		0.00%	18	337,066	30,816	328,140	30,262	319,180	30,262
Assumption Change	6/30/21	No Ramp		0.00%	19	648,111	(44,581)	738,254	66,386	719,849	66,386
Net Investment (Gain)	6/30/21	40%	Up Only	0.00%	19	(8,905,452)	0	(9,511,023)	(204,437)	(9,946,499)	(408,873)
Non-Investment (Gain)/Loss	6/30/21	No Ramp		0.00%	19	(428,121)	0	(457,233)	(41,116)	(445,834)	(41,116)
Risk Mitigation	6/30/21	No Ramp		0.00%	0	2,811,098	(57,051)	3,061,211	3,163,581	0	0
Risk Mitigation Offset	6/30/21	No Ramp		0.00%	0	(2,866,302)	0	(3,061,211)	(3,163,581)	0	0
Investment (Gain)/Loss	6/30/22	20%	Up Only	0.00%	20	11,914,070	0	12,724,227	0	13,589,474	292,102
Non-Investment (Gain)/Loss	6/30/22	No Ramp		0.00%	20	1,631,199	0	1,742,121	0	1,860,585	167,310
Total						34,327,386	2,215,501	34,372,057	2,271,254	34,362,147	2,707,269

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed in "Allocation of Plan's Share of Pool's Experience/Assumption Change" earlier in this section. These (gain)/loss bases will be amortized in accordance with the CalPERS amortization policy in effect at the time the base was established.

Amortization Schedule and Alternatives

The amortization schedule on the previous page(s) shows the minimum contributions required according to the CalPERS amortization policy. Many agencies have expressed a desire for a more stable pattern of payments or have indicated interest in paying off the unfunded accrued liabilities more quickly than required. As such, we have provided alternative amortization schedules to help analyze the current amortization schedule and illustrate the potential savings of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternative "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. To initiate a fresh start, please contact the plan actuary.

The Current Amortization Schedule typically contains both positive and negative bases. Positive bases result from plan changes, assumption changes, method changes or plan experience that increase unfunded liability. Negative bases result from plan changes, assumption changes, method changes, or plan experience that decrease unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years, such as:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

In any year when one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over an appropriate period.

The Current Amortization Schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy.

Amortization Schedule and Alternatives (continued)

Date	<u>Current Amortization Schedule</u>		<u>Alternate Schedules</u>			
	Balance	Payment	15 Year Amortization		10 Year Amortization	
			Balance	Payment	Balance	Payment
6/30/2024	34,362,147	2,707,269	34,362,147	3,604,715	34,362,147	4,690,413
6/30/2025	33,900,972	2,911,074	32,973,513	3,604,715	31,851,509	4,690,413
6/30/2026	33,197,816	3,108,433	31,490,452	3,604,715	29,170,147	4,690,413
6/30/2027	32,242,884	3,267,259	29,906,543	3,604,715	26,306,453	4,690,413
6/30/2028	31,058,880	3,632,513	28,214,928	3,604,715	23,248,027	4,690,413
6/30/2029	29,416,896	3,707,718	26,408,283	3,604,715	19,981,628	4,690,413
6/30/2030	27,585,539	3,785,027	24,478,786	3,604,715	16,493,114	4,690,413
6/30/2031	25,549,753	3,864,502	22,418,084	3,604,715	12,767,381	4,690,413
6/30/2032	23,293,403	3,831,551	20,217,254	3,604,715	8,788,298	4,690,413
6/30/2033	20,917,672	3,794,467	17,866,768	3,604,716	4,538,638	4,690,414
6/30/2034	18,418,715	3,710,808	15,356,447	3,604,716		
6/30/2035	15,836,288	3,565,145	12,675,425	3,604,715		
6/30/2036	13,228,789	3,305,230	9,812,094	3,604,716		
6/30/2037	10,712,586	2,233,389	6,754,056	3,604,716		
6/30/2038	9,132,964	2,052,569	3,488,071	3,604,715		
6/30/2039	7,632,796	1,909,112				
6/30/2040	6,178,873	1,820,002				
6/30/2041	4,718,171	1,552,981				
6/30/2042	3,434,092	1,287,015				
6/30/2043	2,337,558	2,147,488				
6/30/2044	277,211	266,047				
6/30/2045	21,118	21,824				
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
Total		58,481,423		54,070,729		46,904,131
Interest Paid		24,119,276		19,708,582		12,541,984
Estimated Savings				4,410,694		11,577,292

Employer Contribution History

The table below provides a recent history of the required and discretionary employer contributions for the plan. The required amounts are based on the actuarial valuation from two years prior without subsequent adjustments, if any. Additional discretionary payments before July 1, 2019 or after April 28, 2023 are not included.

Fiscal Year	Employer Normal Cost	Unfunded Liability Payment (\$)	Additional Discretionary Payments
2016 - 17	21.230%	\$755,232	N/A
2017 - 18	21.418%	936,513	N/A
2018 - 19	22.346%	1,197,652	N/A
2019 - 20	23.654%	1,485,723	0
2020 - 21	25.540%	1,708,222	0
2021 - 22	25.59%	2,020,167	0
2022 - 23	25.64%	2,317,133	0
2023 - 24	29.09%	2,271,254	
2024 - 25	29.30%	2,707,269	

Funding History

The table below shows the recent history of the actuarial accrued liability, share of the pool's market value of assets, unfunded accrued liability, funded ratio, and annual covered payroll.

Valuation Date	Accrued Liability (AL)	Share of Pool's Market Value of Assets (MVA)	Unfunded Accrued Liability (UAL)	Funded Ratio	Annual Covered Payroll
06/30/2013	\$66,292,581	\$47,576,183	\$18,716,398	71.8%	\$4,773,335
06/30/2014	71,547,336	58,842,584	12,704,752	82.2%	4,622,908
06/30/2015	75,115,894	58,735,321	16,380,573	78.2%	4,720,142
06/30/2016	79,779,856	58,072,244	21,707,612	72.8%	4,616,986
06/30/2017	84,570,154	62,493,962	22,076,192	73.9%	4,322,818
06/30/2018	91,111,357	65,569,436	25,541,921	72.0%	4,321,498
06/30/2019	95,874,854	68,916,726	26,958,128	71.9%	4,614,993
06/30/2020	99,040,905	69,727,959	29,312,946	70.4%	4,380,747
06/30/2021	106,756,840	85,438,794	21,318,046	80.0%	3,935,891
06/30/2022	109,557,160	75,229,774	34,327,386	68.7%	3,446,248

Risk Analysis

- **Future Investment Return Scenarios**
- **Discount Rate Sensitivity**
- **Mortality Rate Sensitivity**
- **Maturity Measures**
- **Maturity Measures History**
- **Funded Status – Termination Basis**

Future Investment Return Scenarios

Analysis using the investment return scenarios from the Asset Liability Management process completed in 2021 was performed to determine the effects of various future investment returns on required employer contributions. The projections below reflect the impact of the CalPERS Funding Risk Mitigation policy. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The first table shows projected contribution requirements if the fund were to earn either 3.0% or 10.8% annually. These alternate investment returns were chosen because 90% of long-term average returns are expected to fall between them over the 20-year period ending June 30, 2042.

Assumed Annual Return FY 2022-23 through 2041-42	Projected Employer Contributions				
	2025-26	2026-27	2027-28	2028-29	2029-30
3.0% (5th percentile)					
Normal Cost Rate	29.3%	29.3%	29.3%	29.3%	29.3%
UAL Contribution	\$2,981,000	\$3,318,000	\$3,688,000	\$4,337,000	\$4,770,000
10.8% (95th percentile)					
Normal Cost Rate	29.8%	30.3%	30.8%	31.4%	31.9%
UAL Contribution	\$2,845,000	\$2,913,000	\$2,873,000	\$2,958,000	\$2,670,000

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 3.0% or greater than 10.8% over a 20-year period, the likelihood of a single investment return less than 3.0% or greater than 10.8% in any given year is much greater. The following analysis illustrates the effect of an extreme, single year investment return.

The portfolio has an expected volatility (or standard deviation) of 12.0% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -5.2% or less and a 2.5% probability that the annual return will be -17.2% or less. These returns represent one and two standard deviations below the expected return of 6.8%.

The following table shows the effect of a one or two standard deviation investment loss in FY 2022-23 on the FY 2025-26 contribution requirements. Note that a single-year investment gain or loss decreases or increases the required UAL contribution amount incrementally for each of the next five years, not just one, due to the 5-year ramp in the amortization policy. However, the contribution requirements beyond the first year are also impacted by investment returns beyond the first year. Historically, significant downturns in the market are often followed by higher than average returns. Such investment gains would offset the impact of these single year negative returns in years beyond FY 2025-26.

Assumed Annual Return for Fiscal Year 2022-23	Required Employer Contributions	Projected Employer Contributions
	2024-25	2025-26
(17.2)% (2 standard deviation loss)		
Normal Cost Rate	29.30%	29.3%
UAL Contribution	\$2,707,269	\$3,350,000
(5.2)% (1 standard deviation loss)		
Normal Cost Rate	29.30%	29.3%
UAL Contribution	\$2,707,269	\$3,130,000

- Without investment gains (returns higher than 6.8%) in FY 2023-24 or later, projected contributions rates would continue to rise over the next four years due to the continued phase-in of the impact of the illustrated investment loss in FY 2022-23.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2025-26 as well as to model other investment return scenarios.

Discount Rate Sensitivity

The discount rate assumption is calculated as the sum of the assumed real rate of return and the assumed annual price inflation, currently 4.5% and 2.3%, respectively. Changing either the price inflation assumption or the real rate of return assumption will change the discount rate. The sensitivity of the valuation results to the discount rate assumption depends on which component of the discount rate is changed. Shown below are various valuation results as of June 30, 2022 assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 6.8% as well as alternate discount rates of 5.8% and 7.8%. The rates of 5.8% and 7.8% were selected since they illustrate the impact of a 1.0% increase or decrease to the 6.8% assumption.

Sensitivity to the Real Rate of Return Assumption

As of June 30, 2022	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	5.8%	6.8%	7.8%
Price Inflation	2.3%	2.3%	2.3%
Real Rate of Return	3.5%	4.5%	5.5%
a) Total Normal Cost	48.54%	38.29%	30.54%
b) Accrued Liability	\$124,272,014	\$109,557,160	\$97,507,692
c) Market Value of Assets	\$75,229,774	\$75,229,774	\$75,229,774
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$49,042,240	\$34,327,386	\$22,277,918
e) Funded Ratio	60.5%	68.7%	77.2%

Sensitivity to the Price Inflation Assumption

As of June 30, 2022	1% Lower Price Inflation	Current Assumptions	1% Higher Price Inflation
Discount Rate	5.8%	6.8%	7.8%
Price Inflation	1.3%	2.3%	3.3%
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost	40.15%	38.29%	34.83%
b) Accrued Liability	\$113,380,038	\$109,557,160	\$100,724,582
c) Market Value of Assets	\$75,229,774	\$75,229,774	\$75,229,774
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$38,150,264	\$34,327,386	\$25,494,808
e) Funded Ratio	66.4%	68.7%	74.7%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2022 plan costs and funded status under two different longevity scenarios, namely assuming post-retirement rates of mortality are 10% lower or 10% higher than our current mortality assumptions adopted in 2021. This type of analysis highlights the impact on the plan of a change in the mortality assumption.

As of June 30, 2022	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	38.78%	38.29%	37.84%
b) Accrued Liability	\$111,271,565	\$109,557,160	\$107,969,211
c) Market Value of Assets	\$75,229,774	\$75,229,774	\$75,229,774
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$36,041,791	\$34,327,386	\$32,739,437
e) Funded Ratio	67.6%	68.7%	69.7%

Maturity Measures

As pension plans mature they become more sensitive to risks. Understanding plan maturity and how it affects the ability of a pension plan sponsor to tolerate risk is important in understanding how the pension plan is impacted by investment return volatility, other economic variables, and changes in longevity or other demographic assumptions.

Since it is the employer that bears the risk, it is appropriate to perform this analysis on a pension plan level considering all rate plans. The following measures are for one rate plan only. One way to look at the maturity level of CalPERS and its plans is to look at the ratio of a plan's retiree liability to its total liability. A pension plan in its infancy will have a very low ratio of retiree liability to total liability. As the plan matures, the ratio starts increasing. A mature plan will often have a ratio above 60%-65%.

Ratio of Retiree Accrued Liability to Total Accrued Liability	June 30, 2021	June 30, 2022
1. Retired Accrued Liability	\$80,379,058	\$82,926,451
2. Total Accrued Liability	106,756,840	109,557,160
3. Ratio of Retiree AL to Total AL [(1) / (2)]	0.75	0.76

Another measure of maturity level of CalPERS and its plans is to look at the ratio of actives to retirees, also called the support ratio. A pension plan in its infancy will have a very high ratio of active to retired members. As the plan matures and members retire, the ratio declines. A mature plan will often have a ratio near or below one.

To calculate the support ratio for the rate plan, retirees and beneficiaries receiving a continuance are each counted as one, even though they may have only worked a portion of their careers as an active member of this rate plan. For this reason, the support ratio, while intuitive, maybe less informative than the ratio of retiree liability to total accrued liability above.

For comparison, the support ratio for all CalPERS public agency plans as of June 30, 2021, was 0.78 and was calculated consistently with how it is for the individual rate plan. Note that to calculate the support ratio for all public agency plans, a retiree with service from more than one CalPERS agency is counted as a retiree more than once.

Support Ratio	June 30, 2021	June 30, 2022
1. Number of Actives	24	21
2. Number of Retirees	88	90
3. Support Ratio [(1) / (2)]	0.27	0.23

Maturity Measures (continued)

The actuarial calculations supplied in this communication are based on various assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary growth, investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio

Shown in the table below is the asset volatility ratio (AVR), which is the ratio of market value of assets to payroll. Plans that have a higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with AVR of 8 may experience twice the contribution volatility due to investment return volatility than a plan with AVR of 4. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as a plan matures.

Liability Volatility Ratio

Also shown in the table below is the liability volatility ratio (LVR), which is the ratio of accrued liability to payroll. Plans that have a higher LVR experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, a plan with LVR of 8 is expected to have twice the contribution volatility of a plan with LVR of 4. It should be noted that this ratio indicates a longer-term potential for contribution volatility, since the AVR, described above, will tend to move closer to the LVR as the funded ratio approaches 100%.

Contribution Volatility	June 30, 2021	June 30, 2022
1. Market Value of Assets	\$85,438,794	\$75,229,774
2. Payroll	3,935,891	3,446,248
3. Asset Volatility Ratio (AVR) [(1) / (2)]	21.7	21.8
4. Accrued Liability	\$106,756,840	\$109,557,160
5. Liability Volatility Ratio (LVR) [(4) / (2)]	27.1	31.8

Maturity Measures History

Valuation Date	Ratio of Retiree Accrued Liability to Total Accrued Liability	Support Ratio	Asset Volatility Ratio	Liability Volatility Ratio
06/30/2017	0.71	0.44	14.5	19.6
06/30/2018	0.74	0.39	15.2	21.1
06/30/2019	0.73	0.36	14.9	20.8
06/30/2020	0.72	0.32	15.9	22.6
06/30/2021	0.75	0.27	21.7	27.1
06/30/2022	0.76	0.23	21.8	31.8

Funded Status – Termination Basis

The funded status measured on a termination basis is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2022. The accrued liability on a termination basis (termination liability) is calculated differently compared to the plan's ongoing funding liability. For the termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees. Unlike the actuarial cost method used for ongoing plans, the termination liability is the present value of the benefits earned through the valuation date.

A more conservative investment policy and asset allocation strategy was adopted by the board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while limiting the funding risk. However, this asset allocation has a lower expected rate of return than the PERF and consequently, a lower discount rate is assumed. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable, the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during an approximate 19-month period from 12 months before the valuation date to seven months after.

Discount Rate: 1.75% Price Inflation: 2.50%			Discount Rate: 4.50% Price Inflation: 2.75%			
Market Value of Assets (MVA)	Termination Liability ^{1,2}	Funded Ratio	Unfunded Termination Liability	Termination Liability ^{1,2}	Funded Ratio	Unfunded Termination Liability
\$75,229,774	\$233,370,654	32.2%	\$158,140,880	\$147,783,918	50.9%	\$72,554,144

¹ The termination liabilities calculated above include a 5% contingency load. The contingency load and other actuarial assumptions can be found in Appendix A of the Section 2 report.

² The discount rate used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 3.38% on June 30, 2022, the valuation date.

In order to terminate the plan, first contact our Pension Contract Services unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow the plan actuary to provide a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. Before beginning this process, please consult with the plan actuary.

Participant Data

The table below shows a summary of the plan's member data upon which this valuation is based:

	June 30, 2021	June 30, 2022
Active Members		
Counts	24	21
Average Attained Age	48.1	47.3
Average Entry Age to Rate Plan	34.9	32.5
Average Years of Credited Service	13.0	13.9
Average Annual Covered Pay	\$163,995	\$164,107
Annual Covered Payroll	\$3,935,891	\$3,446,248
Present Value of Future Payroll	\$23,079,247	\$20,118,770
Transferred Members	11	10
Separated Members	3	5
Retired Members and Beneficiaries*		
Counts	88	90
Average Annual Benefits	\$61,920	\$62,766
Total Annual Benefits	\$5,448,939	\$5,648,932

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

* Values include community property settlements.

List of Class 1 Benefit Provisions

This plan has the additional Class 1 Benefit Provisions:

- One Year Final Compensation (FAC 1)
- Post-Retirement Survivor Allowance (PRSA)

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Section 2.

Member Category	Benefit Group		
	Police	Police	
Demographics			
Actives	Yes	No	
Transfers/Separated	Yes	No	
Receiving	Yes	Yes	
Benefit Provision			
Benefit Formula	3% @ 50		
Social Security Coverage	No		
Full/Modified	Full		
Employee Contribution Rate	9.00%		
Final Average Compensation Period	One Year		
Sick Leave Credit	Yes		
Non-Industrial Disability	Standard		
Industrial Disability	Standard		
Pre-Retirement Death Benefits			
Optional Settlement 2	Yes		
1959 Survivor Benefit Level	Level 4		
Special	Yes		
Alternate (firefighters)	No		
Post-Retirement Death Benefits			
Lump Sum	\$2000	\$2000	
Survivor Allowance (PRSA)	Yes	Yes	
COLA	2%	2%	

Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Risk Pool Actuarial Valuation Information

Section 2 may be found on the
CalPERS website (www.calpers.ca.gov)
in the Forms and Publications section



**California Public Employees' Retirement System
Actuarial Office**

400 Q Street, Sacramento, CA 95811 | Phone: (916) 795-3000 | Fax: (916) 795-2744
888 CalPERS (or 888-225-7377) | TTY: (877) 249-7442 | www.calpers.ca.gov

July 2023

**PEPRA Safety Police Plan of the Town of Los Gatos (CalPERS ID: 4589482285)
Annual Valuation Report as of June 30, 2022**

Dear Employer,

Attached to this letter is the June 30, 2022 actuarial valuation report for the rate plan noted above. **Provided in this report is the determination of the minimum required employer contributions for fiscal year (FY) 2024-25.** In addition, the report contains important information regarding the current financial status of the plan as well as projections and risk measures to aid in planning for the future.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the plan including the development of the current and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to the plan as of June 30, 2022.

Section 2 can be found on the CalPERS website (www.calpers.ca.gov). From the home page, go to "Forms & Publications" and select "View All". In the search box, enter "Risk Pool" and from the results list download the Safety Risk Pool Actuarial Valuation Report for June 30, 2022.

Actuarial valuations are based on assumptions regarding future plan experience including investment return and payroll growth, eligibility for the types of benefits provided, and longevity among retirees. The CalPERS Board of Administration (board) adopts these assumptions after considering the advice of CalPERS actuarial and investment teams and other professionals. Each actuarial valuation reflects all prior differences between actual and assumed experience and adjusts the contribution requirements as needed. This valuation is based on an investment return assumption of 6.8%, which was adopted by the board in November 2021. Other assumptions used in this report are those recommended in the CalPERS Experience Study and Review of Actuarial Assumptions report from November 2021.

Required Contributions

The table below shows the minimum required employer contributions and the PEPRA member contribution rate for FY 2024-25 along with estimates of the required contributions for FY 2025-26. Employee contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.**

Fiscal Year	Employer Normal Cost Rate	Employer Amortization of Unfunded Accrued Liability	PEPRA Member Contribution Rate
2024-25	14.72%	\$24,101	14.50%
<i>Projected Results</i>			
2025-26	14.7%	\$24,000	TBD

The actual investment return for FY 2022-23 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 6.8%. ***To the extent the actual investment return for FY 2022-23 differs from 6.8%, the actual contribution requirements for FY 2025-26 will differ from those shown above.*** For additional details regarding the assumptions and methods used for these projections, please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section. This section also contains projected required contributions through FY 2029-30.

Changes from Previous Year's Valuations

There are no significant changes in actuarial assumptions or policies in the 2022 actuarial valuation. There may be changes specific to the plan such as contract amendments and funding changes.

Further descriptions of general changes are included in "Highlights and Executive Summary" and in Appendix A of the Section 2 report in "Actuarial Methods and Assumptions." The effects of any changes on the required contributions are included in "Reconciliation of Required Employer Contributions," also in the Section 2 report.

Questions

A CalPERS actuary is available to answer questions about this report. Other questions may be directed to the Customer Contact Center at (888)-CalPERS or (888-225-7377).

Sincerely,



SCOTT TERANDO, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS



RANDALL DZIUBEK, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS



**Actuarial Valuation
as of June 30, 2022**

**for the
PEPRA Safety Police Plan
of the
Town of Los Gatos
(CalPERS ID: 4589482285)**

**Required Contributions
for Fiscal Year
July 1, 2024 - June 30, 2025**

Table of Contents

Section 1 – Plan Specific Information

Section 2 – Risk Pool Actuarial Valuation Information

Section 1

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Plan Specific Information for the PEPRA Safety Police Plan of the Town of Los Gatos

**(CalPERS ID: 4589482285)
(Rate Plan ID: 25874)**

Table of Contents

Actuarial Certification	1
Highlights and Executive Summary	
Introduction	3
Purpose of Section 1	3
Required Contributions	4
Additional Discretionary Employer Contributions	5
Funded Status – Funding Policy Basis	6
Projected Employer Contributions	7
Other Pooled Safety Risk Pool Rate Plans	8
Cost	9
Changes Since the Prior Year's Valuation	10
Subsequent Events	10
Assets and Liabilities	
Breakdown of Entry Age Accrued Liability	12
Allocation of Plan's Share of Pool's Experience/Assumption Change	12
Development of Plan's Share of Pool's Market Value of Assets	12
Schedule of Amortization Bases	13
Amortization Schedule and Alternatives	14
Employer Contribution History	16
Funding History	16
Risk Analysis	
Future Investment Return Scenarios	18
Discount Rate Sensitivity	19
Mortality Rate Sensitivity	19
Maturity Measures	20
Maturity Measures History	21
Funded Status – Termination Basis	22
Participant Data	23
List of Class 1 Benefit Provisions	23
Plan's Major Benefit Options	24
PEPRA Member Contribution Rates	25

Actuarial Certification

To the best of our knowledge, this report, comprised of Sections 1 and 2, is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the PEPRA Safety Police Plan of the Town of Los Gatos and satisfies the actuarial valuation requirements of Government Code section 7504. This valuation is based on the member and financial data as of June 30, 2022 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. Section 1 of this report is based on the member and financial data for Town of Los Gatos, while Section 2 is based on the corresponding information for all agencies participating in the Safety Risk Pool to which the plan belongs.

As set forth in Section 2 of this report, the pool actuaries have certified that, in their opinion, the valuation of the Safety Risk Pool has been performed in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the risk pool as of the date of this valuation and as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for the rate plan, it is my opinion as the plan actuary that the Unfunded Accrued Liability amortization bases as of June 30, 2022 and employer contribution as of July 1, 2024 have been properly and accurately determined in accordance with the principles and standards stated above.

The undersigned is an actuary who satisfies the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* with regard to pensions.



DAVID CLEMENT, ASA, MAAA, EA
Senior Actuary, CalPERS

Highlights and Executive Summary

- **Introduction**
- **Purpose of Section 1**
- **Required Contributions**
- **Additional Discretionary Employer Contributions**
- **Funded Status – Funding Policy Basis**
- **Projected Employer Contributions**
- **Other Pooled Safety Risk Pool Rate Plans**
- **Cost**
- **Changes Since the Prior Year's Valuation**
- **Subsequent Events**

Introduction

This report presents the results of the June 30, 2022 actuarial valuation of the PEPRA Safety Police Plan of the Town of Los Gatos of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the minimum required contributions for fiscal year (FY) 2024-25.

Purpose of Section 1

This Section 1 report for the PEPRA Safety Police Plan of the Town of Los Gatos of CalPERS was prepared by the Actuarial Office using data as of June 30, 2022. The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of this rate plan as of June 30, 2022;
- Determine the minimum required employer contributions for this rate plan for FY July 1, 2024 through June 30, 2025;
- Determine the required member contribution rate for FY July 1, 2024 through June 30, 2025 for employees subject to the California Public Employees' Pension Reform Act of 2013 (PEPRA); and
- Provide actuarial information as of June 30, 2022 to the CalPERS Board of Administration (board) and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available on the CalPERS website (www.calpers.ca.gov).

The measurements shown in this actuarial valuation may not be applicable for other purposes. The agency should contact the plan actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; changes in plan provisions or applicable law; and differences between the required contributions determined by the valuation and the actual contributions made by the agency.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the guidance of Actuarial Standard of Practice No. 51 and recommended by the California Actuarial Advisory Panel (CAAP) in the Model Disclosure Elements document:

- A "Scenario Test," projecting future results under different investment income returns.
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 5.8% and 7.8%.
- A "Sensitivity Analysis," showing the impact on current valuation results assuming rates of mortality are 10% lower or 10% higher than our current post-retirement mortality assumptions adopted in 2021.
- Plan maturity measures indicating how sensitive a plan may be to the risks noted above.

Required Contributions

	Fiscal Year
Required Employer Contributions	2024-25
Employer Normal Cost Rate	14.72%
<i>Plus</i>	
Required Payment on Amortization Bases ¹	\$24,101
<i>Paid either as</i>	
1) Monthly Payment	\$2,008.42
<i>Or</i>	
2) Annual Prepayment Option*	\$23,321
Required PEPRA Member Contribution Rate	14.50%
<i>The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll and paid as payroll is reported) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly (1) or prepaid annually (2) in dollars).</i>	
<i>* Only the UAL portion of the employer contribution can be prepaid (which must be received in full no later than July 31).</i>	
<i>For additional detail regarding the determination of the required contribution rate for PEPRA members, see "PEPRA Member Contribution Rates" section.</i>	

	Fiscal Year	Fiscal Year
	2023-24	2024-25
Development of Normal Cost as a Percentage of Payroll		
Base Total Normal Cost for Formula	27.29%	27.51%
Surcharge for Class 1 Benefits ²		
a) PRSA	1.71%	1.71%
Phase out of Normal Cost Difference ³	0.00%	0.00%
Plan's Total Normal Cost	29.00%	29.22%
Offset Due to Employee Contributions	14.50%	14.50%
Employer Normal Cost Rate	14.50%	14.72%

¹ The required payment on amortization bases does not take into account any additional discretionary payment made after April 28, 2023.

² Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges.

³ When a rate plan joins the pool, the difference in normal cost between the pool and the rate plan is phased out over a five-year period in accordance with the CalPERS contribution allocation policy.

Additional Discretionary Employer Contributions

The minimum required employer contribution towards the Unfunded Accrued Liability (UAL) for this rate plan for FY 2024-25 is \$24,101. CalPERS allows agencies to make additional discretionary payments (ADPs) at any time and in any amount. These optional payments serve to reduce the UAL and future required contributions and can result in significant long-term savings. Agencies can also use ADPs to stabilize annual contributions as a fixed dollar amount, percent of payroll or percent of revenue.

Provided below are select ADP options for consideration. Making such an ADP during FY 2024-25 does not require an ADP be made in any future year, nor does it change the remaining amortization period of any portion of unfunded liability. For information on permanent changes to amortization periods, see the "Amortization Schedule and Alternatives" section of the report.

Agencies considering making an ADP should contact CalPERS for additional information.

Minimum Required Employer Contribution for Fiscal Year 2024-25

Estimated Normal Cost	Minimum UAL Payment	ADP	Total UAL Contribution	Estimated Total Contribution
\$422,177	\$24,101	\$0	\$24,101	\$446,278

Alternative Fiscal Year 2024-25 Employer Contributions for Greater UAL Reduction

Funding Horizon	Estimated Normal Cost	Minimum UAL Payment	ADP ¹	Total UAL Contribution	Estimated Total Contribution
15 years	\$422,177	\$24,101	\$4,015	\$28,116	\$450,293
10 years	\$422,177	\$24,101	\$12,483	\$36,584	\$458,761
5 years	\$422,177	\$24,101	\$38,813	\$62,914	\$485,091

¹ The ADP amounts are assumed to be made in the middle of the fiscal year. A payment made earlier or later in the fiscal year would have to be less or more than the amount shown to have the same effect on the UAL amortization.

Note that the calculations above are based on the projected UAL as of June 30, 2024 as determined in the June 30, 2022 actuarial valuation. New unfunded liabilities can emerge in future years due to assumption or method changes, changes in plan provisions, and actuarial experience different than assumed. Making an ADP illustrated above for the indicated number of years will not result in a plan that is exactly 100% funded in the indicated number of years. Valuation results will vary from one year to the next and can diverge significantly from projections over a period of several years.

Funded Status – Funding Policy Basis

The table below provides information on the current funded status of the plan under the funding policy. The funded status for this purpose is based on the market value of assets relative to the funding target produced by the entry age actuarial cost method and actuarial assumptions adopted by the board. The actuarial cost method allocates the total expected cost of a member's projected benefit (**Present Value of Benefits**) to individual years of service (the **Normal Cost**). The value of the projected benefit that is not allocated to future service is referred to as the **Accrued Liability** and is the plan's funding target on the valuation date. The **Unfunded Accrued Liability** (UAL) equals the funding target minus the assets. The UAL is an absolute measure of funded status and can be viewed as employer debt. The **funded ratio** equals the assets divided by the funding target. The funded ratio is a relative measure of the funded status and allows for comparisons between plans of different sizes.

	June 30, 2021	June 30, 2022
1. Present Value of Benefits	\$6,454,361	\$8,595,758
2. Entry Age Accrued Liability	1,301,901	1,724,746
3. Market Value of Assets (MVA)	1,370,527	1,511,398
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	(\$68,626)	\$213,348
5. Funded Ratio [(3) / (2)]	105.3%	87.6%

A funded ratio of 100% (UAL of \$0) implies that the funding of the plan is on target and that future contributions equal to the normal cost of the active plan members will be sufficient to fully fund all retirement benefits if future experience matches the actuarial assumptions. A funded ratio of less than 100% (positive UAL) implies that in addition to normal costs, payments toward the UAL will be required. Plans with a funded ratio greater than 100% have a negative UAL (or surplus) but are required under current law to continue contributing the normal cost in most cases, preserving the surplus for future contingencies.

Calculations for the funding target reflect the expected long-term investment return of 6.8%. If it were known on the valuation date that future investment returns will average something greater/less than the expected return, calculated normal costs and accrued liabilities provided in this report would be less/greater than the results shown. Therefore, for example, if actual average future returns are less than the expected return, calculated normal costs and UAL contributions will not be sufficient to fully fund all retirement benefits. Under this scenario, required future normal cost contributions will need to increase from those provided in this report, and the plan will develop unfunded liabilities that will also add to required future contributions. For illustrative purposes, funded statuses based on a 1% lower and higher average future investment return (discount rate) are as follows:

	1% Lower Average Return	Current Assumption	1% Higher Average Return
Discount Rate	5.8%	6.8%	7.8%
1. Entry Age Accrued Liability	\$2,133,512	\$1,724,746	\$1,414,114
2. Market Value of Assets (MVA)	1,511,398	1,511,398	1,511,398
3. Unfunded Accrued Liability (UAL) [(1) – (2)]	\$622,114	\$213,348	(\$97,284)
4. Funded Ratio [(2) / (1)]	70.8%	87.6%	106.9%

The "Risk Analysis" section of the report provides additional information regarding the sensitivity of valuation results to the expected investment return and other factors. Also provided in that section are measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities.

Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. The projection assumes that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. In particular, the investment return beginning with FY 2022-23 is assumed to be 6.80% per year, net of investment and administrative expenses. Future contribution requirements may differ significantly from those shown below. The actual long-term cost of the plan will depend on the actual benefits and expenses paid and the actual investment experience of the fund.

	Required Contribution	Projected Future Employer Contributions (Assumes 6.80% Return for Fiscal Year 2022-23 and Beyond)				
Fiscal Year	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
	Rate Plan 25874 Results					
Normal Cost %	14.72%	14.7%	14.7%	14.7%	14.7%	14.7%
UAL Payment	\$24,101	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000

For ongoing plans, investment gains and losses are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of the Section 2 Report. This method phases in the impact of the change in UAL over a 5-year period in order to reduce employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years when there is a large investment loss, the relatively small amortization payments during the ramp up period could result in contributions that are less than interest on the UAL (i.e. negative amortization) while the contribution impact of the increase in the UAL is phased in.

For projected contributions under alternate investment return scenarios, please see the "Future Investment Return Scenarios" in the "Risk Analysis" section. Our online pension plan projection tool, Pension Outlook, is available in the Employers section of the CalPERS website. Pension Outlook can help plan and budget pension costs under various scenarios.

Other Pooled Safety Risk Pool Rate Plans

All of the results presented in this Section 1 report, except those shown on this page, correspond to rate plan 25874. In many cases, employers have additional rate plans within the same risk pool. For cost analysis and budgeting it is useful to consider contributions for these rate plans as a whole rather than individually. The estimated contribution amounts and rates for all of the employer's rate plans in the Safety Risk Pool are shown below and assume that the total employer payroll within the Safety Risk Pool will grow according to the overall payroll growth assumption of 2.80% per year for three years. In a refinement since the prior year's report, Classic members who are projected to terminate employment are assumed to be replaced by PEPRA members.

	Fiscal Year 2023-24	Fiscal Year 2024-25
Estimated Combined Employer Contributions for all Pooled Safety Rate Plans		
Projected Payroll for the Contribution Year	\$6,026,373	\$5,883,540
Estimated Employer Normal Cost	\$1,497,671	\$1,305,715
Required Payment on Amortization Bases	\$2,271,254	\$2,731,370
Estimated Total Employer Contributions	\$3,768,925	\$4,037,085
Estimated Total Employer Contribution Rate (illustrative only)	62.54%	68.62%

Cost

Actuarial Determination of Plan Cost

Contributions to fund the plan are comprised of two components:

- Normal Cost, expressed as a percentage of total active payroll
- Amortization of the Unfunded Accrued Liability (UAL), expressed as a dollar amount

For fiscal years prior to 2015-16, the Amortization of UAL component was expressed as a percentage of total active payroll. Starting with FY 2015-16, the Amortization of UAL component was expressed as a dollar amount and invoiced on a monthly basis. There is an option to prepay this amount during July of each fiscal year.

The Normal Cost component is expressed as a percentage of active payroll with employer and employee contributions payable as part of the regular payroll reporting process.

The determination of both components requires complex actuarial calculations. The calculations are based on a set of actuarial assumptions which can be divided into two categories:

- Demographic assumptions (e.g., mortality rates, retirement rates, employment termination rates, disability rates)
- Economic assumptions (e.g., future investment earnings, inflation, salary growth rates)

These assumptions reflect CalPERS' best estimate of future experience of the plan and are long term in nature. We recognize that all assumptions will not be realized in any given year. For example, the investment earnings at CalPERS have averaged 6.9% over the 20 years ending June 30, 2022, yet individual fiscal year returns have ranged from -23.6% to +21.3%. In addition, CalPERS reviews all actuarial assumptions by conducting in-depth experience studies every four years, with the most recent experience study completed in 2021.

Changes Since the Prior Year's Valuation

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. Voluntary benefit changes by plan amendment are generally included in the first valuation that is prepared after the amendment becomes effective, even if the valuation date is prior to the effective date of the amendment.

This valuation generally reflects plan amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" in this report and Appendix B of the Section 2 Report for a summary of the plan provisions used in this valuation.

In 2022, SB 1168 increased the standard retiree lump sum death benefit from \$500 to \$2,000 for any death occurring on or after July 1, 2023. For pooled plans this is a Class 3 benefit and there is no normal cost surcharge. The impact on the unfunded liability is included in the pool's (gain)/loss.

Actuarial Methods and Assumptions

There are no significant changes to the actuarial methods or assumptions for the June 30, 2022 actuarial valuation.

Subsequent Events

This actuarial valuation report reflects fund investment return through June 30, 2022 and statutory/regulatory changes and board actions through January 2023.

During the time period between the valuation date and the publication of this report, inflation has been significantly higher than the expected inflation of 2.3% per annum. Since inflation influences cost-of-living increases for retirees and beneficiaries and active member pay increases, higher inflation is likely to put at least some upward pressure on contribution requirements and downward pressure on the funded status in the June 30, 2023 valuation. The actual impact of higher inflation on future valuation results will depend on, among other factors, how long higher inflation persists. At this time, we continue to believe the long-term inflation assumption of 2.3% is appropriate.

To the best of our knowledge, there have been no other subsequent events that could materially affect current or future certifications rendered in this report.

Assets and Liabilities

- **Breakdown of Entry Age Accrued Liability**
- **Allocation of Plan's Share of Pool's Experience/Assumption Change**
- **Development of Plan's Share of Pool's Market Value of Assets**
- **Schedule of Amortization Bases**
- **Amortization Schedule and Alternatives**
- **Employer Contribution History**
- **Funding History**

Breakdown of Entry Age Accrued Liability

Active Members	\$1,288,000
Transferred Members	20,828
Separated Members	59,300
Members and Beneficiaries Receiving Payments	<u>356,618</u>
Total	\$1,724,746

Allocation of Plan's Share of Pool's Experience/Assumption Change

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The Pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1. Plan's Accrued Liability	\$1,724,746
2. Projected UAL Balance at 6/30/2022	(50,591)
3. Other UAL Adjustments (Golden Handshake, Prior Service Purchase, etc.)	0
4. Adjusted UAL Balance at 6/30/2022 for Asset Share	(50,591)
5. Pool's Accrued Liability ¹	28,855,988,965
6. Sum of Pool's Individual Plan UAL Balances at 6/30/2022 ¹	4,262,073,817
7. Pool's 2021-22 Investment (Gain)/Loss ¹	3,300,630,707
8. Pool's 2021-22 Non-Investment (Gain)/Loss ¹	429,637,362
9. Plan's Share of Pool's Investment (Gain)/Loss: $[(1) - (4)] \div [(5) - (6)] \times (7)$	238,259
10. Plan's Share of Pool's Non-Investment (Gain)/Loss: $(1) \div (5) \times (8)$	25,680
11. Plan's New (Gain)/Loss as of 6/30/2022: $(9) + (10)$	263,939
12. Increase in Pool's Accrued Liability due to Change in Assumptions ¹	0
13. Plan's Share of Pool's Change in Assumptions: $(1) \div (5) \times (12)$	0
14. Increase in Pool's Accrued Liability due to Funding Risk Mitigation ¹	0
15. Plan's Share of Pool's Change due to Funding Risk Mitigation: $(1) \div (5) \times (14)$	0
16. Offset due to Funding Risk Mitigation	0
17. Plan's Investment (Gain)/Loss: $(9) - (16)$	238,259

¹ Does not include plans that transferred to Pool on the valuation date.

Development of the Plan's Share of Pool's Market Value of Assets

18. Plan's UAL: $(2) + (3) + (11) + (13) + (15)$	\$213,348
19. Plan's Share of Pool's MVA: $(1) - (18)$	\$1,511,398

Schedule of Amortization Bases

Below is the schedule of the plan's amortization bases. Note that there is a two-year lag between the valuation date and the start of the contribution year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2022.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2024-25.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their required employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the expected payment on the UAL for the fiscal year and adjusting for interest. The expected payment for the first fiscal year is determined by the actuarial valuation two years ago and the contribution for the second year is from the actuarial valuation one year ago. Additional discretionary payments are reflected in the Expected Payments column in the fiscal year they were made by the agency.

Reason for Base	Date Est.	Ramp Level 2024-25	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Expected Payment 2023-24	Balance 6/30/24	Minimum Required Payment 2024-25
Fresh Start	6/30/22	No Ramp		0.00%	20	213,348	(22,350)	250,953	0	268,018	24,101
Total						213,348	(22,350)	250,953	0	268,018	24,101

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed in "Allocation of Plan's Share of Pool's Experience/Assumption Change" earlier in this section. These (gain)/loss bases will be amortized in accordance with the CalPERS amortization policy in effect at the time the base was established.

Amortization Schedule and Alternatives

The amortization schedule on the previous page(s) shows the minimum contributions required according to the CalPERS amortization policy. Many agencies have expressed a desire for a more stable pattern of payments or have indicated interest in paying off the unfunded accrued liabilities more quickly than required. As such, we have provided alternative amortization schedules to help analyze the current amortization schedule and illustrate the potential savings of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternative "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. To initiate a fresh start, please contact the plan actuary.

The Current Amortization Schedule typically contains both positive and negative bases. Positive bases result from plan changes, assumption changes, method changes or plan experience that increase unfunded liability. Negative bases result from plan changes, assumption changes, method changes, or plan experience that decrease unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years, such as:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

In any year when one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over an appropriate period.

The Current Amortization Schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy.

Amortization Schedule and Alternatives (continued)

Date	<u>Current Amortization</u>		<u>Alternate Schedules</u>			
	<u>Schedule</u>		15 Year Amortization		10 Year Amortization	
	Balance	Payment	Balance	Payment	Balance	Payment
6/30/2024	268,018	24,101	268,018	28,116	268,018	36,584
6/30/2025	261,336	24,101	257,187	28,116	248,436	36,584
6/30/2026	254,200	24,101	245,619	28,116	227,522	36,584
6/30/2027	246,579	24,101	233,265	28,116	205,186	36,584
6/30/2028	238,439	24,101	220,071	28,116	181,331	36,584
6/30/2029	229,746	24,101	205,980	28,116	155,854	36,585
6/30/2030	220,462	24,101	190,930	28,116	128,644	36,585
6/30/2031	210,546	24,101	174,857	28,116	99,583	36,584
6/30/2032	199,956	24,101	157,691	28,116	68,547	36,584
6/30/2033	188,646	24,101	139,358	28,116	35,401	36,585
6/30/2034	176,567	24,101	119,778	28,116		
6/30/2035	163,667	24,101	98,867	28,116		
6/30/2036	149,889	24,101	76,534	28,117		
6/30/2037	135,174	24,101	52,681	28,116		
6/30/2038	119,459	24,101	27,207	28,117		
6/30/2039	102,675	24,102				
6/30/2040	84,749	24,101				
6/30/2041	65,605	24,102				
6/30/2042	45,158	24,101				
6/30/2043	23,322	24,102				
6/30/2044						
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
Total		482,023		421,742		365,843
Interest Paid		214,005		153,724		97,825
Estimated Savings				60,281		116,180

Employer Contribution History

The table below provides a recent history of the required and discretionary employer contributions for the plan. The required amounts are based on the actuarial valuation from two years prior without subsequent adjustments, if any. Additional discretionary payments before July 1, 2019 or after April 28, 2023 are not included.

Fiscal Year	Employer Normal Cost	Unfunded Liability Payment (\$)	Additional Discretionary Payments
2017 - 18	12.729%	\$30	N/A
2018 - 19	12.965%	4,507	N/A
2019 - 20	13.786%	6,059	0
2020 - 21	13.884%	15,282	0
2021 - 22	13.98%	18,507	0
2022 - 23	13.66%	19,258	0
2023 - 24	14.50%	0	
2024 - 25	14.72%	24,101	

Funding History

The table below shows the recent history of the actuarial accrued liability, share of the pool's market value of assets, unfunded accrued liability, funded ratio, and annual covered payroll.

Valuation Date	Accrued Liability (AL)	Share of Pool's Market Value of Assets (MVA)	Unfunded Accrued Liability (UAL)	Funded Ratio	Annual Covered Payroll
06/30/2015	\$35,246	\$33,422	\$1,824	94.8%	\$281,865
06/30/2016	126,390	115,322	11,068	91.2%	414,054
06/30/2017	237,225	224,872	12,353	94.8%	451,543
06/30/2018	414,453	379,539	34,914	91.6%	682,264
06/30/2019	649,310	594,841	54,469	91.6%	967,007
06/30/2020	888,807	805,416	83,391	90.6%	969,229
06/30/2021	1,301,901	1,370,527	(68,626)	105.3%	1,611,346
06/30/2022	1,724,746	1,511,398	213,348	87.6%	1,969,511

Risk Analysis

- **Future Investment Return Scenarios**
- **Discount Rate Sensitivity**
- **Mortality Rate Sensitivity**
- **Maturity Measures**
- **Maturity Measures History**
- **Funded Status – Termination Basis**

Future Investment Return Scenarios

Analysis using the investment return scenarios from the Asset Liability Management process completed in 2021 was performed to determine the effects of various future investment returns on required employer contributions. The projections below reflect the impact of the CalPERS Funding Risk Mitigation policy. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The first table shows projected contribution requirements if the fund were to earn either 3.0% or 10.8% annually. These alternate investment returns were chosen because 90% of long-term average returns are expected to fall between them over the 20-year period ending June 30, 2042.

Assumed Annual Return FY 2022-23 through 2041-42	Projected Employer Contributions				
	2025-26	2026-27	2027-28	2028-29	2029-30
3.0% (5th percentile)					
Normal Cost Rate	14.7%	14.7%	14.7%	14.7%	14.7%
UAL Contribution	\$25,000	\$28,000	\$33,000	\$38,000	\$45,000
10.8% (95th percentile)					
Normal Cost Rate	15.1%	15.5%	15.1%	15.5%	15.9%
UAL Contribution	\$23,000	\$20,000	\$17,000	\$0	\$0

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 3.0% or greater than 10.8% over a 20-year period, the likelihood of a single investment return less than 3.0% or greater than 10.8% in any given year is much greater. The following analysis illustrates the effect of an extreme, single year investment return.

The portfolio has an expected volatility (or standard deviation) of 12.0% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -5.2% or less and a 2.5% probability that the annual return will be -17.2% or less. These returns represent one and two standard deviations below the expected return of 6.8%.

The following table shows the effect of a one or two standard deviation investment loss in FY 2022-23 on the FY 2025-26 contribution requirements. Note that a single-year investment gain or loss decreases or increases the required UAL contribution amount incrementally for each of the next five years, not just one, due to the 5-year ramp in the amortization policy. However, the contribution requirements beyond the first year are also impacted by investment returns beyond the first year. Historically, significant downturns in the market are often followed by higher than average returns. Such investment gains would offset the impact of these single year negative returns in years beyond FY 2025-26.

Assumed Annual Return for Fiscal Year 2022-23	Required Employer Contributions	Projected Employer Contributions
	2024-25	2025-26
(17.2)% (2 standard deviation loss)		
Normal Cost Rate	14.72%	14.7%
UAL Contribution	\$24,101	\$33,000
(5.2)% (1 standard deviation loss)		
Normal Cost Rate	14.72%	14.7%
UAL Contribution	\$24,101	\$29,000

- Without investment gains (returns higher than 6.8%) in FY 2023-24 or later, projected contributions rates would continue to rise over the next four years due to the continued phase-in of the impact of the illustrated investment loss in FY 2022-23.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2025-26 as well as to model other investment return scenarios.

Discount Rate Sensitivity

The discount rate assumption is calculated as the sum of the assumed real rate of return and the assumed annual price inflation, currently 4.5% and 2.3%, respectively. Changing either the price inflation assumption or the real rate of return assumption will change the discount rate. The sensitivity of the valuation results to the discount rate assumption depends on which component of the discount rate is changed. Shown below are various valuation results as of June 30, 2022 assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 6.8% as well as alternate discount rates of 5.8% and 7.8%. The rates of 5.8% and 7.8% were selected since they illustrate the impact of a 1.0% increase or decrease to the 6.8% assumption.

Sensitivity to the Real Rate of Return Assumption

As of June 30, 2022	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	5.8%	6.8%	7.8%
Price Inflation	2.3%	2.3%	2.3%
Real Rate of Return	3.5%	4.5%	5.5%
a) Total Normal Cost	36.79%	29.22%	23.50%
b) Accrued Liability	\$2,133,512	\$1,724,746	\$1,414,114
c) Market Value of Assets	\$1,511,398	\$1,511,398	\$1,511,398
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$622,114	\$213,348	(\$97,284)
e) Funded Ratio	70.8%	87.6%	106.9%

Sensitivity to the Price Inflation Assumption

As of June 30, 2022	1% Lower Price Inflation	Current Assumptions	1% Higher Price Inflation
Discount Rate	5.8%	6.8%	7.8%
Price Inflation	1.3%	2.3%	3.3%
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost	30.88%	29.22%	26.39%
b) Accrued Liability	\$1,817,430	\$1,724,746	\$1,560,796
c) Market Value of Assets	\$1,511,398	\$1,511,398	\$1,511,398
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$306,032	\$213,348	\$49,398
e) Funded Ratio	83.2%	87.6%	96.8%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2022 plan costs and funded status under two different longevity scenarios, namely assuming post-retirement rates of mortality are 10% lower or 10% higher than our current mortality assumptions adopted in 2021. This type of analysis highlights the impact on the plan of a change in the mortality assumption.

As of June 30, 2022	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	29.60%	29.22%	28.86%
b) Accrued Liability	\$1,743,422	\$1,724,746	\$1,707,347
c) Market Value of Assets	\$1,511,398	\$1,511,398	\$1,511,398
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$232,024	\$213,348	\$195,949
e) Funded Ratio	86.7%	87.6%	88.5%

Maturity Measures

As pension plans mature they become more sensitive to risks. Understanding plan maturity and how it affects the ability of a pension plan sponsor to tolerate risk is important in understanding how the pension plan is impacted by investment return volatility, other economic variables, and changes in longevity or other demographic assumptions.

Since it is the employer that bears the risk, it is appropriate to perform this analysis on a pension plan level considering all rate plans. The following measures are for one rate plan only. One way to look at the maturity level of CalPERS and its plans is to look at the ratio of a plan's retiree liability to its total liability. A pension plan in its infancy will have a very low ratio of retiree liability to total liability. As the plan matures, the ratio starts increasing. A mature plan will often have a ratio above 60%-65%.

Ratio of Retiree Accrued Liability to Total Accrued Liability	June 30, 2021	June 30, 2022
1. Retired Accrued Liability	\$0	\$356,618
2. Total Accrued Liability	1,301,901	1,724,746
3. Ratio of Retiree AL to Total AL [(1) / (2)]	0.00	0.21

Another measure of maturity level of CalPERS and its plans is to look at the ratio of actives to retirees, also called the support ratio. A pension plan in its infancy will have a very high ratio of active to retired members. As the plan matures and members retire, the ratio declines. A mature plan will often have a ratio near or below one.

To calculate the support ratio for the rate plan, retirees and beneficiaries receiving a continuance are each counted as one, even though they may have only worked a portion of their careers as an active member of this rate plan. For this reason, the support ratio, while intuitive, maybe less informative than the ratio of retiree liability to total accrued liability above.

For comparison, the support ratio for all CalPERS public agency plans as of June 30, 2021, was 0.78 and was calculated consistently with how it is for the individual rate plan. Note that to calculate the support ratio for all public agency plans, a retiree with service from more than one CalPERS agency is counted as a retiree more than once.

Support Ratio	June 30, 2021	June 30, 2022
1. Number of Actives	13	16
2. Number of Retirees	0	1
3. Support Ratio [(1) / (2)]	N/A	16.00

Maturity Measures (continued)

The actuarial calculations supplied in this communication are based on various assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary growth, investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio

Shown in the table below is the asset volatility ratio (AVR), which is the ratio of market value of assets to payroll. Plans that have a higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with AVR of 8 may experience twice the contribution volatility due to investment return volatility than a plan with AVR of 4. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as a plan matures.

Liability Volatility Ratio

Also shown in the table below is the liability volatility ratio (LVR), which is the ratio of accrued liability to payroll. Plans that have a higher LVR experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, a plan with LVR of 8 is expected to have twice the contribution volatility of a plan with LVR of 4. It should be noted that this ratio indicates a longer-term potential for contribution volatility, since the AVR, described above, will tend to move closer to the LVR as the funded ratio approaches 100%.

Contribution Volatility	June 30, 2021	June 30, 2022
1. Market Value of Assets	\$1,370,527	\$1,511,398
2. Payroll	1,611,346	1,969,511
3. Asset Volatility Ratio (AVR) [(1) / (2)]	0.9	0.8
4. Accrued Liability	\$1,301,901	\$1,724,746
5. Liability Volatility Ratio (LVR) [(4) / (2)]	0.8	0.9

Maturity Measures History

Valuation Date	Ratio of Retiree Accrued Liability to Total Accrued Liability	Support Ratio	Asset Volatility Ratio	Liability Volatility Ratio
06/30/2017	0.00	N/A	0.5	0.5
06/30/2018	0.00	N/A	0.6	0.6
06/30/2019	0.00	N/A	0.6	0.7
06/30/2020	0.00	N/A	0.8	0.9
06/30/2021	0.00	N/A	0.9	0.8
06/30/2022	0.21	16.00	0.8	0.9

Funded Status – Termination Basis

The funded status measured on a termination basis is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2022. The accrued liability on a termination basis (termination liability) is calculated differently compared to the plan's ongoing funding liability. For the termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees. Unlike the actuarial cost method used for ongoing plans, the termination liability is the present value of the benefits earned through the valuation date.

A more conservative investment policy and asset allocation strategy was adopted by the board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while limiting the funding risk. However, this asset allocation has a lower expected rate of return than the PERF and consequently, a lower discount rate is assumed. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable, the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during an approximate 19-month period from 12 months before the valuation date to seven months after.

Discount Rate: 1.75% Price Inflation: 2.50%			Discount Rate: 4.50% Price Inflation: 2.75%			
Market Value of Assets (MVA)	Termination Liability ^{1,2}	Funded Ratio	Unfunded Termination Liability	Termination Liability ^{1,2}	Funded Ratio	Unfunded Termination Liability
\$1,511,398	\$4,874,030	31.0%	\$3,362,632	\$2,106,973	71.7%	\$595,575

¹ The termination liabilities calculated above include a 5% contingency load. The contingency load and other actuarial assumptions can be found in Appendix A of the Section 2 report.

² The discount rate used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 3.38% on June 30, 2022, the valuation date.

In order to terminate the plan, first contact our Pension Contract Services unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow the plan actuary to provide a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. Before beginning this process, please consult with the plan actuary.

Participant Data

The table below shows a summary of the plan's member data upon which this valuation is based:

	June 30, 2021	June 30, 2022
Active Members		
Counts	13	16
Average Attained Age	31.2	30.8
Average Entry Age to Rate Plan	28.3	28.2
Average Years of Credited Service	2.9	2.6
Average Annual Covered Pay	\$123,950	\$123,094
Annual Covered Payroll	\$1,611,346	\$1,969,511
Present Value of Future Payroll	\$20,712,706	\$26,952,975
Transferred Members	2	2
Separated Members	0	2
Retired Members and Beneficiaries*		
Counts	0	1
Average Annual Benefits	\$0	\$20,542
Total Annual Benefits	\$0	\$20,542

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

* Values include community property settlements.

List of Class 1 Benefit Provisions

This plan has the additional Class 1 Benefit Provisions:

- Post-Retirement Survivor Allowance (PRSA)

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Section 2.

	Benefit Group	
Member Category	Police	
Demographics		
Actives	Yes	
Transfers/Separated	Yes	
Receiving	Yes	
Benefit Provision		
Benefit Formula	2.7% @ 57	
Social Security Coverage	No	
Full/Modified	Full	
Employee Contribution Rate	14.50%	
Final Average Compensation Period	Three Year	
Sick Leave Credit	Yes	
Non-Industrial Disability	Standard	
Industrial Disability	Standard	
Pre-Retirement Death Benefits		
Optional Settlement 2	Yes	
1959 Survivor Benefit Level	Level 4	
Special	Yes	
Alternate (firefighters)	No	
Post-Retirement Death Benefits		
Lump Sum	\$2000	
Survivor Allowance (PRSA)	Yes	
COLA	2%	

PEPRA Member Contribution Rates

The California Public Employees’ Pension Reform Act of 2013 (PEPRA) established new benefit formulas, final compensation period, and contribution requirements for “new” employees (generally those first hired into a CalPERS-covered position on or after January 1, 2013). In accordance with Government Code Section 7522.30(b), “new members ... shall have an initial contribution rate of at least 50% of the normal cost rate.” The normal cost for the plan is dependent on the benefit levels, actuarial assumptions, and demographics of the risk pool, particularly members’ entry age. Should the total normal cost rate change by more than 1% from the base total normal cost rate, the new member rate shall be 50% of the new normal cost rate rounded to the nearest quarter percent.

The table below shows the determination of the PEPRA member contribution rates effective July 1, 2024, based on 50% of the total normal cost rate as of the June 30, 2022 valuation.

Rate Plan Identifier	Benefit Group Name	Basis for Current Rate		Rates Effective July 1, 2024			
		Total Normal Cost	Member Rate	Total Normal Cost	Change	Change Needed	Member Rate
25874	Safety Police PEPRA Level	29.00%	14.50%	29.22%	0.22%	No	14.50%

Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Risk Pool Actuarial Valuation Information

Section 2 may be found on the
CalPERS website (www.calpers.ca.gov)
in the Forms and Publications section