



AMENDED*
TOWN OF LOS GATOS
TOWN PENSION AND OPEB TRUSTS OVERSIGHT
COMMITTEE AGENDA
SEPTEMBER 20, 2022
TELECONFERENCE
LOS GATOS, CA

Rob Rennie, Mayor
Maria Ristow, Vice Mayor
Mary Badame, Council Member
Matthew Hudes, Council Member
Marico Sayoc, 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. 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 Mondays 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]

AMENDED*
TOWN OF LOS GATOS
TOWN PENSION AND OPEB TRUSTS OVERSIGHT COMMITTEE AGENDA
TELECONFERENCE
SEPTEMBER 20, 2022
6:00 PM

IMPORTANT NOTICE

This meeting is being conducted utilizing teleconferencing and electronic means consistent with Government Code Section 54953, as Amended by Assembly Bill 361, in response to the state of emergency relating to COVID-19 and enabling teleconferencing accommodations by suspending or waiving specified provisions in the Ralph M. Brown Act (Government Code § 54950 et seq.). Consistent with AB 361 and Town of Los Gatos Resolution 2021-044, this meeting will not be physically open to the public and the Council will be teleconferencing from remote locations. Members of the public can only participate in the meeting by joining the Zoom webinar (log in information provided below).

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/84749052891?pwd=NkhSSktlejRhYkdMQWQzcINCWHBldz09>
Passcode: 255844 You can also type in 814 8718 7330 in the “Join a Meeting” page on the Zoom website at <https://zoom.us/join>.
- **Join by telephone:** Join by Telephone: Dial: USA 877 336 1839US Toll-free or 636 651 0008 US Toll. Conference code: 686100

When the Chair 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. If you are participating by calling in, press #2 on your telephone keypad to raise your hand.

When called to speak, you will 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 Chair may decide, consistent with the time limit for speakers at a Council meeting.

If you wish to speak to an item or items on the Consent Calendar, please state which item number(s) you are commenting on at the beginning of your time.

If you are unable to participate in real-time, you may email to PublicComment@losgatosca.gov the subject line “Public Comment Item #_” (insert the item number relevant to your comment) or “Verbal Communications – Non-Agenda Item.” Comments received by 11:00 a.m. the day of the meeting will be reviewed and distributed before the meeting. All comments received will become part of the record.

REMOTE LOCATION PARTICIPANTS

The following Council Members are listed to permit them to appear electronically or telephonically at the Town Council meeting: MAYOR ROB RENNIE, VICE MAYOR MARIA RISTOW, COUNCIL MEMBER MARY BADAME, COUNCIL MEMBER MATTHEW HUDES, and COUNCIL MEMBER MARICO SAYOC. All votes during the teleconferencing session will be conducted by roll call vote.

MEETING CALL TO ORDER

ROLL CALL

RULES OF DECORUM AND CIVILITY

To conduct the business of the community in an effective and efficient manner, please follow the meeting guidelines set forth in the Town Code and State law.

The Town does not tolerate disruptive conduct, which includes but is not limited to:

- Addressing the Town Pension and OPEB Trusts Oversight Committee without first being recognized;
- Interrupting speakers, Town Pension and OPEB Trusts Oversight Committee, or Town staff;
- Continuing to speak after the allotted time has expired;
- Failing to relinquish the microphone when directed to do so;
- Repetitiously addressing the same subject.

Town Policy does not allow speakers to cede their commenting time to another speaker. Disruption of the meeting may result in a violation of Penal Code Section 403.

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 Chair 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 Chair has the sole discretion to determine when the item will be heard.)*

1. Approve Minutes of the Pension and OPEB Trusts Oversight Committee Meeting of June 21, 2022
2. Receive California Employer's Retiree Benefit Trust (CERBT) Strategy 1 Market Value Summary Report for the Period Ending June 30, 2022
3. Receive California Employer's Pension Prefunding Trust (CEPPT) Strategy Market Value Summary Report for the Period Ending June 30, 2022
4. Receive CalPERS Public Employees' Retirement Fund (PERF) Preliminary Performance Report as June 30, 2022

VERBAL COMMUNICATIONS *(Members of the public are welcome to address the Committee on any matter that is not listed on the agenda. To ensure all agenda items are heard and unless additional time is authorized by the Chair, this portion of the agenda is limited to 30 minutes and no more than three (3) minutes per speaker. In the event additional speakers were not able to be heard during the initial Verbal Communications portion of the agenda, an additional Verbal Communications will be opened prior to adjournment.)*

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

- [5.](#) Receive the Town of Los Gatos Retiree Healthcare Plan June 30, 2021 Actuarial Valuation and Adopt its Assumptions as Prepared and Recommended by Bartel Associates, LLC
- [6.](#) Receive CalPERS Actuarial Valuation Reports as of June 30, 2021

ADJOURNMENT *(Council policy is to adjourn no later than midnight unless a majority of Council votes for an extension of time)*

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.

*Corrected “How to Participate” instructions on the first page



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

MEETING DATE: 09/20/2022

ITEM NO: 1

**DRAFT
Minutes of the Pension and OPEB Trust Oversight Committee Meeting
June 21, 2022**

The Pension and OPEB Trust Oversight Committee of the Town of Los Gatos conducted a regular Meeting utilizing teleconference and electronic means consistent with Government Code Section 54953, as Amended by Assembly Bill 361, in response to the state of emergency relating to COVID-19 and enabling teleconferencing accommodations by suspending or waiving specified provisions in the Ralph M. Brown Act (Government Code § 54950 et seq.) and Town of Los Gatos Resolution 2021-044 on June 21, 2022 at 6:15 p.m.

MEETING CALLED TO ORDER AT 6:16 P.M.

ROLL CALL

Present: Mayor Rob Rennie, Vice Mayor Maria Ristow, Council Member Mary Badame, Council Member Matthew Hudes, Council Member Marico Sayoc (all participating remotely).

Absent: None

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

1. Approve Minutes of the Pension and OPEB Trusts Oversight Committee Meeting of March 5, 2022.
2. Receive CalPERS Public Employees' Retirement Fund (PERF) Performance Report as March 31, 2022.

MOTION: Motion by Council Member Hudes to approve the Consent Items 1 and 2. **Seconded** by Council Member Badame.

VOTE: Motion passed unanimously.

VERBAL COMMUNICATIONS

None.

OTHER BUSINESS

3. Receive the Town of Los Gatos IRS Section 115 Pension Trust Account Update as of March 31, 2022.

Arn Andrews, Assistant Town Manager, presented the staff report.

Opened Public Comment.

PAGE 2 OF 2

SUBJECT: Draft Minutes of the Pension and OPEB Trust Oversight Committee Meeting of
June 21, 2022

DATE: June 21, 2022

Other Business Item #3 – continued

No one spoke.

Closed Public Comment.

Council received the report.

4. Receive California Employer's Retiree Benefit Trust (CERBT) Strategy 1 Account Update and Market Value Summary Report for the Period Ending March 31, 2022.

Arn Andrews, Assistant Town Manager, presented the staff report.

Opened Public Comment.

No one spoke.

Closed Public Comment.

Council received the report.

ADJOURNMENT

The meeting adjourned at 6:25 p.m.

Attest:

Shelley Neis, Town Clerk



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

MEETING DATE: 09/20/2022

ITEM NO: 2

DATE: September 1, 2022
TO: Town Pension and OPEB Trusts Oversight Committee
FROM: Laurel Prevetti, Town Manager
SUBJECT: Receive California Employer's Retiree Benefit Trust (CERBT) Strategy 1 Market Value Summary Report for the Period Ending June 30, 2022

RECOMMENDATION:

Receive California Employer's Retiree Benefit Trust (CERBT) Strategy 1 Market Value Summary Report for the period ending June 30, 2022.

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:

As of July 31, 2022, the CERBT Strategy 1 fund had a net return of 5.96% for the month end and -1.20% for the 3 month period (Attachment 1). The ending OPEB 115 Trust account balance as of June 30, 2022, was \$22,861,333 compared to \$26,101,084 as of March 31, 2021 (Attachment 2).

Attachments:

1. CERBT Performance July 2022
2. OPEB 115 Trust Market Value Summary

PREPARED BY: Arn Andrews
Assistant Town Manager

Reviewed by: Town Manager, Town Attorney, and Interim Finance Director

CERBT Strategy 1

July 31, 2022



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
\$13,707,208,616	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 ¹	Target Range	Benchmark
Global Equity	59%	± 5%	MSCI All Country World Index IMI (Net)
Fixed Income	25%	± 5%	Bloomberg Long Liability Index
Treasury Inflation-Protected Securities ("TIPS")	5%	± 3%	Bloomberg US TIPS Index, Series L
Real Estate Investment Trusts ("REITs")	8%	± 5%	FTSE EPRA/NAREIT Developed Index (Net)
Commodities	3%	± 3%	S&P GSCI Total Return Index
Cash	-	+ 2%	91-Day Treasury Bill

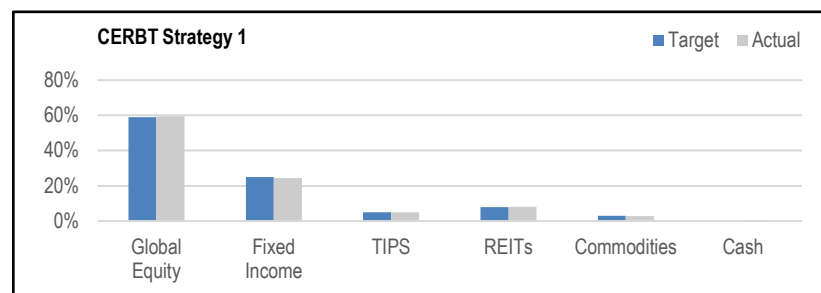
¹ Allocations were approved by the Board at the May 2018 Investment Committee meeting.

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, 2022

	1 Month	3 Months	Fiscal YTD	1 Year	3 Years*	5 Years*	10 Years*	Since Inception* (June 1, 2007)
Gross Return ^{1,3}	5.97%	-1.18%	5.97%	-9.35%	6.52%	6.41%	7.29%	5.23%
Net Return ^{2,3}	5.96%	-1.20%	5.96%	-9.43%	6.43%	6.32%	7.18%	5.16%
Benchmark Returns	5.93%	-1.34%	5.93%	-9.58%	6.23%	6.12%	6.92%	4.82%
Standard Deviation ⁴	-	-	-	-	13.84%	12.05%	9.88%	12.79%

* 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.

CERBT Strategy 1

July 31, 2022



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.

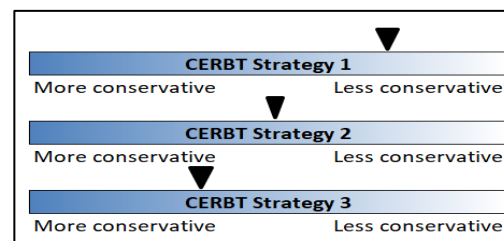
Fund Performance

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	59%	40%	22%
Fixed Income	25%	43%	49%
Treasury Inflation-Protected Securities	5%	5%	16%
Real Estate Investment Trusts	8%	8%	8%
Commodities	3%	4%	5%



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.



Market Value Summary:

	QTD Current Period	Fiscal Year to Date
Beginning Balance	\$26,101,084.33	\$26,234,530.84
Contribution	148,963.00	148,963.00
Disbursement	0.00	0.00
Transfer In	0.00	0.00
Transfer Out	0.00	0.00
Investment Earnings	(3,383,587.53)	(3,500,088.60)
Administrative Expenses	(2,961.35)	(12,749.85)
Investment Expense	(2,165.22)	(9,322.16)
Other	0.00	0.00
Ending Balance	\$22,861,333.23	\$22,861,333.23
FY End Contrib per GASB 74 Para 22	0.00	0.00
FY End Disbursement Accrual	0.00	0.00
Grand Total	\$22,861,333.23	\$22,861,333.23

Unit Value Summary:

	QTD Current Period	Fiscal Year to Date
Beginning Units	1,180,781.789	1,180,781.789
Unit Purchases from Contributions	7,771.199	7,771.199
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	22.104918	22.217933
Period Ending Unit Value	19.234593	19.234593

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 06/30/2022

Town of Los Gatos

Entity #: SKB0-4589482285



Date	Description	Amount	Unit Value	Units	Check/Wire	Notes
06/22/2022	Contribution	\$148,963.00	\$19.168599	7,771.199	1000000444562 80	



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

MEETING DATE: 09/20/2022

ITEM NO: 3

DATE: September 1, 2022
TO: Town Pension and OPEB Trusts Oversight Committee
FROM: Laurel Prevetti, Town Manager
SUBJECT: Receive California Employer's Pension Prefunding Trust (CEPPT) Strategy
Market Value Summary Report for the Period Ending June 30, 2022

RECOMMENDATION:

Receive California Employer's Pension Prefunding Trust (CEPPT) Strategy 2 Market Value Summary Report for the period ending June 30, 2022.

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.

Effective fiscal year 2015/16, Council determined if sufficient General Fund year-end savings are available and targeted reserve levels for the Catastrophic Reserve and Budget Stabilization

PREPARED BY: Arn Andrews
Assistant Town Manager

Reviewed by: Town Manager, Town Attorney, and Interim Finance Director

PAGE 2 OF 2

SUBJECT: CEPPT Market Value Update

DATE: September 1, 2022

DISCUSSION (continued):

Reserve have been met, upon 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 \$400,000 per year to address the unfunded pension liability. Under the updated Policy, a 20-year amortization equivalence will be achieved through additional Unfunded Actuarial Liability (UAL) payments of approximately \$400,000 per year.

Since the last distribution in 2021, the ending CEPPT 115 Trust account balance as of June 30, 2022, was \$676,150.03 (Attachment 1). As of July 31, 2022, the CEPPT Strategy 2 fund had a net return of 4.81% for the month end and -0.31% for the 3-month period (Attachment 2). Per prior Council direction, staff will consult with the Town's actuary and the Finance Commission, and return to the Oversight Committee with a recommended amortization base for an ADP.

Attachments:

1. CEPPT Market Value Update
2. CEPPT Performance July 2022



Market Value Summary:

	QTD Current Period	Fiscal Year to Date
Beginning Balance	\$0.00	\$0.00
Contribution	690,000.00	690,000.00
Disbursement	0.00	0.00
Transfer In	0.00	0.00
Transfer Out	0.00	0.00
Investment Earnings	(13,691.85)	(13,691.85)
Administrative Expenses	(104.29)	(104.29)
Investment Expense	(53.83)	(53.83)
Other	0.00	0.00
Ending Balance	\$676,150.03	\$676,150.03
FY End Contribution Accrual	0.00	0.00
FY End Disbursement Accrual	0.00	0.00
Grand Total	\$676,150.03	\$676,150.03

Unit Value Summary:

	QTD Current Period	Fiscal Year to Date
Beginning Units	0.000	0.000
Unit Purchases from Contributions	68,400.224	68,400.224
Unit Sales for Withdrawals	0.000	0.000
Unit Transfer In	0.000	0.000
Unit Transfer Out	0.000	0.000
Ending Units	68,400.224	68,400.224
Period Beginning Unit Value	10.894213	10.894213
Period Ending Unit Value	9.885202	9.885202

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 06/30/2022

Town of Los Gatos

Entity #: SKHE-4589482285-501P



Date	Description	Amount	Unit Value	Units	Check/Wire	Notes
04/27/2022	Contribution	\$390,000.00	\$10.262670	38,001.807	100000044028501	
06/27/2022	Contribution	\$300,000.00	\$9.868935	30,398.417	100000044494835	

CEPPT Strategy 1

July 31, 2022



Objective

The CEPPT 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 CEPPT Strategy 1 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 2, this portfolio has a higher allocation to equities than bonds. 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:

CEPPT Strategy 1	Annual Expense Ratio
\$65,865,163	0.25%

Composition

Asset Class Allocations and Benchmarks

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

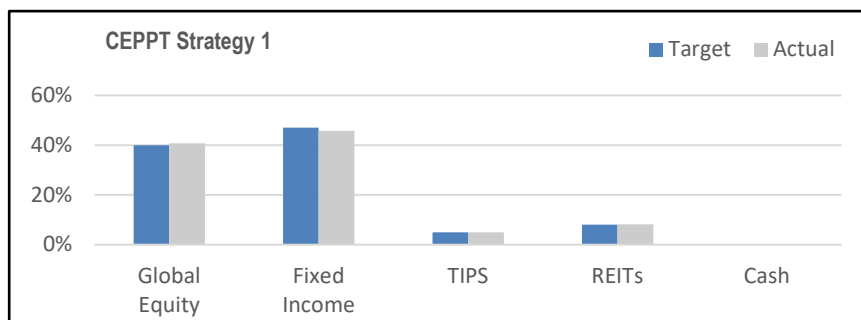
Asset Class	Target Allocation	Target Range	Benchmark
Global Equity	40%	± 5%	MSCI All Country World Index IMI (Net)
Fixed Income	47%	± 5%	Bloomberg US Aggregate Bond Index
Treasury Inflation-Protected Securities ("TIPS")	5%	± 3%	Bloomberg US TIPS Index, Series L
Real Estate Investment Trusts ("REITs")	8%	± 5%	FTSE EPRA/NAREIT Developed Index (Net)
Cash	-	+ 2%	91-Day Treasury Bill

Portfolio Benchmark

The CEPPT 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 for a particular asset class based on market, economic, or other considerations.



CEPPT Strategy 1 Performance as of July 31, 2022

	1 Month	3 Months	Fiscal YTD	1 Year	3 Years*	5 Years*	10 Years*	Since Inception* (October 1, 2019)
Gross Return ^{1,3}	4.83%	-0.25%	4.83%	-9.25%	-	-	-	4.13%
Net Return ^{2,3}	4.81%	-0.31%	4.81%	-9.46%	-	-	-	3.90%
Benchmark Return	4.86%	-0.40%	4.86%	-9.43%	-	-	-	4.07%
Standard Deviation ⁴	-	-	-	-	-	-	-	-

* 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 1



July 31, 2022

General Information

Information Accessibility

The CEPPT Strategy 1 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 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 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.

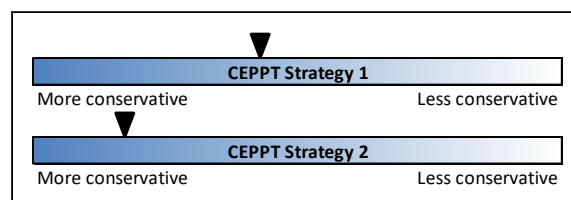
Fund Performance

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	40%	14%
Fixed Income	47%	73%
Treasury-Inflation Protected Securities	5%	5%
Real Estate Investment Trusts	8%	8%





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

MEETING DATE: 09/20/2022

ITEM NO: 4

DATE: September 2, 2022
TO: Town Pension and OPEB Trusts Oversight Committee
FROM: Laurel Prevetti, Town Manager
SUBJECT: Receive CalPERS Public Employees' Retirement Fund (PERF) Preliminary Performance Report as June 30, 2022

RECOMMENDATION:

Receive CalPERS Public Employees' Retirement Fund (PERF) preliminary performance report as June 30, 2022.

DISCUSSION:

Attachment 1 contains the CalPERS PERF preliminary performance report as of June 30, 2022. Fiscal Year end preliminary fund performance was a net return of -6.1%.

Attachments:

1. PERF Preliminary Performance as of June 30, 2022

PREPARED BY: Arn Andrews
Assistant Town Manager

Reviewed by: Town Manager, Town Attorney, and Interim Finance Director



CalPERS Announces Preliminary Net Investment Return of -6.1% for the 2021-22 Fiscal Year

July 20, 2022

Communications & Stakeholder Relations

Contact: Megan White, Information Officer

(916) 795-3991 - newsroom@calpers.ca.gov

Challenging global public markets, strong private market returns lead to varied performance

SACRAMENTO, Calif. – Tumultuous global markets played a role in CalPERS' first loss since the global financial crisis of 2009, as the System today announced a preliminary -6.1% net return on investments for the 12-month period that ended June 30, 2022. Assets stood at \$440 billion at the end of the fiscal year.

"We've done a lot of work in recent years to plan and prepare for difficult conditions," said CalPERS Chief Executive Officer Marcie Frost. "Despite the market conditions and their impact on our returns, we're focused on long-term performance and our members can be confident that their retirement is safe and secure."

Volatile global financial markets, geopolitical instability, domestic interest rate hikes, and inflation all have had an impact on public market returns. CalPERS' investments in global public stocks returned -13.1%, while fixed income investments returned -14.5%. Public market investments make up roughly 79% of the CalPERS' total fund. CalPERS' private market investments fared much better, with private equity and real assets sectors returning 21.3% and 24.1%, respectively.

"This is a unique moment in the financial markets, and we've seen a deviation from some investing fundamentals," said CalPERS Chief Investment Officer Nicole Musicco. "For instance, our traditional diversification strategies were less effective than expected, as we saw both private equity and fixed income assets fall in tandem. But despite a challenging year, we were

able to outperform our total fund benchmark by 90 basis points and provide strong returns from our private market asset classes. These are bright spots that we can build on as we implement our new strategic asset allocation and increase our exposure to private market assets.”

Total fund annualized returns for the 5-year period ending June 30, 2022 stood at 6.7%, the 10-year period at 7.7%, the 20-year period at 6.9%, and 30-year period at 7.7%.

Asset Class	Net Rate of Return	Policy Benchmark
Total Fund	-6.1%	-7.0%
Public Equity	-13.1%	-13.2%
Fixed Income	-14.5%	-14.5%
Private Equity*	21.3%	8.3%
Real Assets*	24.1%	27.1%
Liquidity	0.3%	0.1%

* Private market asset valuations lag one quarter and are as of March 31, 2022.

With CalPERS’ discount rate of 6.8% and this year’s preliminary return of -6.1%, the estimated overall funded status stands at 72%.

The official total fund performance numbers go through multiple layers of review and oversight. View the Total Fund and Benchmark Performance Calculation – Wilshire Associates (PDF) for more information.

CalPERS' 2021-22 final fiscal year investment performance will be calculated based on audited figures and will be reflected in contribution levels for the State of California and school districts in fiscal year 2023-24, and for contracting cities, counties, and special districts in fiscal year 2024-25.

The ending value of the fund is based on several factors and not investment performance alone. Contributions made to CalPERS from employers and employees, monthly payments made to retirees, investment fees, and the performance of its investments, among other factors, all influence the ending total value of the PERF.

###

MEDIA ADVISORY

What: Media availability to discuss fiscal year investment returns

Who: CalPERS CEO, CIO, senior investment office staff

When: Wednesday, July 20, at 10 a.m. PT.

Format: Credentialed media only; call 800-369-3154. Password: CalPERS

About CalPERS

For more than eight decades, CalPERS has built retirement and health security for state, school, and public agency members who invest their lifework in public service. Our pension fund serves more than 2 million members in the CalPERS retirement system and administers benefits for more than 1.5 million members and their families in our health program, making us the largest defined-benefit public pension in the U.S. CalPERS' total fund market value currently stands at approximately \$442 billion. For more information, visit www.calpers.ca.gov.



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

MEETING DATE: 09/20/2022

ITEM NO: 5

DATE: September 1, 2022
TO: Town Pension and OPEB Trusts Oversight Committee
FROM: Laurel Prevetti, Town Manager
SUBJECT: Receive the Town of Los Gatos Retiree Healthcare Plan June 30, 2021 Actuarial Valuation and Adopt its Assumptions as Prepared and Recommended by Bartel Associates, LLC.

RECOMMENDATION:

Staff recommends that the Oversight Committee receive the Town of Los Gatos Retiree Healthcare Plan June 30, 2021 actuarial valuation and adopt its assumptions as prepared and recommended by Bartel Associates, LLC.

BACKGROUND:

The Town's healthcare plan pays all, or a portion of, health insurance premiums for qualified retirees and their survivors and dependents. Healthcare benefits are also referred to as Other Post-Employment Benefits or OPEB. The Town's healthcare plan is an Internal Revenue Code Section 115 Trust which is administered by the Town Pension and OPEB Trusts Oversight Committee. The Oversight Committee consists of the five Town Council Members. The Oversight Committee is responsible for the management and control of the healthcare assets. The healthcare assets are maintained at CalPERS and invested in the CalPERS managed California Employers' Retiree Benefit Trust (CERBT) Strategy 1.

In 2009, the Town proactively opted to transition from a "pay-as-you-go" (PayGo) funding policy for OPEB benefits and adopted a ten-year phase-in approach to prefunding the OPEB obligations. Since implementation of the ten-year phase-in of prefunding, the healthcare plan has gone from zero percent funded to the current 81.0% funding ratio.

As part of adoption of the Fiscal Year (FY) 2022/23 Operating Budget, Council approved the use of \$902,579 from available OPEB 115 Trust assets for retiree PayGo expenses in FY 2022/23.

PREPARED BY: Arn Andrews
Assistant Town Manager

Reviewed by: Town Manager, Town Attorney, and Interim Finance Director

BACKGROUND (continued):

This was possible based upon the most recent valuation projections of the Town's annually actuarially required contributions.

DISCUSSION:

For the healthcare plan, the Town Pension and OPEB Trusts Oversight Committee retain the services of Bartel and Associates, LLC to analyze the respective assets and liabilities of the Healthcare Plan. In order for the Town to understand the value of future healthcare benefit payments, an actuarial valuation is performed every other year for the healthcare plan with the last valuation occurring in 2019.

Attachment 1 to this staff report presents the June 30, 2021 Actuarial Valuation Final Results from the Town's actuary, Bartel and Associates. Since the 2019 valuation, the total OPEB Actuarial Accrued Liability increased from \$27.0 million to \$28.7 million as of June 30, 2021. The Unfunded Actuarial Accrued Liability decreased from approximately \$8.7 million as of June 30, 2019 to \$5.5 million as of the June 30, 2021. The decrease in the Unfunded Actuarial Accrued Liability since 2019 was primarily the result of positive investment and demographic experience. The net result is an increase in the funded status for the OPEB plan as of June 30, 2021 to 81.0% from 67.9%.

	June 30, 2021	June 30, 2019
Actuarial Value of Plan Assets	\$23,252,000	\$18,341,000
Actuarial Accrued Liability	28,720,000	27,017,000
Unfunded Actuarial Accrued Liability	5,468,000	8,676,000
Funded Status	81.0%	67.9%

In addition, the development of the actuarial valuation includes assumption recommendations by the Town's actuary. The table on the following page provides the primary actuarial assumptions recommended for the Oversight Committee's consideration and adoption.

DISCUSSION (continued):

Assumption	June 30, 2021	June 30, 2019
General Inflation	2.50%	2.75%
Discount Rate	6.25%	6.75%
Payroll Increases	3.00%	2.75%
Amortization UAL	16 Years	18 Years

CONCLUSION:

Receive the Town of Los Gatos Retiree Healthcare Plan June 30, 2021 actuarial valuation and adopt its assumptions as prepared and recommended by Bartel Associates, LLC.

COORDINATION:

This staff report was coordinated with the Town Manager, Town Attorney, and the Interim Director of Finance.

FISCAL IMPACT:

There is no fiscal impact related reviewing the OPEB actuarial report.

ENVIRONMENTAL ASSESSMENT:

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

Attachments:

1. June 30, 2021 OPEB Actuarial Valuation Final Results



BARTTEL
ASSOCIATES, LLC

**TOWN OF LOS GATOS
RETIREE HEALTHCARE PLAN**

June 30, 2021 Actuarial Valuation
Final Results

Bartel Associates, LLC
Mary Beth Redding, Vice President
Wai Man Yam, Actuarial Analyst
Katherine Moore, Associate Actuary
June 15, 2022

CONTENTS

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Funding Policy	5
Participant Summary	7
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Valuation Results	14
Bartel Associates OPEB Database	29
Actuarial Certification	32
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BENEFIT SUMMARY

■ Eligibility	<ul style="list-style-type: none"> • Retire directly from Town under CalPERS (service or disability) • Town Council members in CalPERS eligible
■ Retiree Medical Benefit Tier 1	<ul style="list-style-type: none"> • Maximum Town contribution is Kaiser Region 1 single premium plus 90% of difference between Kaiser premium for coverage elected (2-party and family) and single premium using: <ul style="list-style-type: none"> ➢ Non-Medicare premium for employees who retired before 2/1/16 ➢ Non-Medicare and Medicare premiums for employees who retired on or after 2/1/16 • Town contribution uses PEMHCA 5% unequal method <ul style="list-style-type: none"> ➢ Town joined PEMHCA in 1991 ➢ Maximum annual increase of \$100 per month - \$1,847.16 for family coverage (B/B/B) for 2021



BENEFIT SUMMARY

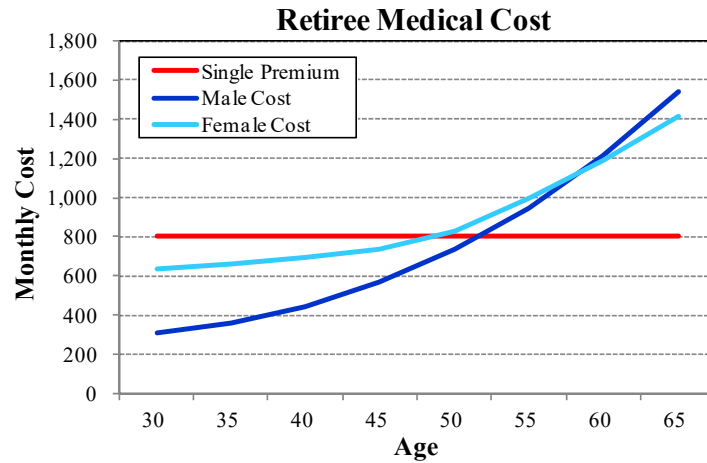
■ Retiree Medical Benefit Tier 2	<ul style="list-style-type: none"> • PEMHCA minimum amount for: <table border="1" data-bbox="730 1260 1214 1617"> <thead> <tr> <th>Employee Group</th><th>Hired After</th></tr> </thead> <tbody> <tr> <td>TEA</td><td>8/22/18</td></tr> <tr> <td>AFSCME</td><td>7/1/18</td></tr> <tr> <td>POA</td><td>10/1/18</td></tr> <tr> <td>Management</td><td>10/1/18</td></tr> <tr> <td>Confidential</td><td>10/1/18</td></tr> <tr> <td>Town Manager</td><td>10/1/18</td></tr> <tr> <td>Town Attorney</td><td>10/1/18</td></tr> <tr> <td>Town Council</td><td>10/1/18</td></tr> </tbody> </table> 	Employee Group	Hired After	TEA	8/22/18	AFSCME	7/1/18	POA	10/1/18	Management	10/1/18	Confidential	10/1/18	Town Manager	10/1/18	Town Attorney	10/1/18	Town Council	10/1/18
Employee Group	Hired After																		
TEA	8/22/18																		
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Confidential	10/1/18																		
Town Manager	10/1/18																		
Town Attorney	10/1/18																		
Town Council	10/1/18																		
■ PEMHCA Minimum Amount	<table> <tr> <td>2021</td><td>\$143 / month</td></tr> <tr> <td>2022</td><td>\$149 / month</td></tr> <tr> <td>2023</td><td>\$151 / month (estimated)</td></tr> <tr> <td>2024+</td><td>Medical CPI increases</td></tr> </table>	2021	\$143 / month	2022	\$149 / month	2023	\$151 / month (estimated)	2024+	Medical CPI increases										
2021	\$143 / month																		
2022	\$149 / month																		
2023	\$151 / month (estimated)																		
2024+	Medical CPI increases																		
■ Surviving Spouse Benefit	<ul style="list-style-type: none"> • Retiree benefit paid to surviving spouse of retiree with CalPERS joint and survivor payment option • Retiree benefit paid to spouse of active employee who died while eligible to retire receiving CalPERS survivor benefit 																		



BENEFIT SUMMARY

■ Implicit Subsidy

- Retirees pay blended medical premiums rather than expected medical costs by age and gender
- Active premiums subsidize non-Medicare eligible retiree medical costs (“implicit subsidy”)



- Implicit subsidy required by Actuarial Standards of Practice for actuarial valuations for PEMHCA plans after 3/31/15



BENEFIT SUMMARY



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FUNDING POLICY

■ Funding Policy

- Contribute at least full ADC¹ less cash subsidy and implicit subsidy benefit payments with OPEB trust (CERBT Investment Strategy #1)
- Cash subsidy and implicit subsidy benefit payments and PEMHCA administrative fees currently paid by the Town and not reimbursed from OPEB trust
- Unfunded Liability amortized over 16 years for 2022/23

■ Pay-As-You-Go Cost (000's)

<u>Fiscal Year</u>	<u>Cash Subsidy</u>	<u>Implicit Subsidy</u>	<u>PEMHCA Fees</u>	<u>Total PayGo</u>	<u>Trust Paid</u>	<u>Town Paid</u>
2020/21	\$1,279	\$216	\$11	\$1,506	\$0	\$1,506
2019/20	1,199	201	8	1,408	0	1,408
2018/19	1,104	195	8	1,307	0	1,307
2017/18	1,138	188	9	1,335	0	1,335
2016/17	1,040	229	9	1,278	0	1,278
2015/16	943	253	n/a	1,196	0	1,196
2014/15	859	n/a	n/a	859	0	859
2013/14	754	n/a	n/a	754	0	754
2012/13	687	n/a	n/a	687	0	687
2011/12	636	n/a	n/a	636	0	636

¹ Actuarially Determined Contribution (ADC) is GASBS 75's terminology for the recommended funding contribution.

BA June 15, 2022

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FUNDING POLICY

■ Town Contributions ('000's)

<u>Fiscal Year</u>	<u>Town PayGo</u>	<u>Trust Prefund</u>	<u>Total Contrib</u>	<u>ARC/ADC</u>	<u>Discount Rate</u>
2020/21	\$1,506	\$591	\$2,097	\$1,859	6.75%
2019/20	1,408	1,100	2,508	2,172	6.75%
2018/19	1,307	1,100	2,407	2,108	6.75%
2017/18	1,335	1,600	2,935	2,129	7.25%
2016/17	1,278	2,600	3,878	2,067	7.25%
2015/16	1,196	1,500	2,696	1,913	7.25%
2014/15	859	1,300	2,159	1,864	7.25%
2013/14	754	1,300	2,054	2,619	S&U
2012/13	687	1,200	1,887	2,492	S&U
2011/12	636	1,060	1,696	2,129	S&U
2010/11	581	850	1,431	1,990	S&U
2009/10	400	550	950	1,953	S&U
2008/09	346	400	746	1,801	S&U



PARTICIPANT SUMMARY

Eligible Participants - June 30, 2021

CalPERS Classification	Misc	Safety	Total
■ Actives			
• Participating	88 78%	26 70%	114 76%
• Waived Coverage	<u>25</u> <u>22%</u>	<u>11</u> <u>30%</u>	<u>36</u> <u>24%</u>
• Total Actives	113 100%	37 100%	150 ² 100%
• Average Age	45.4	42.2	44.6
• Average Town Service	8.0	9.9	8.5
• Total Payroll (000's)	\$11,229	\$5,324	\$16,553
■ Retirees			
• Participating	101 77%	41 79%	142 77%
• Waived Coverage	<u>31</u> <u>23%</u>	<u>11</u> <u>21%</u>	<u>42</u> <u>23%</u>
• Total Retirees	132 100%	52 100%	184 100%
• Average Age	73.1	63.8	70.4
• Average Service Retirement Age	59.9	53.7	58.6
• Average Disabled Retirement Age	49.8	45.8	46.0
■ Retirees/Actives	117%	141%	123%

² 37 active employees on 6/30/21 are in Tier 2.

BA June 15, 2022

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PARTICIPANT SUMMARY

Eligible Participants - June 30, 2019

CalPERS Classification	Misc	Safety	Total
■ Actives			
• Participating	87 78%	30 79%	117 79%
• Waived Coverage	<u>24</u> <u>22%</u>	<u>8</u> <u>21%</u>	<u>32</u> <u>21%</u>
• Total Actives	111 100%	38 100%	149 ³ 100%
• Average Age	44.8	43.1	44.4
• Average Town Service	8.0	10.7	8.7
• Total Payroll (000's)	\$10,364	\$5,522	\$15,886
■ Retirees			
• Participating	94 74%	36 75%	130 74%
• Waived Coverage	<u>33</u> <u>26%</u>	<u>12</u> <u>25%</u>	<u>45</u> <u>26%</u>
• Total Retirees	127 100%	48 100%	175 100%
• Average Age	72.3	64.6	70.2
• Average Service Retirement Age	59.9	53.4	58.6
• Average Disabled Retirement Age	49.8	46.3	46.5
■ Retirees/Actives	114%	126%	117%

³ 10 active employees on 6/30/19 are in Tier 2.



PARTICIPANT SUMMARY

Participant Reconciliation

Participants	Actives	Retirees			
		Service	Disabled	Survivors	Total
■ June 30, 2019	149	139	17	19	175
• Terminations ⁴	(13)	-	-	-	-
• New Retirees & Survivors	(15)	13	2	0	15
• Retiree Deaths with Survivor	-	(1)	(0)	1	-
• Retiree Deaths without Survivor ⁵	-	(2)	(0)	(4)	(6)
• New Participants	29	-	-	-	-
■ June 30, 2021	150	149	19	16	184

⁴ Active employees reported for the 6/30/19 valuation and not reported for the 6/30/21 valuation were assumed to be terminations or deaths before retirement.

⁵ Retirees reported for the 6/30/19 valuation and not reported for the 6/30/21 valuation were assumed to be deaths without covered survivors.

BA June 15, 2022

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PARTICIPANT SUMMARY



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ASSETS

Market Value of Plan Assets (Trust Only)

(Amounts in 000's)

Market Value of Assets (MVA)	2017/18	2018/19	2019/20	2020/21	Projected 2021/22
■ MVA at Beginning of Year	\$13,601	\$16,277	\$18,380	\$20,124	\$26,235
• Trust Prefunding Contributions	1,600	1,100	1,100	591	149 ⁶
• Investment Earnings	1,088	1,017	660	5,539	1,650
• Benefit Payments	0	0	0	0	0
• Investment Expenses	(5)	(6)	(7)	(8)	(11)
• CERBT Admin Expenses	(7)	(8)	(9)	(11)	(13)
■ MVA at End of Year	16,277	18,380	20,124	26,235	28,009
■ Estimated Annual Return	8.0%	6.2%	3.6%	27.5%	6.25%

⁶ Provided by the Town

 June 15, 2022

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ASSETS

Actuarial Value of Plan Assets (AVA)

(Amounts in 000's)

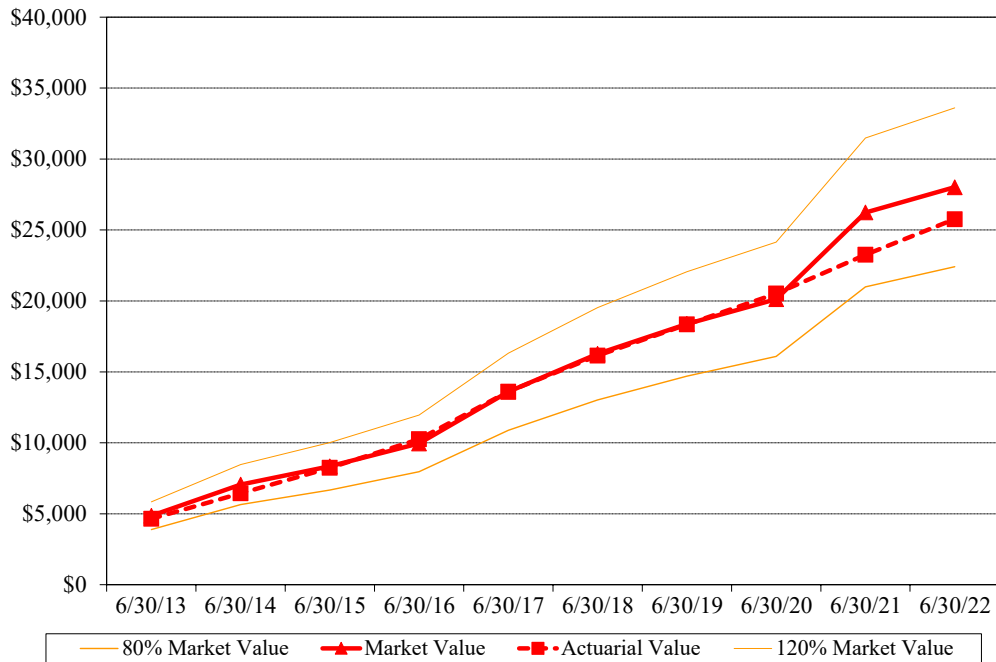
	Actual 6/30/21	Projected 6/30/22
■ Market Value of Assets	\$26,235	\$28,009
■ Unrecognized (Gain)/Loss		
• 1 year prior – 80%	(3,338)	-
• 2 years prior – 60%	353	(2,503)
• 3 years prior – 40%	35	235
• 4 years prior – 20%	(33)	18
■ Adjustment to MVA	(2,983)	(2,250)
■ AVA	23,252	25,759
■ Ratio: AVA/MVA	89%	92%



ASSETS

Historical Plan Assets

(Amounts in 000's)



VALUATION RESULTS

Actuarial Obligations

Actuarial Obligations (Amounts in 000's)	Actual 6/30/19	Actual 6/30/21	Projected 6/30/22
■ Discount Rate	6.75%	6.25%	6.25%
■ Present Value of Benefits			
• Actives (future retirees)	\$19,848	\$18,251	
• Retirees	<u>16,952</u>	<u>18,809</u>	
• Total	36,800	37,060	
■ Actuarial Accrued Liability			
• Actives (future retirees)	10,065	9,911	
• Retirees	<u>16,952</u>	<u>18,809</u>	
• Total	27,017	28,720	\$29,913
■ Actuarial (Smoothed) Asset Value	<u>18,341</u>	<u>23,252</u>	<u>25,759</u>
■ Unfunded AAL	8,676	5,468	4,154
■ Funded Percentage	67.9%	81.0%	86.1%
■ Normal Cost⁷ (2020/21 and 2022/23)	1,203	n/a	1,022

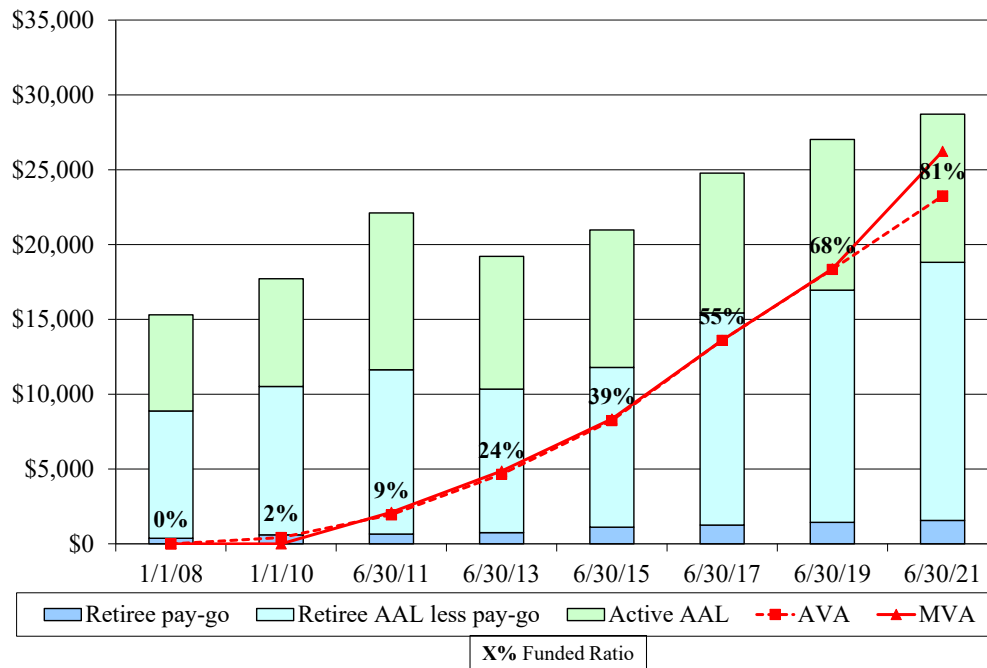
⁷ Including estimated administrative expenses.



VALUATION RESULTS

Funded Status

(Amounts in 000's)



VALUATION RESULTS

Actuarial Obligations

June 30, 2021

Actuarial Obligations (Amounts in 000's)	Cash Subsidy	Implicit Subsidy	Total Subsidy
■ Discount Rate	6.25%	6.25%	6.25%
■ Present Value of Benefits			
• Actives (future retirees)	\$14,329	\$3,922	\$18,251
• Retirees	<u>17,133</u>	<u>1,676</u>	<u>18,809</u>
• Total	31,462	5,598	37,060
■ Actuarial Accrued Liability			
• Actives (future retirees)	7,817	2,094	9,911
• Retirees	<u>17,133</u>	<u>1,676</u>	<u>18,809</u>
• Total	24,950	3,770	28,720
■ Actuarial (Smoothed) Asset Value ⁸	<u>20,200</u>	<u>3,052</u>	<u>23,252</u>
■ Unfunded AAL	4,750	718	5,468
■ Normal Cost 2022/23⁹	814	208	1,022

⁸ Actuarial Value of Assets allocated to cash subsidy and implicit subsidy in proportion to Actuarial Accrued Liability.

⁹ Including estimated administrative expenses.



VALUATION RESULTS

Actuarial Obligations by Tier – Actives Only June 30, 2021

■ Benefit Tier	Tier 1	Tier 2	Total
■ Active Count	113	37	150
■ Projected 2022/23 Active Employee Payroll	\$14,583,000	\$2,893,000	\$17,476,000
■ 2022/23 Normal Cost	\$937,000	\$67,000	\$1,004,000
■ Normal Cost as % of Payroll	6.4%	2.3%	5.7%
■ Actuarial Accrued Liability	\$9,866,000	\$45,000	\$9,911,000



VALUATION RESULTS

Estimated Gains & Losses

Actuarial Gains & Losses (Amounts in 000's)	Accrued Liability	(Assets) (AVA)	Unfunded (UAAL)
■ 6/30/19 Actual Amounts	\$27,017	\$(18,341)	\$ 8,676
■ 6/30/21 Expected Amounts	30,155	(21,949)	8,206
■ Experience Losses (Gains)			
• Actual versus expected premiums ¹⁰	(3,019)	-	(3,019)
• Demographic, primarily more retirees than expected	530	-	530
• Asset loss (gain)	-	(1,303)	(1,303)
■ Assumption Changes			
• Implicit subsidy added for Tier 1 Medicare eligible	382		382
• Mortality improvement scale updated	(88)	-	(88)
• CalPERS new demographic assumptions	(91)	-	(91)
• Lower Kaiser Medicare healthcare trend	(599)	-	(599)
• Retiree & family participation rates at retirement	395	-	395
• Inflation, discount rate & salaries decrease 25 b.p.	282	-	282
• Discount rate lowered additional 25 b.p.	773	-	773
■ Total Changes	(1,435)	(1,303)	(2,738)
■ 6/30/21 Actual Amounts	28,720	(23,252)	5,468

¹⁰ Includes the impact of actual versus expected premiums and changes in claims aging factors.



VALUATION RESULTS

Actuarially Determined Contributions (ADC)¹¹

(Amounts in 000's)

Actuarially Determined Contribution	<u>6/30/19 Valuation</u>		<u>6/30/21 Valuation</u>	
	2020/21	2021/22	2022/23	2023/24 ¹²
■ Discount Rate	6.75%	6.75%	6.25%	6.25%
■ ADC - \$				
• Normal Cost	\$1,191	\$1,171	\$1,004	\$1,001
• Administrative Expenses	12	13	18	19
• UAAL Amortization	<u>656</u>	<u>676</u>	<u>350</u>	<u>407</u>
• Total ADC	1,859	1,860	1,372	1,427
■ Projected Payroll	16,853	17,359	17,476	17,957
■ ADC - %				
• Normal Cost	7.0%	6.7%	5.7%	5.6%
• Administrative Expenses	0.1%	0.1%	0.1%	0.1%
• UAAL Amortization	<u>3.9%</u>	<u>3.9%</u>	<u>2.0%</u>	<u>2.3%</u>
• Total ADC%	11.0%	10.7%	7.9%	7.9%
■ UAAL Amortization Years	18	17	16	15

¹¹ 1-year lag period between valuation date and first fiscal year ADC. Due to rounding, the numbers may not add.

¹² Assumes Town requests cash and implicit subsidy benefit payment reimbursements from the trust in 2022/23 and makes no trust contributions in 2022/23.



VALUATION RESULTS

Actuarially Determined Contribution (ADC)¹³

2022/23 Fiscal Year

(Amounts in 000's)

Actuarially Determined Contribution	Cash Subsidy	Implicit Subsidy	Total Subsidy
■ Discount Rate	6.25%	6.25%	6.25%
■ ADC - \$			
• Normal Cost	\$796	\$208	\$1,004
• Administrative Expenses	18	-	18
• UAAL Amortization	<u>303</u>	<u>47</u>	<u>350</u>
• Total ADC	1,117	255	1,372
■ Projected Payroll	17,476	17,476	17,476
■ ADC - %			
• Normal Cost	4.6%	1.2%	5.7%
• Administrative Expenses	0.1%	0.0%	0.1%
• UAAL Amortization	<u>1.7%</u>	<u>0.3%</u>	<u>2.0%</u>
• Total ADC	6.4%	1.5%	7.9%
■ UAAL Amortization Years	16	16	16

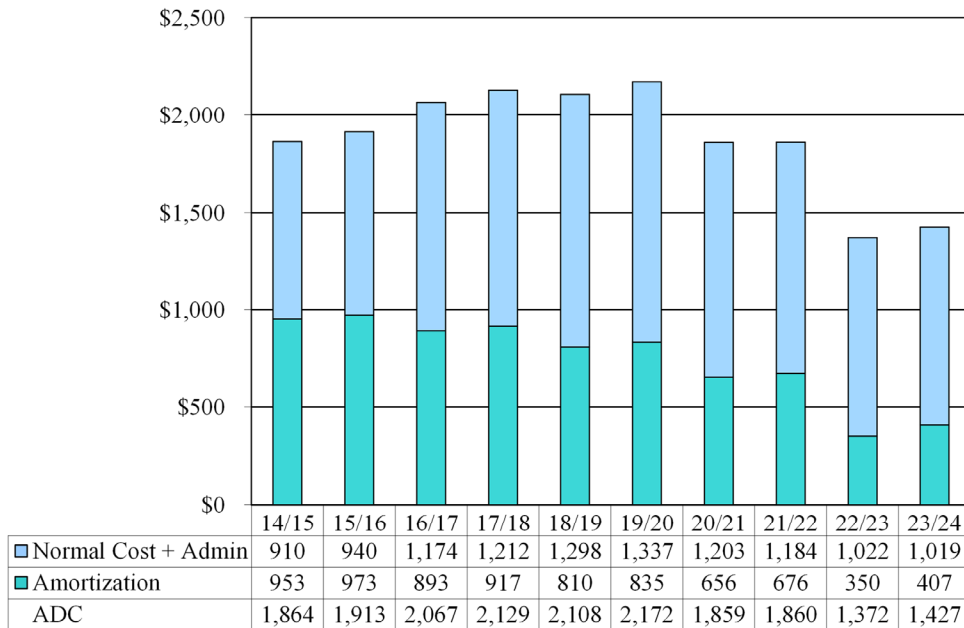
¹³ Due to rounding the numbers may not add.



VALUATION RESULTS

Actuarially Determined Contributions (ADC)

(Amounts in \$000's)



VALUATION RESULTS

Benefit Payment Projection

(Amounts in 000's)

Fiscal Year End	Cash Subsidy ¹⁴			Implicit Subsidy	Total Benefit Payments
	Current Actives	Current Retirees	Total Cash		
2023	\$114	\$1,308	\$1,422	\$201	\$1,623
2024	194	1,299	1,493	181	1,674
2025	278	1,290	1,568	176	1,744
2026	362	1,320	1,682	214	1,896
2027	457	1,326	1,783	239	2,022
2028	564	1,315	1,879	266	2,144
2029	656	1,328	1,984	332	2,316
2030	726	1,308	2,034	340	2,374
2031	820	1,248	2,068	324	2,393
2032	942	1,260	2,202	444	2,646

¹⁴ Does not include estimated PEMHCA administrative fees.



VALUATION RESULTS

Total Payments Projection

(Amounts in 000's)

Fiscal Year End	Cash Benefit Payments	PEMHCA Admin Expense	Implicit Subsidy Payments	Total Benefit Payments	Percent of Payroll
2023	\$1,422	\$4	\$201	\$1,627	9.3%
2024	1,493	4	181	1,678	9.3%
2025	1,568	4	176	1,748	9.5%
2026	1,682	5	214	1,901	10.0%
2027	1,783	5	239	2,027	10.4%
2028	1,879	5	266	2,149	10.7%
2029	1,984	6	332	2,322	11.3%
2030	2,034	6	340	2,380	11.3%
2031	2,068	6	324	2,399	11.0%
2032	2,202	7	444	2,653	11.9%



VALUATION RESULTS

Contribution Projection - ADC Funding

(Amounts in 000's)

Fiscal Year End	Actuarially Determined Contribution					Town Contributions ¹⁵			
	Normal Cost	UAAL Amort	ADC	Projected Payroll	ADC % Pay	Cash Subsidy	Implicit Subsidy	Trust Funding	Total Contrib
2023	\$1,022	\$350	\$1,372	\$17,476	7.9%	\$1,426	\$201	\$(1,627)	\$-
2024	1,019	407	1,427	17,957	7.9%	1,497	181	(70)	1,608
2025	1,002	325	1,327	18,450	7.2%	1,572	176	(245)	1,503
2026	983	228	1,211	18,958	6.4%	1,687	214	(476)	1,425
2027	962	211	1,173	19,479	6.0%	1,788	239	(615)	1,412
2028	942	189	1,130	20,015	5.6%	1,884	266	(754)	1,396
2029	926	160	1,086	20,565	5.3%	1,990	332	(904)	1,418
2030	906	119	1,025	21,131	4.9%	2,040	340	(1,015)	1,365
2031	885	70	955	21,712	4.4%	2,074	324	(1,119)	1,279
2032	869	16	885	22,309	4.0%	2,209	444	(1,324)	1,329

¹⁵ Projection assumes Town requests cash and implicit subsidy benefit payment reimbursements from the trust in 2022/23 and thereafter contributes the ADC to the trust and requests reimbursements for cash benefit payments. Normal cost includes expenses partly based on asset value. Cash subsidy includes PEMHCA administrative expenses. Negative trust funding indicates reimbursement requested.



VALUATION RESULTS

Funded Status Projection - ADC Funding

(Amounts in 000's)

Fiscal Year End	Actuarial Value of Assets (AVA) ¹⁶						Funded Status		
	BOY AVA	Trust Funding	Cash Subsidy Reimbursed	Implicit Subsidy Payments	Expected Earnings	EOY AVA	BOY AAL	BOY UAAL ¹⁷	BOY Fund%
2023	\$25,759	\$ -	\$(1,426)	\$(201)	\$2,385	26,517	\$29,913	\$4,154	86%
2024	26,517	-	(70)	-	2,411	28,858	31,113	4,596	85%
2025	28,858	-	(245)	-	2,626	31,239	32,333	3,475	89%
2026	31,239	-	(476)	-	1,885	32,648	33,539	2,300	93%
2027	32,648	-	(615)	-	1,968	34,001	34,643	1,995	94%
2028	34,001	-	(754)	-	2,050	35,297	35,664	1,663	95%
2029	35,297	-	(904)	-	2,127	36,520	36,602	1,305	96%
2030	36,520	-	(1,015)	-	2,201	37,706	37,404	884	98%
2031	37,706	-	(1,119)	-	2,274	38,861	38,176	470	99%
2032	38,861	-	(1,324)	-	2,342	39,879	38,955	94	100%

¹⁶ Projection assumes Town requests cash and implicit subsidy benefit payment reimbursements from the trust in 2022/23 and thereafter contributes the ADC to the trust and requests reimbursements for cash benefit payments.

¹⁷ UAAL is amortized over 16 years for 2022/23 and decreases by 1 year for each year thereafter.



June 15, 2022

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VALUATION RESULTS

CERBT Investment Options

■ 2018 Asset Allocation

	Strategy 1	Strategy 2	Strategy 3
Global Equity	59%	40%	22%
Fixed Income	25%	43%	49%
TIPS	5%	5%	16%
Commodities	3%	4%	5%
REITs	8%	8%	8%
Total	100%	100%	100%

■ 2022 Asset Allocation (approved March 14, 2022)

	Strategy 1	Strategy 2	Strategy 3
Global Equity	49%	34%	23%
Fixed Income	23%	41%	51%
TIPS	5%	5%	9%
Commodities	3%	3%	3%
REITs	20%	17%	14%
Total	100%	100%	100%



VALUATION RESULTS

Discount Rate

- Future expected returns
 - Stochastic simulations of geometric average returns over 20 years
 - 5,000 trials
 - 2.50% inflation assumption
 - Projections based on 8 independent Investment Advisors 2021 10-year Capital Market Assumptions and where available, investment advisors long-term trends
 - Confidence levels (based on 2022 asset allocations):

	Strategy 1	Strategy 2	Strategy 3
50% Confidence Level	6.25%	5.75%	5.25%
55% Confidence Level	6.00%	5.50%	5.00%
60% Confidence Level	5.75%	5.25%	4.75%

- Town currently in Strategy 1
 - Recommend 6.25% discount rate



VALUATION RESULTS

CERBT Prefunding

(Amounts in 000's)

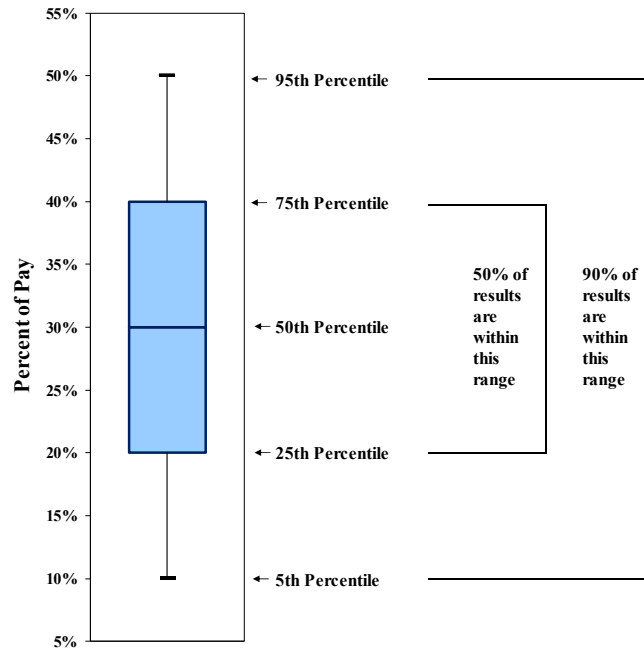
■ Investment Strategy	CERBT #1	CERBT #2	CERBT #3
■ Discount Rate	6.25%	5.75%	5.25%
■ Present Value of Benefits	\$37,060	\$39,876	\$43,055
■ Funded Status - 6/30/21			
● Actuarial Accrued Liability	28,720	30,376	32,194
● Actuarial Value of Assets	<u>23,252</u>	<u>23,252</u>	<u>23,252</u>
● Unfunded AAL	5,468	7,124	8,942
● Funded Percentage	81.0%	76.5%	72.2%
■ ADC 2022/23			
● Normal Cost + Admin. Expenses	1,022	1,117	1,222
● UAAL Amortization ¹⁸	<u>350</u>	<u>476</u>	<u>605</u>
● Total ADC	1,372	1,593	1,827
■ ADC% 2022/23	7.9%	9.1%	10.5%

¹⁸ Amortized as a level percentage of payroll over a 16-year period.



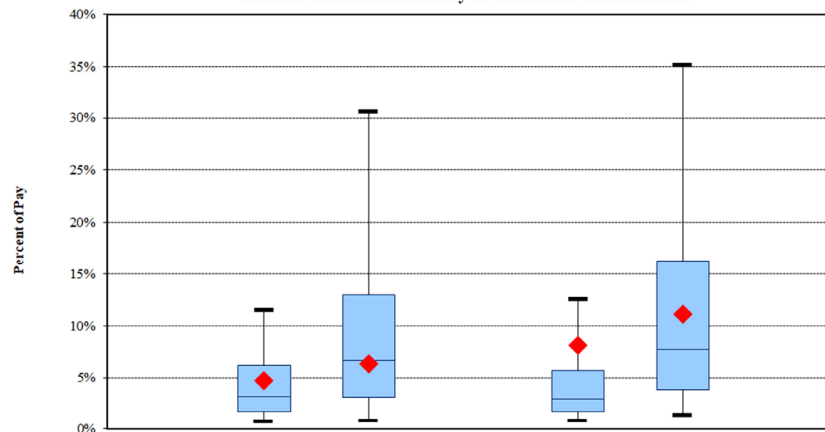
BARTEL ASSOCIATES OPEB DATABASE

**Bartel Associates OPEB Database
Sample Percentile Graph**



BARTEL ASSOCIATES OPEB DATABASE

**Bartel Associates OPEB Database
Normal Cost & Actuarially Determined Contribution**

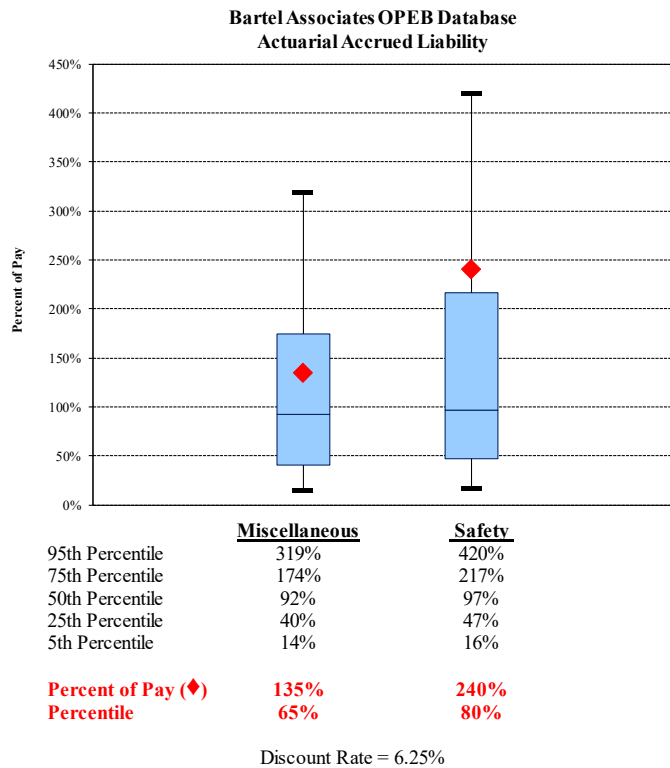


	Miscellaneous		Safety	
	NC	ADC	NC	ADC
95th Percentile	11.6%	30.7%	12.6%	35.2%
75th Percentile	6.2%	13.0%	5.7%	16.3%
50th Percentile	3.2%	6.7%	2.9%	7.7%
25th Percentile	1.8%	3.1%	1.7%	3.9%
5th Percentile	0.8%	0.9%	0.9%	1.4%
Percent of Pay (♦)	4.7%	6.3%	8.2%	11.1%
Percentile	67%	52%	87%	65%

Discount Rate = 6.25%, Average Amortization Period = 16.0 Years



BARTEL ASSOCIATES OPEB DATABASE



ACTUARIAL CERTIFICATION

This report presents the Town of Los Gatos Retiree Healthcare Plan ("Plan") June 30, 2021 actuarial valuation. The purpose of this valuation is to calculate the June 30, 2021 funded status and 2022/23 and 2023/24 Actuarially Determined Contributions and provide the basis for the Town's GASBS 75 accounting information report for the fiscal years ending on June 30, 2022 and June 30, 2023. The report may not be appropriate for other purposes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the assumptions; changes in assumptions; changes expected as part of the natural progression of the plan; and changes in plan provisions or applicable law. Actuarial models necessarily rely on the use of estimates and are sensitive to changes. Small variations in estimates may lead to significant changes in actuarial measurements. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of such measurements.

Information under Governmental Accounting Standards Board Statement No. 75 (GASBS 75) has been provided under a separate report.

The valuation is based on Plan provisions, participant data, and asset information provided by the Town as summarized in this report, which we relied on but did not audit. We reviewed the participant data for reasonableness.

To the best of our knowledge, this report is complete and accurate and has been completed using generally accepted actuarial principles and practices. As members of the American Academy of Actuaries meeting the Academy's Qualification Standards, we certify the actuarial results and opinions herein.

Respectfully submitted,



Mary Elizabeth Redding, FSA, EA, FCA,MAAA
Vice President
Bartel Associates, LLC
June 15, 2022



Katherine Moore, ASA, MAAA
Associate Actuary
Bartel Associates, LLC
June 15, 2022



EXHIBITS

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PREMIUMS

2021 PEMHCA Monthly Premiums Region 1

Medical Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem Select	\$925.60	\$1,851.20	\$2,406.56	\$383.37	\$766.74	\$1,150.11
Anthem Traditional	1,307.86	2,615.72	3,400.44	383.37	766.74	1,150.11
Blue Shield Access+	1,170.08	2,340.16	3,042.21	n/a	n/a	n/a
Health Net SmartCare	1,120.21	2,240.42	2,912.55	n/a	n/a	n/a
Kaiser	813.64	1,627.28	2,115.46	324.48	648.96	973.44
UnitedHealthcare	941.17	1,882.34	2,447.04	311.56	623.12	934.68
Western Health Adv.	757.02	1,514.04	1,968.25	n/a	n/a	n/a
PERS Choice	935.84	1,871.68	2,433.18	349.97	699.94	1,049.91
PERS Select	566.67	1,133.34	1,473.34	349.97	699.94	1,049.91
PERSCare	1,294.69	2,589.38	3,366.19	381.25	762.50	1,143.75
PORAC	799.00	1,725.00	2,199.00	513.00	1,022.00	1,635.00



PREMIUMS

2022 PEMHCA Monthly Premiums **Region 1**

Medical Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem Select	\$1,015.81	\$2,031.62	\$2,641.11	\$360.19	\$720.38	\$1,080.57
Anthem Traditional	1,304.00	2,608.00	3,390.40	360.19	720.38	1,080.57
Blue Shield Access+	1,116.01	2,232.02	2,901.63	353.11	706.22	1,059.33
Health Net SmartCare	1,153.00	2,306.00	2,997.80	n/a	n/a	n/a
Kaiser	857.06	1,714.12	2,228.36	302.53	605.06	907.59
UnitedHealthcare	1,020.28	2,040.56	2,652.73	294.65	589.30	883.95
UnitedHealthcare Edge	n/a	n/a	n/a	347.21	694.42	1,041.63
Western Health Adv.	741.26	1,482.52	1,927.28	314.94	629.88	944.82
PERS Platinum	1,057.01	2,114.02	2,748.23	381.94	763.88	1,145.82
PERS Gold	701.23	1,402.46	1,823.20	377.41	754.82	1,132.23
PORAC	799.00	1,725.00	2,219.00	461.00	919.00	1,471.00



PARTICIPANT STATISTICS

Medical Plan Participation **Miscellaneous Non-Waived Participants**

Medical Plan	June 30, 2019			June 30, 2021		
	Actives	Retirees		Actives	Retirees	
		< 65	≥ 65		< 65	≥ 65
Anthem HMO Select	15%	13%	1%	13%	14%	3%
Anthem HMO Traditional	3%	4%	0%	2%	0%	0%
Blue Shield Access+	0%	0%	0%	0%	0%	0%
Health Net SmartCare	1%	0%	0%	0%	0%	0%
Kaiser Permanente	63%	42%	30%	65%	41%	29%
UnitedHealthcare	0%	0%	16%	0%	0%	15%
Western Health Advantage	0%	0%	0%	0%	0%	0%
PERS Choice	17%	33%	30%	16%	36%	29%
PERS Select	1%	4%	0%	3%	0%	3%
PERSCare	0%	4%	23%	1%	9%	21%
Total	100%	100%	100%	100%	100%	100%



PARTICIPANT STATISTICS

Medical Plan Participation Safety Non-Waived Participants

Medical Plan	June 30, 2019			June 30, 2021		
	Actives	Retirees		Actives	Retirees	
		< 65	≥ 65		< 65	≥ 65
Anthem HMO Select	10%	10%	0%	8%	5%	5%
Anthem HMO Traditional	0%	0%	7%	0%	0%	0%
Blue Shield Access+	0%	0%	0%	0%	0%	0%
Health Net SmartCare	0%	0%	0%	0%	0%	0%
Kaiser Permanente	57%	33%	20%	54%	36%	21%
UnitedHealthcare	0%	0%	0%	0%	0%	0%
Western Health Advantage	0%	0%	0%	0%	0%	0%
PERS Choice	3%	24%	20%	4%	23%	21%
PERS Select	0%	0%	7%	0%	0%	5%
PERSCare	0%	0%	13%	4%	0%	11%
PORAC	30%	33%	33%	30%	36%	37%
Total	100%	100%	100%	100%	100%	100%



PARTICIPANT STATISTICS

Active Medical Coverage Miscellaneous

Medical Plan	Single	2-Party	Family	Cash	Total
Anthem HMO Select	3	3	5		11
Anthem HMO Traditional	2				2
Blue Shield Access+					0
Health Net SmartCare					0
Kaiser Permanente	25	8	24		57
UnitedHealthcare					0
Western Health Advantage					0
PERS Choice	5	3	6		14
PERS Select	1	1	1		3
PERSCare	1				1
Waived				25	25
Total	37	15	36	25	113



PARTICIPANT STATISTICS

Active Medical Coverage Safety

Medical Plan	Single	2-Party	Family	Cash	Total
Anthem HMO Select		1	1		2
Anthem HMO Traditional					0
Blue Shield Access+					0
Health Net SmartCare					0
Kaiser Permanente	5	2	7		14
UnitedHealthcare					0
Western Health Advantage					0
PERS Choice	1				1
PERS Select					0
PERSCare	1				1
PORAC		2	6		8
Waived				11	11
Total	7	5	14	11	37



June 15, 2022

E-6



PARTICIPANT STATISTICS

Retiree Medical Coverage Miscellaneous - Under Age 65

Medical Plan	Single	2-Party	Family	Waived	Total
Anthem HMO Select	2		1		3
Anthem HMO Traditional					0
Blue Shield Access+					0
Health Net SmartCare					0
Kaiser Permanente	4	3	2		9
UnitedHealthcare					0
Western Health Advantage					0
PERS Choice	5	3			8
PERS Select					0
PERSCare	1	1			2
Waived				3	3
Total	12	7	3	3	25



June 15, 2022

E-7



PARTICIPANT STATISTICS

Retiree Medical Coverage Safety - Under Age 65

Medical Plan	Single	2-Party	Family	Waived	Total
Anthem HMO Select			1		1
Anthem HMO Traditional					0
Blue Shield Access+					0
Health Net SmartCare					0
Kaiser Permanente	3	3	2		8
UnitedHealthcare					0
Western Health Advantage					0
PERS Choice	2	1	2		5
PERS Select					0
PERSCare					0
PORAC	2	3	3		8
Waived				4	4
Total	7	7	8	4	26



PARTICIPANT STATISTICS

Retiree Medical Coverage Miscellaneous - Age 65 & Over

Medical Plan	Single	2-Party	Family	Waived	Total
Anthem HMO Select		1	1		2
Anthem HMO Traditional					0
Blue Shield Access+					0
Health Net SmartCare					0
Kaiser Permanente	17	6			23
UnitedHealthcare	6	6			12
Western Health Advantage					0
PERS Choice	11	12			23
PERS Select		1	1		2
PERSCare	10	7			17
Waived				28	28
Total	44	33	2	28	107



PARTICIPANT STATISTICS

Retiree Medical Coverage Safety - Age 65 & Over

Medical Plan	Single	2-Party	Family	Waived	Total
Anthem HMO Select		1			1
Anthem HMO Traditional					0
Blue Shield Access+					0
Health Net SmartCare					0
Kaiser Permanente	2	2			4
UnitedHealthcare					0
Western Health Advantage					0
PERS Choice	3	1			4
PERS Select		1			1
PERSCare	1		1		2
PORAC	2	5			7
Waived				7	7
Total	8	10	1	7	26



PARTICIPANT STATISTICS

Actives by Age and Town Service Miscellaneous

Age	Town Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25		1						1
25-29	4	7	2					13
30-34		8	5					13
35-39	1	4	6	1				12
40-44	1	6	5	1	2	1		16
45-49		2	6	3	2	2		15
50-54	2	4	4	3	2	1		16
55-59	1	2	5	2	4			14
60-64		4	3			1	1	9
≥ 65	1					1	2	4
Total	10	38	36	10	10	6	3	113



PARTICIPANT STATISTICS

Actives by Age and Town Service Safety

Age	Town Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25		2						2
25-29	2	2						4
30-34	1	2	2					5
35-39		1		3				4
40-44			1	1	1			3
45-49	1	1	5		1	5		13
50-54		1			1	1		3
55-59						1		1
60-64								0
≥ 65		1			1			2
Total	4	10	8	4	4	7	0	37



PARTICIPANT STATISTICS

Retiree Medical Coverage by Age Group Miscellaneous

Age	Single	2-Party	Family	Waived	Total
Under 50					0
50-54	1				1
55-59	2	1	2		5
60-64	9	6	1	3	19
65-69	12	8	2	3	25
70-74	11	11		8	30
75-79	11	9		5	25
80-84	6	2		7	15
85+	4	3		5	12
Total	56	40	5	31	132



PARTICIPANT STATISTICS

Retiree Medical Coverage by Age Group Safety

Age	Single	2-Party	Family	Waived	Total
Under 50			4	1	5
50-54	1	1	3	3	8
55-59	1	4	1		6
60-64	5	2			7
65-69	2	5	1	2	10
70-74	2	3		1	6
75-79	2	2		2	6
80-84	2			2	4
85+					0
Total	15	17	9	11	52



ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Valuation Date	<ul style="list-style-type: none"> • June 30, 2019 • 2020/21 and 2021/22 ADCs • ADC calculated as of beginning of the year with interest to end of year • 1-year lag period between valuation date and first fiscal year ADC 	<ul style="list-style-type: none"> • June 30, 2021 • 2022/23 and 2023/24 ADCs • ADC calculated as of beginning of the year with interest to end of year • 1-year lag period between valuation date and first fiscal year ADC
■ Funding Policy	<ul style="list-style-type: none"> • Prefund full ADC less cash and implicit subsidy benefit payments with CERBT #1 • Benefit payments currently made from Town assets 	<ul style="list-style-type: none"> • Same
■ General Inflation	<ul style="list-style-type: none"> • 2.75% annually • Basis for aggregate payroll and discount rate assumptions 	<ul style="list-style-type: none"> • 2.50% annually • Basis for aggregate payroll and discount rate assumptions



ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Discount Rate	<ul style="list-style-type: none"> 6.75% 	<ul style="list-style-type: none"> 6.25%
■ Aggregate Payroll Increases	<ul style="list-style-type: none"> 3.00% annually Inflation plus 0.25% For Normal Cost calculation and UAAL amortization 	<ul style="list-style-type: none"> 2.75% annually Inflation plus 0.25% For Normal Cost calculation and UAAL amortization
■ Merit Payroll Increases	<ul style="list-style-type: none"> CalPERS 1997-2015 Experience Study Added to aggregate payroll increase assumption for Normal Cost calculation 	<ul style="list-style-type: none"> CalPERS 2000-2019 Experience Study Added to aggregate payroll increase assumption for Normal Cost calculation
■ Administration Expenses	<ul style="list-style-type: none"> CERBT - 0.05% of assets added to Normal Cost PEMHCA - 0.27% of retiree premium added to Normal Cost (2019/20 PEMHCA administrative fee) 	<ul style="list-style-type: none"> CERBT - 0.05% of assets included in ADC PEMHCA - 0.25% of retiree premium included in ADC (2021/22 PEMHCA administrative fee)



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2019 Valuation			June 30, 2021 Valuation			
■ Medical Trend	<u>Increase from Prior Year</u>			<u>Increase from Prior Year</u>			
	<u>Year</u>	<u>Non-Medicare</u>	<u>Medicare</u>	<u>Year</u>	<u>Non Medicare</u>	<u>Kaiser</u>	<u>Other</u>
	2017	n/a		2020	n/a		
	2018	n/a		2021	Actual Premiums		
	2019	Premiums		2022	Actual Premiums		
	2020	Premiums		2023	6.50%	4.60%	5.65%
	2021	7.25%	6.30%	2024	6.25%	4.45%	5.45%
	2022	7.00%	6.10%	2025	6.00%	4.35%	5.25%
	2023	6.75%	5.90%	2026	5.75%	4.25%	5.05%
	2024	6.50%	5.70%	2027	5.55%	4.20%	4.90%
	2025	6.25%	5.50%	2028	5.35%	4.15%	4.75%
	2026	6.00%	5.30%	2029	5.15%	4.10%	4.60%
	2027	5.80%	5.15%	2030	4.95%	4.05%	4.45%
	2028	5.60%	5.00%	2031-2035	4.80%	4.00%	4.35%
	2029	5.40%	4.85%	2036-2045	4.65%	3.95%	4.25%
	2030	5.20%	4.70%	2046-2055	4.50%	3.90%	4.20%
	2031-2035	5.05%	4.60%	2056-2065	4.35%	3.85%	4.15%
	2036-2045	4.90%	4.50%	2066-2075	4.05%	3.80%	3.95%
	2046-2055	4.75%	4.45%	2076+	3.75%	3.75%	3.75%
	2056-2065	4.60%	4.40%				
2066-2075	4.30%	4.20%					
2076+	4.00%	4.00%					



June 15, 2022

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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Medical Trend (continued)	■ n/a	■ PEMHCA medical premiums after 2022 and estimated claims after 2021 do not take into account buy-downs (CalPERS subsidizations of premium rates from reserves). ¹⁹
■ Mortality, Termination, Disability	<ul style="list-style-type: none"> • CalPERS 1997-2015 Experience Study • Mortality Improvement Scale 2019 	<ul style="list-style-type: none"> • CalPERS 2000-2019 Experience Study • Mortality Improvement Scale 2021
■ Service Retirement	<ul style="list-style-type: none"> • CalPERS 1997-2015 Experience Study 	<ul style="list-style-type: none"> • CalPERS 2000-2019 Experience Study

¹⁹ Applies to Basic plans: Anthem Select, Anthem Traditional, Blue Shield Trio, Health Net Salud y Mas, UnitedHealthcare Alliance, Western Health Advantage, and PERS Platinum; Medicare Advantage plan: Anthem Medicare Preferred; Medicare Supplement plans: PERS Platinum and PERS Gold.



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Participation at Retirement	<ul style="list-style-type: none"> • Tier 1 Actives: <ul style="list-style-type: none"> ➢ Participating - 100% ➢ Waived - 80% • Tier 2 Actives: <ul style="list-style-type: none"> ➢ Participating - 60% ➢ Waived: <ul style="list-style-type: none"> - Agency service < 3 months - 60% - Agency service ≥ 3 months - 40% • Retirees: <ul style="list-style-type: none"> ➢ Participating - 100% ➢ Waived: <ul style="list-style-type: none"> - < 65 - 20% elect at 65 - ≥ 65 - 0% 	<ul style="list-style-type: none"> • Tier 1 Actives: <ul style="list-style-type: none"> ➢ Participating - 100% ➢ Waived - 100% • Tier 2 Actives: <ul style="list-style-type: none"> ➢ Participating - 60% ➢ Waived - 40% • Retirees: <ul style="list-style-type: none"> ➢ Participating - 100% ➢ Waived: <ul style="list-style-type: none"> - < 65 - 0% elect at 65 - ≥ 65 - 0%



June 15, 2022

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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Medical Plan at Retirement	<ul style="list-style-type: none"> • Participating: <ul style="list-style-type: none"> ➢ Current plan election ➢ UnitedHealthcare when eligible for Medicare if Medicare eligible plan not available for current plan election • Waived - Kaiser 	<ul style="list-style-type: none"> • Same • Participants with PERS Choice and PERSCare move to PERS Platinum • Participants with PERS Select move to PERS Gold
■ Marital Status at Retirement	<ul style="list-style-type: none"> • Actives: <ul style="list-style-type: none"> ➢ Married if currently elect 2-party or family coverage ➢ Waived - 80% married • Retirees - based on spouse information if provided 	<ul style="list-style-type: none"> • Same



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Retiree Coverage Election at Retirement	<ul style="list-style-type: none"> • Covered - based on current coverage election • Waived <ul style="list-style-type: none"> ➢ Single coverage if assumed to not be married ➢ 2-party coverage if assumed to be married 	<ul style="list-style-type: none"> • Same
■ Spouse Age	<ul style="list-style-type: none"> • Actives - males 3 years older than females • Retirees - males 3 years older than females if spouse birth date not provided 	<ul style="list-style-type: none"> • Same



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Spouse & Dependent Coverage at Retirement	<ul style="list-style-type: none"> Surviving spouse coverage - 100% of married retirees elect CalPERS joint and survivor annuity Family coverage: <ul style="list-style-type: none"> ➢ Current actives: <ul style="list-style-type: none"> - Misc - 5% until age 65 - Safety - 25% until age 65 ➢ Current retirees <ul style="list-style-type: none"> - Current coverage until 65 ➢ No coverage after age 65 	<ul style="list-style-type: none"> Surviving spouse coverage - 100% of married retirees elect CalPERS joint and survivor annuity Family coverage: <ul style="list-style-type: none"> ➢ Current Tier 1 actives: <ul style="list-style-type: none"> - Misc - 10% until age 65 - Safety - 35% until age 65 ➢ Current retirees <ul style="list-style-type: none"> - Current coverage until 65 ➢ No coverage after age 65
■ Medicare Eligibility	<ul style="list-style-type: none"> 100% eligible for Medicare at age 65 Medicare eligible retirees will elect Part B coverage 	<ul style="list-style-type: none"> Same



ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2021 Valuation								
■ Medical Claims Costs 2022 Calendar Year	● Sample estimated monthly claims costs:								
	<u>Region 1</u>								
		<u>Anthem Select</u>		<u>Anthem Traditional</u>		<u>Kaiser</u>		<u>UnitedHealthcare</u>	
	<u>Age</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
	25	\$423	\$804	\$526	\$1,001	\$347	\$661	\$424	\$807
	35	495	832	616	1,035	407	683	497	835
	45	686	896	854	1,115	564	736	688	899
	55	1,134	1,138	1,412	1,416	932	934	1,138	1,142
	60	1,535	1,387	1,911	1,727	1,261	1,139	1,541	1,392
	64	1,881	1,615	2,342	2,010	1,545	1,326	1,888	1,621
	65	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
70	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
75	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	



ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2021 Valuation					
■ Medical Claims Costs 2022 Calendar Year	• Sample estimated monthly claims costs:					
	<u>Region 1</u>					
	<u>PERS Platinum</u>		<u>PERS Gold</u>		<u>PORAC</u>	
	<u>Age</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	
	25	\$364	\$715	\$285	\$573	\$324 \$643
	35	429	742	337	595	383 666
	45	604	803	481	646	542 720
	55	1,031	1,035	836	840	928 929
	60	1,420	1,277	1,162	1,042	1,278 1,147
	64	1,750	1,492	1,436	1,220	1,576 1,341
	65	378	329	379	330	436 377
	70	420	364	421	365	484 417
	75	452	393	453	394	521 450
	80	468	410	469	412	540 470



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2021 Valuation
■ Basis for Assumptions	<ul style="list-style-type: none"> ■ 2021 CalPERS experience study covering 2000 to 2019 experience ■ Mortality improvement based on Society of Actuaries table ■ Inflation based on the Plan's very long time horizon ■ Participation and coverage take into account Plan experience ■ Capital market assumptions based on 2021 Bartel Associates stochastic analysis, taking into account capital market assumptions of investment advisory firms ■ PEMHCA medical claims costs were developed by Axene Health Partners based on demographic data for the CalPERS health plans provided by CalPERS and Axene's proprietary AHP Cost Model. ■ Short-term medical trend developed in consultation with Axene Health Partners' healthcare actuaries ■ Long-term medical trend developed using Society of Actuaries' Getzen Model of Long-Run Medical Cost Trends



June 15, 2022

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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2021 Valuation
■ Data Quality	■ Our valuation used census data provided by the Town and CalPERS OPEB data extract. We reviewed the data for reasonableness and resolved any questions with the Town. We believe the resulting data can be relied on for all purposes of this valuation without limitation.
■ Actuarial Modeling	■ Our valuation was performed using and relying on ProVal, an actuarial model leased from WinTech. Our use of ProVal is consistent with its intended purpose. We have reviewed and understand ProVal and its operation, sensitivities and dependencies
■ COVID-19	■ No adjustments to the assumptions have been made for COVID-19 since there is not yet enough data to evaluate the future impacts



ACTUARIAL METHODS

Method	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Cost Method	<ul style="list-style-type: none"> • Entry Age Normal • Normal Cost is a level percentage of payroll 	<ul style="list-style-type: none"> • Same
■ Actuarial Value of Assets	<ul style="list-style-type: none"> • Investment gains and losses spread over a 5-year rolling period • Not less than 80% nor more than 120% of market value 	<ul style="list-style-type: none"> • Investment gains and losses spread over a 5-year fixed period • Not less than 80% nor more than 120% of market value
■ Amortization Method	<ul style="list-style-type: none"> • Level percent of payroll 	<ul style="list-style-type: none"> • Same
■ Amortization Periods	<ul style="list-style-type: none"> • 30-year fixed (closed) period for 2008/09 ARC • 18-year fixed (closed) period for 6/30/20 projected UAAL for 2020/21 ADC 	<ul style="list-style-type: none"> • 30-year fixed (closed) period for 2008/09 ARC • 16-year fixed (closed) period for 6/30/22 projected UAAL for 2022/23 ADC



ACTUARIAL METHODS

Method	June 30, 2019 Valuation	June 30, 2021 Valuation
■ Implicit Subsidy	<ul style="list-style-type: none"> • Implicit subsidy estimate included for non-Medicare eligible retirees 	<ul style="list-style-type: none"> • Implicit subsidy estimate included for non-Medicare eligible retirees and Tier 1 Medicare eligible retirees in non-Medicare Advantage plans. • Due to age-risk adjusted federal subsidies, no age-based claims cost were included for Medicare Advantage plans.
■ Projections	<ul style="list-style-type: none"> • Valuation Results - closed group, no new hires • Projections - Simplified open group projection 	<ul style="list-style-type: none"> • Same



DEFINITIONS

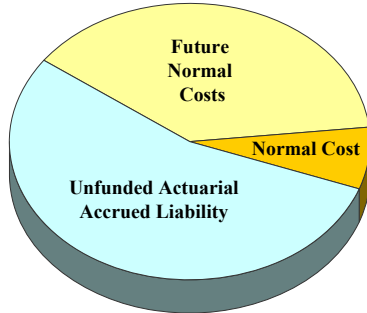
■ Actuarial Obligations	<ul style="list-style-type: none"> • The Present Value of Benefits (PVB) is calculated as follows: <ul style="list-style-type: none"> ➢ Project future employer-provided retiree benefits for current retirees and current active employees (future retirees) ➢ Discount projected benefits to valuation date using the discount rate ➢ Discount rate is the expected long-term net rate of return on assets for benefits projected to be paid from the OPEB trust and the expected long-term net rate of return on Town investments for benefits projected to be paid from Town assets ➢ Allocate the PVB to past, current, and future working periods using the Entry Age Normal Cost Method • Normal Cost (NC) is portion of the PVB allocated to one fiscal year • Actuarial Accrued Liability (AAL) is the portion of the PVB allocated to prior Town service, that is, the accumulation of prior years' NCs • Unfunded AAL (UAAL) is AAL less the Actuarial Value of Assets • Actuarial Value of Assets (AVA) smooths market value of assets (MVA) volatility by spreading investment gains and losses over 5 years
-------------------------	---



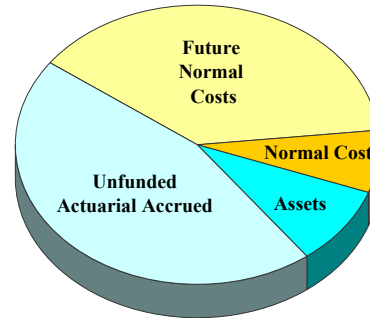
DEFINITIONS

Present Value of Benefits

**Present Value of Benefits
(Without Plan Assets)**



**Present Value of Benefits
(With Plan Assets)**



June 15, 2022

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DEFINITIONS

■ PayGo Cost

- Cash Subsidy is the Town's pay-as-you-go cash payments for its portion of retiree premiums
- Implicit Subsidy is the difference between the expected cost of retiree healthcare benefits, by age and gender, and retiree premiums, that is, it is the portion of retiree healthcare costs subsidized by active employee premiums

**■ Terminology
Used in
Report**

- AAL - Actuarial Accrued Liability
- ADC - Actuarially Determined Contribution
- AVA - Actuarial Value of Assets
- GASBS 75 - Governmental Accounting Standards Board Statement No. 75
- MVA - Market Value of Assets
- NC - Normal Cost
- OPEB - Other (than pensions) Postemployment Benefits
- PVB - Present Value of Benefits
- UAAL - Unfunded Actuarial Accrued Liability



June 15, 2022

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

MEETING DATE: 09/20/2022

ITEM NO: 6

DATE: September 1, 2022
TO: Town Pension and OPEB Trusts Oversight Committee
FROM: Laurel Prevetti, Town Manager
SUBJECT: Receive CalPERS Actuarial Valuation Reports as of June 30, 2021

RECOMMENDATION:

Receive CalPERS Actuarial Valuation Reports as of June 30, 2021.

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, an actuarial valuation is performed each year for the pension plan. The CalPERS actuary estimates the payments that will be made for all potential retirees from the 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 2021 valuation provides the determination of the minimum required employer contributions for fiscal year (FY) 2023/24. In addition, the report also 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.

PREPARED BY: Arn Andrews
Assistant Town Manager

Reviewed by: Town Manager, Town Attorney, and Interim Finance Director

DISCUSSION:

Staff has received the annual Actuarial Valuation Reports from CalPERS for the Miscellaneous Plan (Attachment 1), the Safety Plan (Attachment 2), and the PEPRSA Safety Police Plan (Attachment 3). The measurement date for each of the Plans is as of June 30, 2021.

The Town's Safety Plan funded status stood at 80.0% compared to 70.4% for the 2020 valuation. The Town's Safety PEPRSA Plan had a funded status of 105.3% versus 90.6% for 2020 and the Miscellaneous Plan funded status of 87.3% compared to 71.8% in 2020.

June 30, 2021	Miscellaneous Plan	Safety Plan	PEPRSA Safety Plan
Accrued Liability	\$121,630,966	\$106,756,840	\$1,301,901
Market Value of Assets	\$106,171,684	\$85,438,794	\$1,370,527
Unfunded Accrued Liability	\$15,459,282	\$21,318,046	(\$68,626)
Funded Ratio	87.3%	80.0%	105.3%

CONCLUSION:

Receive CalPERS Actuarial Valuation Reports as of June 30, 2021.

COORDINATION:

This staff report was coordinated with the Town Manager, Town Attorney, and Interim Finance Director

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.

Attachments:

1. CalPERS Annual Valuation Report as of June 30, 2021 – Miscellaneous Plan of the Town of Los Gatos
2. CalPERS Annual Valuation Report as of June 30, 2021 – Safety Plan of the Town of Los Gatos
3. CalPERS Annual Valuation Report as of June 30, 2021 – 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 2022

**Miscellaneous Plan of the Town of Los Gatos (CalPERS ID: 4589482285)
Annual Valuation Report as of June 30, 2021**

Dear Employer,

Attached to this letter, you will find the June 30, 2021 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) 2023-24.** In addition, the report also 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 PEPRA member rate for FY 2023-24 along with an estimate of the required contribution for FY 2024-25. 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 Rate
2023-24	11.42%	\$2,411,960	7.25%
<i>Projected Results</i>			
2024-25	11.2%	\$2,349,000	TBD

The actual investment return for FY 2021-22 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 2021-22 differs from 6.8%, the actual contribution requirements for FY 2024-25 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 2028-29.

Changes from Previous Year's Valuations

On July 12, 2021, CalPERS reported a preliminary 21.3% net return on investments for FY 2020-21. Since the return exceeded the 7.00% discount rate sufficiently, the CalPERS Funding Risk Mitigation policy allows CalPERS to use a portion of the investment gain to offset the cost of reducing the expected volatility of future investment returns. Based on the thresholds specified in the policy, the excess return of 14.3% prescribes a reduction in investment volatility that corresponds to a reduction in the discount rate of 0.20%, from 7.00% to 6.80%.

On November 17, 2021, the board adopted new actuarial assumptions based on the recommendations in the November 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases, and inflation assumption for public agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2023-24. In addition, the board adopted a new strategic asset allocation as part of its Asset Liability Management process. The new

asset allocation, along with the new capital market assumptions and economic assumptions support, a discount rate of 6.80%. This includes a reduction in the price inflation assumption from 2.50% to 2.30%.

Besides the above noted changes, there may also 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 the changes on the required contributions are included in the "Reconciliation of Required Employer Contributions" section.

Questions

We understand that you might have questions about these results, and the plan actuary whose signature is on the valuation report is available to discuss. If you have other questions, you may call the Customer Contact Center at (888)-CalPERS or **(888-225-7377)**.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Terando", with a long horizontal flourish extending to the right.

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



**Actuarial Valuation
as of June 30, 2021**

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

**(CalPERS ID: 4589482285)
(Rate Plan ID: 946)**

**Required Contributions
for Fiscal Year
July 1, 2023 – June 30, 2024**

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Actuarial Certification

To the best of our 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 is based on the member and financial data as of June 30, 2021 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. It is our 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 are internally consistent and reasonable for this plan, as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

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 Pension Actuary, CalPERS

Highlights and Executive Summary

- **Introduction**
- **Purpose of the Report**
- **Required Contributions**
- **Additional Discretionary Employer Contributions**
- **Plan's Funded Status**
- **Projected Employer Contributions**
- **Cost**
- **Changes Since the Prior Year's Valuation**
- **Subsequent Events**

Introduction

This report presents the results of the June 30, 2021 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 employer contributions for fiscal year (FY) 2023-24.

Purpose of the Report

The actuarial valuation was prepared by the CalPERS Actuarial Office using data as of June 30, 2021. The purpose of the report is to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2021;
- Determine the minimum required employer contributions for the FY July 1, 2023 through June 30, 2024;
- Provide actuarial information as of June 30, 2021 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 recommendations 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	2023-24
Employer Normal Cost Rate	11.42%
<i>Plus</i>	
Required Payment on Amortization Bases	\$2,411,960
<i>Paid either as</i>	
1) Monthly Payment	\$200,997
<i>Or</i>	
2) Annual Prepayment Option*	\$2,333,912
Required PEPRAs Member Contribution Rate	7.25%
<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 for PEPRAs members, see "PEPRAs Member Contribution Rates" in the "Liabilities and Contributions" section. Required member contributions for Classic members can be found in Appendix B.</i>	

	Fiscal Year 2022-23	Fiscal Year 2023-24
Normal Cost Contribution as a Percentage of Payroll		
Total Normal Cost	17.62%	18.81%
Employee Contribution ¹	7.42%	7.39%
Employer Normal Cost ²	10.20%	11.42%
Projected Annual Payroll for Contribution Year	\$12,756,196	\$13,004,007
Estimated Employer Contributions Based On Projected Payroll		
Total Normal Cost	\$2,247,642	\$2,446,054
Employee Contribution	946,510	960,996
Employer Normal Cost	1,301,132	1,485,058
Unfunded Liability Contribution	2,515,583	2,411,960
% of Projected Payroll (illustrative only)	19.72%	18.55%
Estimated Total Employer Contribution	\$3,816,715	\$3,897,018
% of Projected Payroll (illustrative only)	29.92%	29.97%

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 PEPRAs members, the member contribution rate is based on 50% of the normal cost. A development of PEPRAs 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 2023-24 is \$2,411,960. 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 2023-24 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 2023-24

Estimated Normal Cost	Minimum UAL Payment	ADP	Total UAL Contribution	Estimated Total Contribution
\$1,485,058	\$2,411,960	\$0	\$2,411,960	\$3,897,018

Alternative Fiscal Year 2023-24 Employer Contributions for Greater UAL Reduction

Funding Target	Estimated Normal Cost	Minimum UAL Payment	ADP ¹	Total UAL Contribution	Estimated Total Contribution
5 years	\$1,485,058	\$2,411,960	\$593,671	\$3,005,631	\$4,490,689

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, 2023 as determined in the June 30, 2021 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.

Plan's Funded Status

	June 30, 2020	June 30, 2021
1. Present Value of Projected Benefits	\$131,799,672	\$141,365,707
2. Entry Age Accrued Liability	115,223,358	121,630,966
3. Market Value of Assets (MVA)	82,711,453	106,171,684
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	\$32,511,905	\$15,459,282
5. Funded Ratio [(3) / (2)]	71.8%	87.3%

The UAL and funded ratio are assessments of the need for future employer contributions based on the actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. The funded ratio, on the other hand, is a relative measure of funded status that allows for comparison between plans of different sizes. For measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

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 2021-22 is assumed to be 6.80% per year, net of investment and administrative expenses. Actual contribution rates during this projection period could be significantly higher or lower than the projection shown below. The projected normal cost percentages below reflect that the normal cost will 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 2021-22 and Beyond)				
Fiscal Year	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Normal Cost %	11.42%	11.2%	11.0%	10.8%	10.6%	10.4%
UAL Payment	\$2,411,960	\$2,349,000	\$1,890,000	\$1,768,000	\$1,575,000	\$1,394,000
Total as a % of Payroll*	29.97%	28.8%	24.8%	23.3%	21.5%	19.7%
Projected Payroll	\$13,004,007	\$13,368,119	\$13,742,426	\$14,127,214	\$14,522,776	\$14,929,415

*Illustrative only and based on the projected payroll shown.

For some sources of UAL, the change in UAL is 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. 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 increase in UAL, the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially 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, 2021, 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 6/30/20 – 6/30/21" 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.

Actuarial Methods and Assumptions

On November 17, 2021, the board adopted new actuarial assumptions based on the recommendations in the 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases, and inflation assumptions for Public Agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2023-24. In addition, the board adopted a new asset portfolio as part of its Asset Liability Management process. The new asset mix supports a 6.80% discount rate, which reflects a change in the price inflation assumption to 2.30%.

Subsequent Events

The contribution requirements determined in this actuarial valuation report are based on demographic and financial information as of June 30, 2021. Changes subsequent to that date are not reflected. Investment returns below the assumed rate of return may increase future required contributions while investment returns above the assumed rate of return may decrease future required contributions.

The projected employer contributions on Page 6 are calculated under the assumption that the discount rate remains at 6.8% going forward and that the realized rate of return on assets for FY 2021-22 is 6.8%.

This actuarial valuation report reflects statutory changes, regulatory changes, and board actions through January 2022. Any subsequent changes or actions are not reflected.

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 6/30/20 including Receivables	\$82,711,453
2. Change in Receivables for Service Buybacks	3,128
3. Employer Contributions	9,160,680
4. Employee Contributions	878,208
5. Benefit Payments to Retirees and Beneficiaries	(6,270,997)
6. Refunds	(68,618)
7. Transfers	0
8. Service Credit Purchase (SCP) Payments and Interest	8,312
9. Administrative Expenses	(103,712)
10. Miscellaneous Adjustments	(1)
11. Investment Return (Net of Investment Expenses)	19,853,230
12. Market Value of Assets as of 6/30/21 including Receivables	<u>\$106,171,684</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 as of June 30, 2021. The assets for Town of Los Gatos Miscellaneous Plan are part of the PERF and are invested accordingly.

Asset Class	Current Allocation as of 6/30/2021	Policy Target Allocation as of 6/30/2021
Public Equity	51.4%	50.0%
Private Equity	8.3%	8.0%
Global Fixed Income	29.8%	28.0%
Real Assets	9.6%	13.0%
Liquidity	1.0%	1.0%
Total Fund Level Portfolios	2.5%	0.0%
Trust Level Financing	(2.6%)	0.0%
Total Fund	100.0%	100.0%

On November 17, 2021, the board adopted changes to the strategic asset allocation as shown in the Policy Target Allocation below expressed as a percentage of total assets.

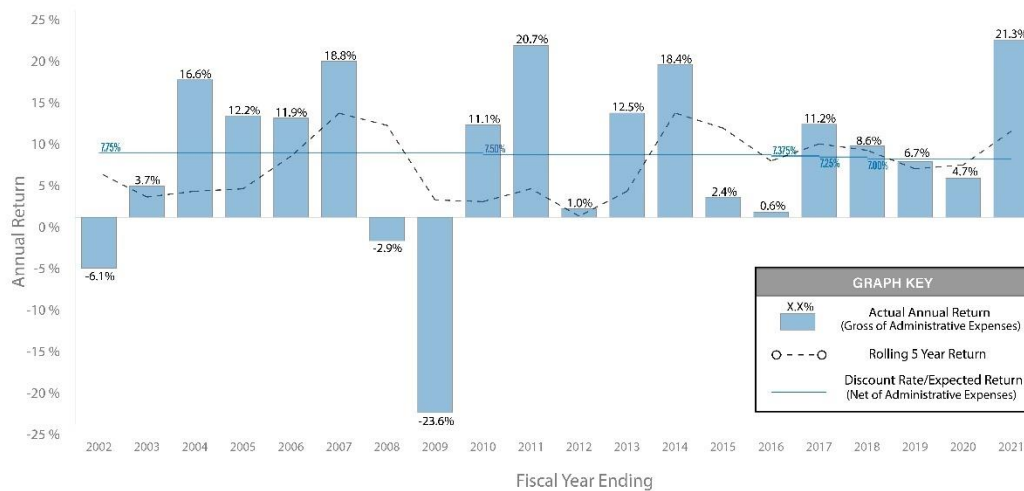
Strategic Asset Allocation Policy Targets

Asset Class	Policy Target Allocation effective 11/17/2021
Global Equity Cap-weighted	30.0%
Global Equity Non-cap-weighted	12.0%
Private Equity	13.0%
Private Debt	5.0%
Emerging Market Sovereign Bonds	5.0%
High Yield Bonds	5.0%
Investment Grade Corporates	10.0%
Mortgage-backed Securities	5.0%
Treasuries	5.0%
Real Assets	15.0%
Leverage	(5.0%)
Total Fund	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. The Investment Office uses a three-month lag on private 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 assets that have been audited and are appropriate for financial reporting. Because of these differences, it is possible for the Investment Office to report a return higher than the discount rate while the rate plan experiences an investment loss, or a return lower than the discount rate while the rate plan experiences an investment gain.

History of Investment Returns (2002 - 2021)



The table below shows annualized investment returns of the PERF for various time periods ending on June 30, 2021 (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 12.0% 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	21.3%	10.3%	8.5%	6.9%	8.4%
Realized Volatility	—	7.3%	7.2%	8.5%	8.5%

Liabilities and Contributions

- **Development of Accrued and Unfunded Liabilities**
- **(Gain) / Loss Analysis 6/30/20 - 6/30/21**
- **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, 2020	June 30, 2021
1. Present Value of Projected Benefits		
a) Active Members	\$43,762,010	\$47,556,868
b) Transferred Members	10,616,758	12,121,143
c) Terminated Members	2,518,683	2,841,076
d) Members and Beneficiaries Receiving Payments	74,902,221	78,846,620
e) Total	<u>\$131,799,672</u>	<u>\$141,365,707</u>
2. Present Value of Future Employer Normal Costs	\$9,021,095	\$11,458,455
3. Present Value of Future Employee Contributions	\$7,555,219	\$8,276,286
4. Entry Age Accrued Liability		
a) Active Members [(1a) - (2) - (3)]	\$27,185,696	\$27,822,127
b) Transferred Members (1b)	10,616,758	12,121,143
c) Terminated Members (1c)	2,518,683	2,841,076
d) Members and Beneficiaries Receiving Payments (1d)	74,902,221	78,846,620
e) Total	<u>\$115,223,358</u>	<u>\$121,630,966</u>
5. Market Value of Assets (MVA)	\$82,711,453	\$106,171,684
6. Unfunded Accrued Liability (UAL) [(4e) - (5)]	\$32,511,905	\$15,459,282
7. Funded Ratio [(5) / (4e)]	71.8%	87.3%

(Gain)/Loss Analysis 6/30/20 – 6/30/21

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 6/30/20	\$32,511,905
b) Expected Payment on the UAL during 2020-21	8,076,810
c) Interest through 6/30/21 $[(.07 \times (1a) - ((1.07)^{1/2} - 1) \times (1b)]$	1,997,924
d) Expected UAL before all other changes $[(1a) - (1b) + (1c)]$	26,433,019
e) Change due to plan changes	0
f) Change due to AL Significant Increase	0
g) Change due to assumption change	(5,623)
h) Change due to method change	0
i) Change due to Funding Risk Mitigation	2,804,467
j) Expected UAL after all other changes $[(1d) + (1e) + (1f) + (1g) + (1h) + (1i)]$	29,231,863
k) Actual UAL as of 6/30/21	15,459,282
l) Total (Gain)/Loss for 2020-21 $[(1k) - (1j)]$	<u>(\$13,772,581)</u>

2. Investment (Gain)/Loss for the Year

a) Market Value of Assets as of 6/30/20	\$82,711,453
b) Prior Fiscal Year Receivables	(33,671)
c) Current Fiscal Year Receivables	36,798
d) Contributions Received	10,038,889
e) Benefits and Refunds Paid	(6,339,615)
f) Transfers, SCP Payments and Interest, and Miscellaneous Adjustments	8,311
g) Expected Return at 7% per year on 2a, 2b, 2d, 2e and 2f	6,077,273
h) Expected Assets as of 6/30/21 $[(2a) + (2b) + (2c) + (2d) + (2e) + (2f) + (2g)]$	92,499,439
i) Actual Market Value of Assets as of 6/30/21	106,171,684
j) Investment (Gain)/Loss $[(2h) - (2i)]$	<u>(\$13,672,245)</u>

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

a) Total (Gain)/Loss (1l)	(\$13,772,581)
b) Investment (Gain)/Loss (2j)	<u>(13,672,245)</u>
c) Non-Investment (Gain)/Loss $[(3a) - (3b)]$	<u>(\$100,336)</u>

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, 2021.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2023-24.

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 2023-24	Ramp Shape	Escala-tion Rate	Amort. Period	Balance 6/30/21	Expected Payment 2021-22	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Minimum Required Payment 2023-24
Assumption Change	6/30/03	No Ramp		2.80%	2	1,070,220	293,807	839,363	301,887	584,457	307,764
Method Change	6/30/04	No Ramp		2.80%	3	(110,894)	(24,838)	(92,766)	(25,521)	(72,700)	(26,006)
Benefit Change	6/30/07	No Ramp		2.80%	5	1,258,476	209,324	1,127,728	215,080	982,141	218,783
Assumption Change	6/30/09	No Ramp		2.80%	8	2,198,854	271,118	2,068,192	278,574	1,920,939	282,535
Special (Gain)/Loss	6/30/09	No Ramp		2.80%	18	2,088,439	154,492	2,070,795	158,741	2,047,560	159,471
Special (Gain)/Loss	6/30/10	No Ramp		2.80%	19	1,758,601	126,084	1,747,886	129,551	1,732,859	130,031
Assumption Change	6/30/11	No Ramp		2.80%	10	1,537,128	163,979	1,472,190	168,489	1,398,176	170,546
Special (Gain)/Loss	6/30/11	No Ramp		2.80%	20	816,238	56,839	813,002	58,402	807,931	58,567
(Gain)/Loss	6/30/12	No Ramp		2.80%	21	1,818,052	123,200	1,814,360	126,588	1,806,915	126,837
Payment (Gain)/Loss	6/30/12	No Ramp		2.80%	21	202,810	13,743	202,399	14,121	201,569	14,149
(Gain)/Loss	6/30/13	100%	Up/Down	2.80%	22	8,793,291	613,019	8,757,716	629,877	8,702,300	631,633
(Gain)/Loss	6/30/14	100%	Up/Down	2.80%	23	(8,085,864)	(548,521)	(8,068,839)	(563,605)	(8,035,068)	(564,693)
Assumption Change	6/30/14	100%	Up/Down	2.80%	13	4,532,945	455,815	4,370,127	468,350	4,183,284	473,540
Assumption Change	6/30/16	100%	Up/Down	2.80%	15	1,818,815	133,833	1,804,186	171,892	1,749,230	173,470
(Gain)/Loss	6/30/17	100%	Up/Down	2.80%	26	(1,911,756)	(75,129)	(1,964,114)	(102,927)	(1,991,305)	(128,596)
Assumption Change	6/30/17	100%	Up/Down	2.80%	16	1,582,721	86,171	1,601,293	118,054	1,588,179	148,793
(Gain)/Loss	6/30/18	80%	Up/Down	2.80%	27	(715,936)	(19,031)	(744,952)	(29,331)	(765,297)	(39,048)
Assumption Change	6/30/18	80%	Up/Down	2.80%	17	3,547,580	129,364	3,655,125	199,382	3,697,624	267,747
Method Change	6/30/18	80%	Up/Down	2.80%	17	774,612	28,247	798,094	43,535	807,374	58,462
Non-Investment (Gain)/Loss	6/30/19	No Ramp		0.00%	18	1,503,143	137,166	1,463,604	137,166	1,421,376	134,763

Schedule of Amortization Bases (continued)

Reason for Base	Date Est.	Ramp Level 2023-24	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/21	Expected Payment 2021-22	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Minimum Required Payment 2023-24
Investment (Gain)/Loss	6/30/19	60%	Up Only	0.00%	18	450,410	9,848	470,861	19,696	482,525	29,013
Investment (Gain)/Loss	6/30/20	40%	Up Only	0.00%	19	2,011,961	0	2,148,774	47,069	2,246,248	92,337
Non-Investment (Gain)/Loss	6/30/20	No Ramp		0.00%	19	(506,827)	0	(541,291)	(49,487)	(526,957)	(48,597)
Assumption Change	6/30/21	No Ramp		0.00%	20	(5,623)	(68,909)	65,208	(70,838)	142,849	12,845
Net Investment (Gain)	6/30/21	20%	Up Only	0.00%	20	(10,690,179)	0	(11,417,111)	0	(12,193,475)	(262,095)
Non-Investment (Gain)/Loss	6/30/21	No Ramp		0.00%	20	(100,336)	0	(107,159)	0	(114,446)	(10,291)
Risk Mitigation	6/30/21	No Ramp		0.00%	1	2,804,467	(93,520)	3,091,818	(96,139)	3,401,416	3,515,162
Risk Mitigation Offset	6/30/21	No Ramp		0.00%	1	(2,982,066)	0	(3,184,846)	0	(3,401,416)	(3,515,162)
Total						15,459,282	2,176,101	14,261,643	2,348,606	12,804,288	2,411,960

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	5 Year Amortization		0 Year Amortization	
			Balance	Payment	Balance	Payment
6/30/2023	12,804,288	2,411,960	12,804,288	3,005,631	N/A	N/A
6/30/2024	11,182,362	2,348,501	10,568,838	3,005,631		
6/30/2025	9,515,726	1,889,992	8,181,377	3,005,631		
6/30/2026	8,209,600	1,768,242	5,631,569	3,005,632		
6/30/2027	6,940,478	1,574,712	2,908,373	3,005,631		
6/30/2028	5,785,060	1,394,019				
6/30/2029	4,737,807	1,459,443				
6/30/2030	3,551,730	1,526,699				
6/30/2031	2,215,495	1,243,454				
6/30/2032	1,081,114	1,117,267				
6/30/2033						
6/30/2034						
6/30/2035						
6/30/2036						
6/30/2037						
6/30/2038						
6/30/2039						
6/30/2040						
6/30/2041						
6/30/2042						
6/30/2043						
6/30/2044						
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
6/30/2050						
6/30/2051						
6/30/2052						
Total		16,734,289		15,028,156		N/A
Interest Paid		3,930,001		2,223,868		N/A
Estimated Savings				1,706,133		N/A

Reconciliation of Required Employer Contributions

Normal Cost (% of Payroll)

1. For Period 7/1/22 – 6/30/23	
a) Employer Normal Cost	10.20%
b) Employee contribution	7.42%
c) Total Normal Cost	17.62%
2. Changes since the prior year annual valuation	
a) Effect of demographic experience	(0.13%)
b) Effect of plan changes	0.00%
c) Effect of Funding Risk Mitigation	0.76%
d) Effect of assumption changes	0.56%
e) Effect of method changes	0.00%
f) Net effect of the changes above [sum of (a) through (e)]	1.19%
3. 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%
Employer Normal Cost Change [(3a) – (1a)]	1.22%
Employee Contribution Change [(3b) – (1b)]	(0.03%)

Unfunded Liability Contribution (\$)

1. For Period 7/1/22 – 6/30/23	2,515,583
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	198,884
d) Effect of net investment (gain) after Funding Risk Mitigation ²	(262,095)
e) Effect of non-investment (gain)/loss during the prior year	(10,291)
f) Effect of Funding Risk Mitigation (re-amortize existing bases at 6.8%)	(37,629)
g) Effect of Golden Handshake	0
h) Effect of plan changes	0
i) Effect of AL Significant Increase	0
j) Effect of assumption changes	7,508
k) Effect of changes due to Fresh Start or one year recognition of small balances	0
l) Effect of method change	0
m) Net effect of the changes above [sum of (a) through (l)]	(103,623)
3. For Period 7/1/23 – 6/30/24 [(1) + (2m)]	2,411,960

The amounts shown for the period 7/1/22 – 6/30/23 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) in future years.

Employer Contribution History

The table below provides a recent history of the required employer contributions for the plan. The amounts are based on the actuarial valuation from two years prior and does not account for prepayments or benefit changes made during a fiscal year. Additional discretionary payments before July 1, 2018 or after June 30, 2021 are not included.

Fiscal Year	Employer Normal Cost	Unfunded Rate	Unfunded Liability Payment (\$)	Additional Discretionary Payments
2014 - 15	10.737%	11.638%	N/A	N/A
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	
2022 - 23	10.20%	N/A	2,515,583	
2023 - 24	11.42%	N/A	2,411,960	

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
6/30/2012	\$78,518,032	\$53,401,456	\$25,116,576	68.0%	\$9,138,998
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

Normal Cost by Benefit Group

The table below displays the Total Normal Cost broken out by benefit group for FY 2023-24. 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.

Rate Plan Identifier	Benefit Group Name	Total Normal Cost FY 2023-24	Number of Actives	Payroll on 6/30/2021
946	Miscellaneous First Level	21.82%	32	\$3,511,394
27442	Miscellaneous PEPRAL Level	15.18%	62	\$5,114,292
30563	Miscellaneous Second Level	21.28%	25	\$3,344,416
	Plan Total	18.81%	119	\$11,970,102

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, 2023, based on 50% of the Total Normal Cost for each respective plan as of the June 30, 2021 valuation.

Rate Plan Identifier	Benefit Group Name	Basis for Current Rate		Rates Effective July 1, 2023			
		Total Normal Cost	Member Rate	Total Normal Cost	Change	Change Needed	Member Rate
27442	Miscellaneous PEPRA Level	14.430%	7.25%	15.18%	0.750%	No	7.25%

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**
- **Hypothetical Termination Liability**

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, 2041.

Assumed Annual Return FY 2021-22 through FY 2040-41	Projected Employer Contributions				
	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
3.0% (5th percentile)					
Normal Cost Rate	11.2%	11.0%	10.8%	10.6%	10.4%
UAL Contribution	\$2,446,000	\$2,185,000	\$2,361,000	\$2,566,000	\$2,887,000
10.8% (95th percentile)					
Normal Cost Rate	11.4%	11.5%	11.5%	11.5%	11.5%
UAL Contribution	\$2,259,000	\$1,194,000	\$0	\$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 2021-22 on the FY 2024-25 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 2024-25.

Assumed Annual Return for Fiscal Year 2021-22	Required Employer Contributions	Projected Employer Contributions
	FY 2023-24	FY 2024-25
(17.2%) (2 standard deviation loss)		
Normal Cost Rate	11.42%	11.2%
UAL Contribution	\$2,411,960	\$2,967,000
(5.2%) (1 standard deviation loss)		
Normal Cost Rate	11.42%	11.2%
UAL Contribution	\$2,411,960	\$2,658,000

- Without investment gains (returns higher than 6.8%) in year FY 2022-23 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 2021-22.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2024-25 as well as to model other investment returns 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, 2021 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, 2021	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	23.56%	18.81%	15.19%
b) Accrued Liability	\$137,705,496	\$121,630,966	\$108,422,385
c) Market Value of Assets	\$106,171,684	\$106,171,684	\$106,171,684
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$31,533,812	\$15,459,282	\$2,250,701
e) Funded Ratio	77.1%	87.3%	97.9%

Sensitivity to the Price Inflation Assumption

As of June 30, 2021	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	19.83%	18.81%	17.04%
b) Accrued Liability	\$125,692,745	\$121,630,966	\$112,008,893
c) Market Value of Assets	\$106,171,684	\$106,171,684	\$106,171,684
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$19,521,061	\$15,459,282	\$5,837,209
e) Funded Ratio	84.5%	87.3%	94.8%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2021 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. This type of analysis highlights the impact on the plan of improving or worsening mortality over the long term.

As of June 30, 2021	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	19.11%	18.81%	18.53%
b) Accrued Liability	\$124,177,090	\$121,630,966	\$119,294,197
c) Market Value of Assets	\$106,171,684	\$106,171,684	\$106,171,684
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$18,005,406	\$15,459,282	\$13,122,513
e) Funded Ratio	85.5%	87.3%	89.0%

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 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, 2020	June 30, 2021
1. Retiree Accrued Liability	74,902,221	78,846,620
2. Total Accrued Liability	115,223,358	121,630,966
3. Ratio of Retiree AL to Total AL [(1) / (2)]	65%	65%

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, all retirees and beneficiaries receiving a continuance are 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, may be less informative than the ratio of retiree liability to total accrued liability above. The support ratio for all CalPERS public agency plans is 0.82. 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, consistent with how the support ratio is calculated for the individual rate plan.

Support Ratio	June 30, 2020	June 30, 2021
1. Number of Actives	120	119
2. Number of Retirees	247	255
3. Support Ratio [(1) / (2)]	0.49	0.47

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, 2020	June 30, 2021
1. Market Value of Assets without Receivables	\$82,677,782	\$106,134,885
2. Payroll	11,759,144	11,970,102
3. Asset Volatility Ratio (AVR) [(1) / (2)]	7.0	8.9
4. Accrued Liability	\$115,223,358	\$121,630,966
5. Liability Volatility Ratio (LVR) [(4) / (2)]	9.8	10.2

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

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2021. The plan liability on a termination basis is calculated differently from the plan's ongoing funding liability. For this hypothetical 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.

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 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 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.

Market Value of Assets (MVA)	Hypothetical Termination Liability^{1,2} at 1.00%	Funded Ratio	Unfunded Termination Liability at 1.00%	Hypothetical Termination Liability^{1,2} at 2.25%	Funded Ratio	Unfunded Termination Liability at 2.25%
\$106,171,684	\$270,842,016	39.2%	\$164,670,332	\$223,908,253	47.4%	\$117,736,569

¹ The hypothetical 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 2.00% on June 30, 2021, 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	\$500	\$500	\$500	\$500	\$500	
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 of Actuarial Terms**

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 hypothetical termination liability) 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, 2021.

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 hypothetical termination liabilities 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 2.00% on June 30, 2021.

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 2021) is added to these factors for total salary growth.

Public Agency Miscellaneous

<u>Duration of Service</u>	<u>(Entry Age 20)</u>	<u>(Entry Age 30)</u>	<u>(Entry Age 40)</u>
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

<u>Duration of Service</u>	<u>(Entry Age 20)</u>	<u>(Entry Age 30)</u>	<u>(Entry Age 40)</u>
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

<u>Duration of Service</u>	<u>(Entry Age 20)</u>	<u>(Entry Age 30)</u>	<u>(Entry Age 40)</u>
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

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
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

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
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	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (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.

Terminated Members

It is assumed that terminated members refund immediately if non-vested. Terminated 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 2021 calendar year is \$230,000.

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 2021 calendar year is \$290,000.

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. 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 \$128,059 for 2021 and for those employees that do not participate in Social Security the cap for 2021 is \$153,671. Adjustments to the caps are permitted annually based on changes to the CPI for all urban consumers.
- Employees must be covered by Social Security with the 1.5% at 65 formula. Social Security is optional for all other 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 PEPRSA Safety 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 PEPRSA Safety 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). PEPRSA Miscellaneous 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.

Improved Lump Sum Payment

Employers have the option of providing an improved lump sum death benefit of \$600, \$2,000, \$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 the modified 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 the full or supplemental 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 PEPR Safety members and age 52 for PEPR 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 PEPRAs 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 Terminated Members**
- **Retired Members and Beneficiaries**

Summary of Valuation Data

	June 30, 2020	June 30, 2021
1. Active Members		
a) Counts	120	119
b) Average Attained Age	44.84	45.11
c) Average Entry Age to Rate Plan	37.00	37.18
d) Average Years of Credited Service	7.57	7.64
e) Average Annual Covered Pay	\$97,993	\$100,589
f) Annual Covered Payroll	11,759,144	11,970,102
g) Projected Annual Payroll for Contribution Year	12,756,196	13,004,007
h) Present Value of Future Payroll	102,381,634	112,528,084
2. Transferred Members		
a) Counts	101	101
b) Average Attained Age	45.63	45.97
c) Average Years of Credited Service	3.39	3.37
d) Average Annual Covered Pay	\$119,542	\$125,515
3. Terminated Members		
a) Counts	88	91
b) Average Attained Age	46.89	47.14
c) Average Years of Credited Service	2.29	2.28
d) Average Annual Covered Pay	\$63,654	\$65,978
4. Retired Members and Beneficiaries		
a) Counts	247	255
b) Average Attained Age	70.25	70.53
c) Average Annual Benefits	\$24,698	\$25,084
5. Active to Retired Ratio [(1a) / (4a)]	0.49	0.47

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	1	0	0	0	0	0	1
25-29	11	2	0	0	0	0	13
30-34	10	5	0	0	0	0	15
35-39	6	6	1	0	0	0	13
40-44	8	5	1	2	1	0	17
45-49	4	6	3	1	3	0	17
50-54	6	4	3	2	1	0	16
55-59	3	5	2	4	0	0	14
60-64	4	3	0	0	1	1	9
65 and Over	1	0	0	0	1	2	4
All Ages	54	36	10	9	7	3	119

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	\$97,437	\$0	\$0	\$0	\$0	\$0	\$97,437
25-29	83,850	91,993	0	0	0	0	85,103
30-34	69,899	104,992	0	0	0	0	81,596
35-39	58,903	107,394	96,533	0	0	0	84,178
40-44	88,562	113,068	103,708	102,099	93,095	0	98,520
45-49	83,835	99,296	111,973	122,030	143,631	0	107,056
50-54	124,945	137,146	121,218	103,293	135,934	0	125,277
55-59	89,542	82,910	103,380	88,223	0	0	88,773
60-64	108,942	184,629	0	0	132,226	86,840	134,302
65 and Over	139,428	0	0	0	202,731	77,572	124,326
Average	\$87,213	\$111,985	\$110,658	\$98,412	\$142,125	\$80,661	\$100,589

Transferred and Terminated 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	2	0	0	0	0	0	2	\$104,380
25-29	6	0	0	0	0	0	6	87,453
30-34	6	0	0	0	0	0	6	107,193
35-39	10	1	1	0	0	0	12	133,869
40-44	19	3	0	0	0	0	22	124,605
45-49	13	3	0	3	0	0	19	124,865
50-54	10	2	2	0	0	0	14	109,344
55-59	6	4	1	0	0	0	11	151,838
60-64	2	3	3	0	0	0	8	152,908
65 and Over	1	0	0	0	0	0	1	155,865
All Ages	75	16	7	3	0	0	101	\$125,515

Distribution of Terminated 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	2	0	0	0	0	0	2	72,033
30-34	7	0	0	0	0	0	7	65,582
35-39	12	1	0	0	0	0	13	65,875
40-44	15	1	0	0	0	0	16	62,470
45-49	18	2	1	0	0	0	21	76,361
50-54	14	2	0	1	0	0	17	79,794
55-59	5	0	1	0	0	0	6	53,751
60-64	4	0	0	0	0	0	4	27,949
65 and Over	4	1	0	0	0	0	5	30,127
All Ages	81	7	2	1	0	0	91	\$65,978

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	1	0	0	0	1
35-39	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0
45-49	0	0	2	0	0	0	2
50-54	4	0	1	0	0	0	5
55-59	14	0	2	0	0	1	17
60-64	33	0	2	0	0	6	41
65-69	57	2	1	0	0	1	61
70-74	50	0	0	0	0	2	52
75-79	34	1	0	0	0	3	38
80-84	18	1	0	0	0	6	25
85 and Over	10	0	0	0	0	3	13
All Ages	220	4	9	0	0	22	255

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	317	0	0	0	317
35-39	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0
45-49	0	0	316	0	0	0	316
50-54	14,522	0	2,541	0	0	0	12,125
55-59	21,319	0	805	0	0	2,219	17,782
60-64	29,361	0	1,307	0	0	10,704	25,262
65-69	32,537	21,901	549	0	0	3,149	31,182
70-74	24,529	0	0	0	0	38,230	25,056
75-79	22,504	1,989	0	0	0	24,788	22,145
80-84	27,214	5,080	0	0	0	17,815	24,073
85 and Over	27,746	0	0	0	0	23,678	26,807
All Ages	\$26,995	\$12,718	\$918	\$0	\$0	\$18,107	\$25,084

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	48	0	2	0	0	8	58
5-9	50	0	3	0	0	5	58
10-14	64	0	0	0	0	3	67
15-19	26	2	2	0	0	4	34
20-24	22	0	2	0	0	1	25
25-29	9	1	0	0	0	0	10
30 and Over	1	1	0	0	0	1	3
All Years	220	4	9	0	0	22	255

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	\$28,058	\$0	\$313	\$0	\$0	\$15,923	\$25,428
5-9	28,787	0	1,634	0	0	23,959	26,967
10-14	27,020	0	0	0	0	31,189	27,207
15-19	26,614	21,901	805	0	0	9,867	22,849
20-24	23,452	0	562	0	0	6,679	20,950
25-29	23,619	1,989	0	0	0	0	21,456
30 and Over	3,021	5,080	0	0	0	11,455	6,518
All Years	\$26,995	\$12,718	\$918	\$0	\$0	\$18,107	\$25,084

* 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 of Actuarial Terms

Glossary of Actuarial Terms

Accrued Liability (*Actuarial Accrued Liability*)

The portion of the Present Value of Benefits allocated to prior years. Based on CalPERS funding policies, the accrued liability is the target level of assets on any valuation date.

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, salary growth, and 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.

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. The discount rate 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 designed to fund a member's total plan benefit evenly over the course of his or her career. 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.

Funded Ratio

Defined as the Market Value of Assets divided by the Accrued Liability. It 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 target established by CalPERS.

funding policies on the valuation date 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.

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. The normal cost plus the required amortization of the UAL, if any, make up the required contributions.

Pension Actuary

A business professional proficient in mathematics and statistics who performs the calculations necessary to properly fund a pension plan and allow the plan sponsor to disclose its liabilities. A pension actuary must satisfy the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States with regard to pensions.

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.

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

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 2022

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

Annual Valuation Report as of June 30, 2021

Dear Employer,

Attached to this letter, you will find the June 30, 2021 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) 2023-24.** 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, 2021.

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, 2021.

Your June 30, 2021 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. The plan actuary whose signature is in the Actuarial Certification is available to discuss.

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 Contribution

The table below shows the minimum required employer contributions for FY 2023-24 along with estimates of the required contributions for FY 2024-25. 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
2023-24	29.09%	\$2,271,254
<i>Projected Results</i>		
2024-25	29.1%	\$2,248,000

The actual investment return for FY 2021-22 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 2021-22 differs from 6.8%, the actual contribution requirements for FY 2024-25 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 2028-29.

Changes from Previous Year's Valuation

On July 12, 2021, CalPERS reported a preliminary 21.3% net return on investments for FY 2020-21. Since the return exceeded the 7.00% discount rate sufficiently, the CalPERS Funding Risk Mitigation policy allows CalPERS to use a portion of the investment gain to offset the cost of reducing the expected volatility of future investment returns. Based on the thresholds specified in the policy, the excess return of 14.3% prescribes a reduction in investment volatility that corresponds to a reduction in the discount rate of 0.20%, from 7.00% to 6.80%.

On November 17, 2021, the board adopted new actuarial assumptions based on the recommendations in the November 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases, and inflation assumption for public agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2023-24. In addition, the board adopted a new strategic asset allocation as part of its Asset Liability Management process. The new asset allocation along with the new capital market assumptions and economic assumptions support a discount rate of 6.80%. This includes a reduction in the price inflation assumption from 2.50% to 2.30%.

Besides the above noted changes, there may also 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 of the Section 2 report, "Actuarial Methods and Assumptions."

Questions

We understand that you might have questions about these results, and the plan actuary whose signature is on the valuation report is available to discuss. If you have other questions, you may call the Customer Contact Center at (888)-CalPERS or (888-225-7377).

Sincerely,



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



**Actuarial Valuation
as of June 30, 2021**

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

**Required Contributions
for Fiscal Year
July 1, 2023 - June 30, 2024**

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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)**

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Actuarial Certification

To the best of our knowledge, this report, comprising 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, 2021 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 consistent 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, 2021 and employer contribution as of July 1, 2023 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 Pension Actuary, CalPERS

Highlights and Executive Summary

- **Introduction**
- **Purpose of Section 1**
- **Required Contributions**
- **Additional Discretionary Employer Contributions**
- **Plan's Funded Status**
- **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, 2021 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 required employer contributions for (FY) 2023-24.

Purpose of Section 1

This Section 1 report for the Safety Plan of the Town of Los Gatos of CalPERS was prepared by the plan actuary in order to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2021;
- Determine the minimum required employer contribution for this plan for the FY July 1, 2023 through June 30, 2024; and
- Provide actuarial information as of June 30, 2021 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 recommendations 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 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

Required Employer Contributions	Fiscal Year 2023-24
Employer Normal Cost Rate	29.09%
Plus	
Required Payment on Amortization Bases ¹	\$2,271,254
Paid either as	
1) Monthly Payment	\$189,271.17
Or	
2) Annual Prepayment Option*	\$2,197,759
<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>	

	Fiscal Year 2022-23	Fiscal Year 2023-24
Development of Normal Cost as a Percentage of Payroll		
Base Total Normal Cost for Formula	31.46%	34.64%
Surcharge for Class 1 Benefits ²		
a) FAC 1	1.28%	1.46%
b) PRSA	1.89%	1.98%
Phase out of Normal Cost Difference ³	0.00%	0.00%
Plan's Total Normal Cost	34.63%	38.08%
Formula's Expected Employee Contribution Rate	8.99%	8.99%
Employer Normal Cost Rate	25.64%	29.09%

¹ The required payment on amortization bases does not take into account any additional discretionary payment made after April 29, 2022.

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

³ The normal cost change 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 the 2023-24 FY is \$2,271,254. 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 2023-24 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 2023-24

Estimated Normal Cost	Minimum UAL Payment	ADP	Total UAL Contribution	Estimated Total Contribution
\$1,243,845	\$2,271,254	\$0	\$2,271,254	\$3,515,099

Alternative Fiscal Year 2023-24 Employer Contributions for Greater UAL Reduction

Funding Target	Estimated Normal Cost	Minimum UAL Payment	ADP ¹	Total UAL Contribution	Estimated Total Contribution
10 years	\$1,243,845	\$2,271,254	\$445,864	\$2,717,118	\$3,960,963
5 years	\$1,243,845	\$2,271,254	\$2,401,338	\$4,672,592	\$5,916,437

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, 2023 as determined in the June 30, 2021 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.

Plan's Funded Status

	June 30, 2020	June 30, 2021
1. Present Value of Projected Benefits (PVB)	\$109,207,328	\$116,359,789
2. Entry Age Accrued Liability (AL)	99,040,905	106,756,840
3. Plan's Market Value of Assets (MVA)	69,727,959	85,438,794
4. Unfunded Accrued Liability (UAL) [(2) - (3)]	29,312,946	21,318,046
5. Funded Ratio [(3) / (2)]	70.4%	80.0%

The UAL and funded ratio are assessments of the need for future employer contributions based on the actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. The funded ratio, on the other hand, is a relative measure of funded status that allows for comparison between plans of different sizes. For measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

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 2021-22 is assumed to be 6.80% per year, net of investment and administrative expenses. Actual contribution rates during this projection period could be significantly higher or lower than the projection shown below. 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 2021-22 and Beyond)				
Fiscal Year	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
	Rate Plan 947 Results					
Normal Cost %	29.09%	29.1%	29.1%	29.1%	29.1%	29.1%
UAL Payment	\$2,271,254	\$2,248,000	\$2,160,000	\$2,065,000	\$1,932,000	\$2,005,000

For some sources of UAL, the change in UAL is 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 increase in UAL, the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially 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 below, 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 payroll for each rate plan will grow according to the overall payroll growth assumption of 2.80% per year for three years.

	Fiscal Year 2022-23	Fiscal Year 2023-24
Estimated Combined Employer Contributions for all Pooled Safety Rate Plans		
Projected Payroll for the Contribution Year	\$5,803,598	\$6,026,373
Estimated Employer Normal Cost	\$1,362,084	\$1,497,671
Required Payment on Amortization Bases	\$2,336,391	\$2,271,254
Estimated Total Employer Contributions	\$3,698,475	\$3,768,925
Estimated Total Employer Contribution Rate (illustrative only)	63.73%	62.54%

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 2016-17, the Amortization of UAL component was expressed as a percentage of total active payroll. Starting with FY 2016-17, the Amortization of UAL component was expressed as a dollar amount and invoiced on a monthly basis. There continues to be 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, 2021, 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 of the Section 2 Report for a summary of the plan provisions used in this valuation.

Actuarial Methods and Assumptions

On November 17, 2021, the board adopted new actuarial assumptions based on the recommendations in the 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases, and inflation assumption for Public Agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2023-24. In addition, the board adopted a new asset portfolio as part of its Asset Liability Management process. The new asset mix supports a 6.80% discount rate, which reflects a change in the price inflation assumption to 2.30%.

Subsequent Events

The contribution requirements determined in this actuarial valuation report are based on demographic and financial information as of June 30, 2021. Changes subsequent to that date are not reflected. Investment returns below the assumed rate of return may increase future required contributions while investment returns above the assumed rate of return may decrease future required contributions.

The projected employer contributions on Page 6 are calculated under the assumption that the discount rate remains at 6.8% going forward and that the realized rate of return on assets for FY 2021-22 is 6.8%.

This actuarial valuation report reflects statutory changes, regulatory changes and board actions through January 2022. Any subsequent changes or actions are not reflected.

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 Plan's Amortization Bases**
- **Amortization Schedule and Alternatives**
- **Employer Contribution History**
- **Funding History**

Breakdown of Entry Age Accrued Liability

Active Members	\$22,422,859
Transferred Members	3,804,711
Terminated Members	150,212
Members and Beneficiaries Receiving Payments	<u>80,379,058</u>
Total	\$106,756,840

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	\$106,756,840
2. Projected UAL balance at 6/30/2021	29,597,854
3. Pool's Accrued Liability ¹	27,398,042,131
4. Sum of Pool's Individual Plan UAL Balances at 6/30/2021 ¹	6,920,959,100
5. Pool's 2020/21 Investment (Gain)/Loss ¹	(2,925,172,404)
6. Pool's 2020/21 Non-Investment (Gain)/Loss ¹	(102,877,200)
7. Plan's Share of Pool's Investment (Gain)/Loss: $[(1) - (2)] \div [(3) - (4)] \times (5)$	(11,022,241)
8. Plan's Share of Pool's Non-Investment (Gain)/Loss: $(1) \div (3) \times (6)$	(400,862)
9. Plan's New (Gain)/Loss as of 6/30/2021: $(7) + (8)$	(11,423,103)
10. Increase in Pool's Accrued Liability due to Change in Assumptions ¹	144,971,064
11. Plan's Share of Pool's Change in Assumptions: $(1) \div (3) \times (10)$	564,882
12. Increase in Pool's Accrued Liability due to Funding Risk Mitigation ¹	661,723,040
13. Plan's Share of Pool's Change due to Funding Risk Mitigation: $(1) \div (3) \times (12)$	2,578,413
14. Offset due to Funding Risk Mitigation	(2,683,803)
15. Plan's Net Investment (Gain): $(7) - (14)$	(8,338,438)

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

16. Plan's UAL: $(2) + (9) + (11) + (13)$	\$21,318,046
17. Plan's Share of Pool's MVA: $(1) - (16)$	\$85,438,794

Schedule of Plan's Amortization Bases

Note that there is a two-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2021.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2023-24.

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 2023-24	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/21	Expected Payment 2021-22	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Minimum Required Payment 2023-24
Investment (Gain)/Loss	6/30/13	100%	Up/Down	2.80%	22	8,928,579	622,451	8,892,456	639,568	8,836,187	641,351
Non-Investment (Gain)/Loss	6/30/13	100%	Up/Down	2.80%	22	(109,506)	(7,634)	(109,063)	(7,844)	(108,373)	(7,866)
Share of Pre-2013 Pool UAL	6/30/13	No Ramp		2.80%	14	7,059,008	607,822	6,910,872	624,538	6,735,388	629,722
Assumption Change	6/30/14	100%	Up/Down	2.80%	13	4,279,771	430,357	4,126,047	442,192	3,949,639	447,092
Investment (Gain)/Loss	6/30/14	100%	Up/Down	2.80%	23	(6,924,152)	(469,714)	(6,909,573)	(482,631)	(6,880,653)	(483,562)
Non-Investment (Gain)/Loss	6/30/14	100%	Up/Down	2.80%	23	84,948	5,763	84,769	5,921	84,414	5,932
Investment (Gain)/Loss	6/30/15	100%	Up/Down	2.80%	24	4,274,695	282,672	4,273,249	290,446	4,263,671	290,762
Non-Investment (Gain)/Loss	6/30/15	100%	Up/Down	2.80%	24	(15,509)	(1,026)	(15,503)	(1,054)	(15,468)	(1,055)
Assumption Change	6/30/16	100%	Up/Down	2.80%	15	1,634,360	120,261	1,621,214	154,460	1,571,831	155,877
Investment (Gain)/Loss	6/30/16	100%	Up/Down	2.80%	25	5,424,470	283,722	5,500,124	364,405	5,497,541	364,504
Non-Investment (Gain)/Loss	6/30/16	100%	Up/Down	2.80%	25	(881,803)	(46,122)	(894,101)	(59,238)	(893,681)	(59,254)
Assumption Change	6/30/17	100%	Up/Down	2.80%	16	2,103,368	114,518	2,128,049	156,889	2,110,621	197,739
Investment (Gain)/Loss	6/30/17	100%	Up/Down	2.80%	26	(2,675,818)	(105,156)	(2,749,101)	(144,064)	(2,787,158)	(179,991)
Non-Investment (Gain)/Loss	6/30/17	100%	Up/Down	2.80%	26	67,408	2,649	69,254	3,629	70,213	4,534
Assumption Change	6/30/18	80%	Up/Down	2.80%	17	3,136,481	114,373	3,231,564	176,278	3,269,137	236,720
Investment (Gain)/Loss	6/30/18	80%	Up/Down	2.80%	27	(815,960)	(21,690)	(849,030)	(33,429)	(872,217)	(44,503)
Method Change	6/30/18	80%	Up/Down	2.80%	17	710,122	25,895	731,649	39,911	740,155	53,595
Non-Investment (Gain)/Loss	6/30/18	80%	Up/Down	2.80%	27	387,047	10,288	402,734	15,857	413,733	21,110
Investment (Gain)/Loss	6/30/19	60%	Up Only	0.00%	18	388,267	8,489	405,896	16,978	415,951	25,010
Non-Investment (Gain)/Loss	6/30/19	No Ramp		0.00%	18	462,985	42,249	450,806	42,249	437,799	41,508

Schedule of Plan's Amortization Bases (Continued)

Reason for Base	Date Est.	Ramp Level 2023-24	Ramp Shape	Escala- tion Rate	Amort. Period	Balance 6/30/21	Expected Payment 2021-22	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Minimum Required Payment 2023-24
Investment (Gain)/Loss	6/30/20	40%	Up Only	0.00%	19	1,763,488	0	1,883,405	41,256	1,968,841	80,934
Non-Investment (Gain)/Loss	6/30/20	No Ramp		0.00%	19	315,605	0	337,066	30,816	328,140	30,262
Assumption Change	6/30/21	No Ramp		0.00%	20	564,882	(43,367)	648,111	(44,581)	738,254	66,386
Net Investment (Gain)	6/30/21	20%	Up Only	0.00%	20	(8,338,438)	0	(8,905,452)	0	(9,511,023)	(204,437)
Non-Investment (Gain)/Loss	6/30/21	No Ramp		0.00%	20	(400,862)	0	(428,121)	0	(457,233)	(41,116)
Risk Mitigation	6/30/21	No Ramp		0.00%	1	2,578,413	(55,497)	2,811,098	(57,051)	3,061,211	3,163,581
Risk Mitigation Offset	6/30/21	No Ramp		0.00%	1	(2,683,803)	0	(2,866,302)	0	(3,061,211)	(3,163,581)
Total						21,318,046	1,921,303	20,782,117	2,215,501	19,905,709	2,271,254

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	10 Year Amortization		5 Year Amortization	
			Balance	Payment	Balance	Payment
6/30/2023	19,905,709	2,271,254	19,905,709	2,717,118	19,905,709	4,672,592
6/30/2024	18,912,088	2,247,857	18,451,316	2,717,118	16,430,450	4,672,593
6/30/2025	17,875,084	2,159,561	16,898,025	2,717,118	12,718,872	4,672,592
6/30/2026	16,858,811	2,064,817	15,239,110	2,717,118	8,754,908	4,672,593
6/30/2027	15,871,342	1,931,542	13,467,389	2,717,118	4,521,393	4,672,592
6/30/2028	14,954,458	2,004,695	11,575,191	2,717,117		
6/30/2029	13,899,627	2,079,899	9,554,324	2,717,118		
6/30/2030	12,695,350	2,157,209	7,396,037	2,717,117		
6/30/2031	11,329,285	2,236,683	5,090,988	2,717,117		
6/30/2032	9,788,198	2,203,733	2,629,195	2,717,118		
6/30/2033	8,176,367	2,166,649				
6/30/2034	6,493,255	2,082,990				
6/30/2035	4,782,151	1,937,326				
6/30/2036	3,105,226	1,677,412				
6/30/2037	1,582,875	605,571				
6/30/2038	1,064,686	424,751				
6/30/2039	698,128	281,293				
6/30/2040	454,902	192,183				
6/30/2041	287,225	296,830				
6/30/2042						
6/30/2043						
6/30/2044						
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
6/30/2050						
6/30/2051						
6/30/2052						
Total		31,022,255		27,171,177		23,362,962
Interest Paid		11,116,546		7,265,468		3,457,253
Estimated Savings				3,851,078		7,659,293

Employer Contribution History

The table below provides a recent history of the required employer contributions for the plan. The amounts are based on the actuarial valuation from two years prior and does not account for prepayments or benefit changes made during a fiscal year. Additional discretionary payments before July 1, 2019 or after June 30, 2021 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	
2022 - 23	25.64%	2,317,133	
2023 - 24	29.09%	2,271,254	

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
06/30/2012	\$63,382,845	\$42,847,766	\$20,535,079	67.6%	\$4,865,092
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

Risk Analysis

- **Future Investment Return Scenarios**
- **Discount Rate Sensitivity**
- **Mortality Rate Sensitivity**
- **Maturity Measures**
- **Maturity Measures History**
- **Hypothetical Termination Liability**

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, 2041.

Assumed Annual Return FY 2021-22 through 2040-41	Projected Employer Contributions				
	2024-25	2025-26	2026-27	2027-28	2028-29
3.0% (5th percentile)					
Normal Cost Rate	29.1%	29.1%	29.1%	29.1%	29.1%
UAL Contribution	\$2,328,000	\$2,402,000	\$2,553,000	\$2,750,000	\$3,241,000
10.8% (95th percentile)					
Normal Cost Rate	29.6%	30.1%	30.6%	31.1%	31.6%
UAL Contribution	\$2,173,000	\$1,937,000	\$1,613,000	\$56,000	\$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 2021-22 on the FY 2024-25 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 2024-25.

Assumed Annual Return for Fiscal Year 2021-22	Required Employer Contributions	Projected Employer Contributions
	2023-24	2024-25
(17.2)% (2 standard deviation loss)		
Normal Cost Rate	29.09%	29.1%
UAL Contribution	\$2,271,254	\$2,753,000
(5.2)% (1 standard deviation loss)		
Normal Cost Rate	29.09%	29.1%
UAL Contribution	\$2,271,254	\$2,500,000

- Without investment gains (returns higher than 6.8%) in year FY 2022-23 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 2021-22.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2024-25 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, 2021 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, 2021	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	5.8%	6.8%	7.8%
Inflation	2.3%	2.3%	2.3%
Real Rate of Return	3.5%	4.5%	5.5%
a) Total Normal Cost	48.23%	38.08%	30.40%
b) Accrued Liability	\$121,251,823	\$106,756,840	\$94,909,445
c) Market Value of Assets	\$85,438,794	\$85,438,794	\$85,438,794
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$35,813,029	\$21,318,046	\$9,470,651
e) Funded Ratio	70.5%	80.0%	90.0%

Sensitivity to the Price Inflation Assumption

As of June 30, 2021	1% Lower Inflation Rate	Current Assumptions	1% Higher Inflation Rate
Discount Rate	5.8%	6.8%	7.8%
Inflation	1.3%	2.3%	3.3%
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost	39.93%	38.08%	34.64%
b) Accrued Liability	\$110,487,974	\$106,756,840	\$97,965,010
c) Market Value of Assets	\$85,438,794	\$85,438,794	\$85,438,794
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$25,049,180	\$21,318,046	\$12,526,216
e) Funded Ratio	77.3%	80.0%	87.2%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2021 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 improving or worsening mortality over the long-term.

As of June 30, 2021	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	38.56%	38.08%	37.63%
b) Accrued Liability	\$108,409,332	\$106,756,840	\$105,226,201
c) Market Value of Assets	\$85,438,794	\$85,438,794	\$85,438,794
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$22,970,538	\$21,318,046	\$19,787,407
e) Funded Ratio	78.8%	80.0%	81.2%

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, 2020	June 30, 2021
1. Retired Accrued Liability	\$71,709,978	\$80,379,058
2. Total Accrued Liability	99,040,905	106,756,840
3. Ratio of Retiree AL to Total AL [(1) / (2)]	0.72	0.75

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, may be 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, 2020	June 30, 2021
1. Number of Actives	27	24
2. Number of Retirees	84	88
3. Support Ratio [(1) / (2)]	0.32	0.27

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 higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility than a plan with an asset-to-payroll ratio 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 the 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 ratio 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, 2020	June 30, 2021
1. Market Value of Assets	\$69,727,959	\$85,438,794
2. Payroll	4,380,747	3,935,891
3. Asset Volatility Ratio (AVR) [(1) / (2)]	15.9	21.7
4. Accrued Liability	\$99,040,905	\$106,756,840
5. Liability Volatility Ratio (LVR) [(4) / (2)]	22.6	27.1

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

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2021. The plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For the hypothetical 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.

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.

Market Value of Assets (MVA)	Hypothetical Termination Liability^{1,2} at 1.00%	Funded Ratio	Unfunded Termination Liability at 1.00%	Hypothetical Termination Liability^{1,2} at 2.25%	Funded Ratio	Unfunded Termination Liability at 2.25%
\$85,438,794	\$253,692,408	33.7%	\$168,253,614	\$208,007,732	41.1%	\$122,568,938

¹ The hypothetical 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 2.00% on June 30, 2021, 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, 2020	June 30, 2021
Active Members		
Counts	27	24
Average Attained Age	47.76	48.12
Average Entry Age to Rate Plan	34.18	34.85
Average Years of Credited Service	13.33	12.98
Average Annual Covered Pay	\$162,250	\$163,995
Annual Covered Payroll	\$4,380,747	\$3,935,891
Present Value of Future Payroll	\$27,360,979	\$23,079,247
Transferred Members	12	11
Separated Members	2	3
Retired Members and Beneficiaries		
Counts*	84	88
Average Annual Benefits*	\$58,956	\$61,920

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	\$500	\$500	
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

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

July 2022

**PEPRA Safety Police Plan of the Town of Los Gatos (CalPERS ID: 4589482285)
Annual Valuation Report as of June 30, 2021**

Dear Employer,

Attached to this letter, you will find the June 30, 2021 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) 2023-24.** 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, 2021.

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, 2021.

Your June 30, 2021 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. The plan actuary whose signature is in the Actuarial Certification is available to discuss.

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 Contribution

The table below shows the minimum required employer contributions and the Employee PEPRA Rate for FY 2023-24 along with estimates of the required contributions for FY 2024-25. 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 Rate
2023-24	14.50%	\$0	14.50%
<i>Projected Results</i>			
2024-25	14.5%	\$0	TBD

The actual investment return for FY 2021-22 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 2021-22 differs from 6.8%, the actual contribution requirements for FY 2024-25 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 2028-29.

Changes from Previous Year's Valuation

On July 12, 2021, CalPERS reported a preliminary 21.3% net return on investments for FY 2020-21. Since the return exceeded the 7.00% discount rate sufficiently, the CalPERS Funding Risk Mitigation policy allows CalPERS to use a portion of the investment gain to offset the cost of reducing the expected volatility of future investment returns. Based on the thresholds specified in the policy, the excess return of 14.3% prescribes a reduction in investment volatility that corresponds to a reduction in the discount rate of 0.20%, from 7.00% to 6.80%.

On November 17, 2021, the board adopted new actuarial assumptions based on the recommendations in the November 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases, and inflation assumption for public agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2023-24. In addition, the board adopted a new strategic asset allocation as part of its Asset Liability Management process. The new asset allocation along with the new capital market assumptions and economic assumptions support a discount rate of 6.80%. This includes a reduction in the price inflation assumption from 2.50% to 2.30%.

Besides the above noted changes, there may also 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 of the Section 2 report, "Actuarial Methods and Assumptions."

Questions

We understand that you might have questions about these results, and the plan actuary whose signature is on the valuation report is available to discuss. If you have other questions, you may call the Customer Contact Center at (888)-CalPERS or (888-225-7377).

Sincerely,



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



**Actuarial Valuation
as of June 30, 2021**

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

**Required Contributions
for Fiscal Year
July 1, 2023 - June 30, 2024**

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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)**

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Actuarial Certification

To the best of our knowledge, this report, comprising 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, 2021 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 consistent 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, 2021 and employer contribution as of July 1, 2023 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 Pension Actuary, CalPERS

Highlights and Executive Summary

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

This report presents the results of the June 30, 2021 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 required employer contributions for (FY) 2023-24.

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 plan actuary in order to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2021;
- Determine the minimum required employer contribution for this plan for the FY July 1, 2023 through June 30, 2024; and
- Provide actuarial information as of June 30, 2021 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 recommendations 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 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

Required Employer Contributions		Fiscal Year 2023-24
Employer Normal Cost Rate		14.50%
Plus		
Required Payment on Amortization Bases ¹		\$0
Paid either as		
1) Monthly Payment		\$0.00
Or		
2) Annual Prepayment Option*		\$0
Required PEPR 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 PEPR member contribution rate see section on PEPR Member Contribution Rates.</i>		

	Fiscal Year 2022-23	Fiscal Year 2023-24
Development of Normal Cost as a Percentage of Payroll		
Base Total Normal Cost for Formula	25.78%	27.29%
Surcharge for Class 1 Benefits ²		
a) PRSA	1.63%	1.71%
Phase out of Normal Cost Difference ³	0.00%	0.00%
Plan's Total Normal Cost	27.41%	29.00%
Plan's Employee Contribution Rate	13.75%	14.50%
Employer Normal Cost Rate	13.66%	14.50%

¹ The required payment on amortization bases does not take into account any additional discretionary payment made after April 29, 2022.

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

³ The normal cost change 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 the 2023-24 FY is \$0. 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 2023-24 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 2023-24

Estimated Normal Cost	Minimum UAL Payment	ADP	Total UAL Contribution	Estimated Total Contribution
\$253,826	\$0	\$0	\$0	\$253,826

Alternative Fiscal Year 2023-24 Employer Contributions for Greater UAL Reduction

Funding Target	Estimated Normal Cost	Minimum UAL Payment	ADP ¹	Total UAL Contribution	Estimated Total Contribution
N/A	N/A	N/A	N/A	N/A	N/A

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, 2023 as determined in the June 30, 2021 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.

Plan's Funded Status

	June 30, 2020	June 30, 2021
1. Present Value of Projected Benefits (PVB)	\$3,908,684	\$6,454,361
2. Entry Age Accrued Liability (AL)	888,807	1,301,901
3. Plan's Market Value of Assets (MVA)	805,416	1,370,527
4. Unfunded Accrued Liability (UAL) [(2) - (3)]	83,391	(68,626)
5. Funded Ratio [(3) / (2)]	90.6%	105.3%

The UAL and funded ratio are assessments of the need for future employer contributions based on the actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. The funded ratio, on the other hand, is a relative measure of funded status that allows for comparison between plans of different sizes. For measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

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 2021-22 is assumed to be 6.80% per year, net of investment and administrative expenses. Actual contribution rates during this projection period could be significantly higher or lower than the projection shown below. 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 2021-22 and Beyond)				
Fiscal Year	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
	Rate Plan 25874 Results					
Normal Cost %	14.50%	14.5%	14.5%	14.5%	14.5%	14.5%
UAL Payment	\$0	\$0	\$0	\$0	\$0	\$0

For some sources of UAL, the change in UAL is 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 increase in UAL, the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially 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 below, 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 payroll for each rate plan will grow according to the overall payroll growth assumption of 2.80% per year for three years.

	Fiscal Year 2022-23	Fiscal Year 2023-24
Estimated Combined Employer Contributions for all Pooled Safety Rate Plans		
Projected Payroll for the Contribution Year	\$5,803,598	\$6,026,373
Estimated Employer Normal Cost	\$1,362,084	\$1,497,671
Required Payment on Amortization Bases	\$2,336,391	\$2,271,254
Estimated Total Employer Contributions	\$3,698,475	\$3,768,925
Estimated Total Employer Contribution Rate (illustrative only)	63.73%	62.54%

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 2016-17, the Amortization of UAL component was expressed as a percentage of total active payroll. Starting with FY 2016-17, the Amortization of UAL component was expressed as a dollar amount and invoiced on a monthly basis. There continues to be 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, 2021, 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 of the Section 2 Report for a summary of the plan provisions used in this valuation.

Actuarial Methods and Assumptions

On November 17, 2021, the board adopted new actuarial assumptions based on the recommendations in the 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases, and inflation assumption for Public Agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2023-24. In addition, the board adopted a new asset portfolio as part of its Asset Liability Management process. The new asset mix supports a 6.80% discount rate, which reflects a change in the price inflation assumption to 2.30%.

Subsequent Events

The contribution requirements determined in this actuarial valuation report are based on demographic and financial information as of June 30, 2021. Changes subsequent to that date are not reflected. Investment returns below the assumed rate of return may increase future required contributions while investment returns above the assumed rate of return may decrease future required contributions.

The projected employer contributions on Page 6 are calculated under the assumption that the discount rate remains at 6.8% going forward and that the realized rate of return on assets for FY 2021-22 is 6.8%.

This actuarial valuation report reflects statutory changes, regulatory changes and board actions through January 2022. Any subsequent changes or actions are not reflected.

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 Plan's Amortization Bases**
- **Amortization Schedule and Alternatives**
- **Employer Contribution History**
- **Funding History**

Breakdown of Entry Age Accrued Liability

Active Members	\$1,282,859
Transferred Members	19,042
Terminated Members	0
Members and Beneficiaries Receiving Payments	0
Total	\$1,301,901

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	\$1,301,901
2. Projected UAL balance at 6/30/2021	73,420
3. Pool's Accrued Liability ¹	27,398,042,131
4. Sum of Pool's Individual Plan UAL Balances at 6/30/2021 ¹	6,920,959,100
5. Pool's 2020/21 Investment (Gain)/Loss ¹	(2,925,172,404)
6. Pool's 2020/21 Non-Investment (Gain)/Loss ¹	(102,877,200)
7. Plan's Share of Pool's Investment (Gain)/Loss: $[(1) - (2)] \div [(3) - (4)] \times (5)$	(175,490)
8. Plan's Share of Pool's Non-Investment (Gain)/Loss: $(1) \div (3) \times (6)$	(4,889)
9. Plan's New (Gain)/Loss as of 6/30/2021: $(7) + (8)$	(180,379)
10. Increase in Pool's Accrued Liability due to Change in Assumptions ¹	144,971,064
11. Plan's Share of Pool's Change in Assumptions: $(1) \div (3) \times (10)$	6,889
12. Increase in Pool's Accrued Liability due to Funding Risk Mitigation ¹	661,723,040
13. Plan's Share of Pool's Change due to Funding Risk Mitigation: $(1) \div (3) \times (12)$	31,444
14. Offset due to Funding Risk Mitigation	(74,591)
15. Plan's Net Investment (Gain): $(7) - (14)$	(100,899)

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

16. Plan's UAL: $(2) + (9) + (11) + (13)$	(\$68,626)
17. Plan's Share of Pool's MVA: $(1) - (16)$	\$1,370,527

Schedule of Plan's Amortization Bases

Note that there is a two-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2021.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2023-24.

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 2023-24	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/21	Expected Payment 2021-22	Balance 6/30/22	Expected Payment 2022-23	Balance 6/30/23	Minimum Required Payment 2023-24
Fresh Start	6/30/21				N/A	(68,626)	(21,967)	(50,591)	(22,350)	(30,934)	0
Total						(68,626)	(21,967)	(50,591)	(22,350)	(30,934)	0

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	N/A Year Amortization		N/A Year Amortization	
			Balance	Payment	Balance	Payment
6/30/2023	N/A	N/A	N/A	N/A	N/A	N/A
6/30/2024						
6/30/2025						
6/30/2026						
6/30/2027						
6/30/2028						
6/30/2029						
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6/30/2048						
6/30/2049						
6/30/2050						
6/30/2051						
6/30/2052						
Total		N/A		N/A		N/A
Interest Paid		N/A		N/A		N/A
Estimated Savings				N/A		N/A

Employer Contribution History

The table below provides a recent history of the required employer contributions for the plan. The amounts are based on the actuarial valuation from two years prior and does not account for prepayments or benefit changes made during a fiscal year. Additional discretionary payments before July 1, 2019 or after June 30, 2021 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	
2022 - 23	13.66%	19,258	
2023 - 24	14.50%	0	

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

Risk Analysis

- **Future Investment Return Scenarios**
- **Discount Rate Sensitivity**
- **Mortality Rate Sensitivity**
- **Maturity Measures**
- **Maturity Measures History**
- **Hypothetical Termination Liability**

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, 2041.

Assumed Annual Return FY 2021-22 through 2040-41	Projected Employer Contributions				
	2024-25	2025-26	2026-27	2027-28	2028-29
3.0% (5th percentile)					
Normal Cost Rate	14.5%	14.5%	14.5%	14.5%	14.5%
UAL Contribution	\$570	\$2,500	\$5,700	\$10,000	\$16,000
10.8% (95th percentile)					
Normal Cost Rate	14.9%	15.3%	15.1%	15.5%	15.9%
UAL Contribution	\$0	\$0	\$0	\$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 2021-22 on the FY 2024-25 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 2024-25.

Assumed Annual Return for Fiscal Year 2021-22	Required Employer Contributions	Projected Employer Contributions
	2023-24	2024-25
(17.2)% (2 standard deviation loss)		
Normal Cost Rate	14.50%	14.5%
UAL Contribution	\$0	\$7,400
(5.2)% (1 standard deviation loss)		
Normal Cost Rate	14.50%	14.5%
UAL Contribution	\$0	\$3,300

- Without investment gains (returns higher than 6.8%) in year FY 2022-23 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 2021-22.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2024-25 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, 2021 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, 2021	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	5.8%	6.8%	7.8%
Inflation	2.3%	2.3%	2.3%
Real Rate of Return	3.5%	4.5%	5.5%
a) Total Normal Cost	36.51%	29.00%	23.33%
b) Accrued Liability	\$1,629,277	\$1,301,901	\$1,052,543
c) Market Value of Assets	\$1,370,527	\$1,370,527	\$1,370,527
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$258,750	(\$68,626)	(\$317,984)
e) Funded Ratio	84.1%	105.3%	130.2%

Sensitivity to the Price Inflation Assumption

As of June 30, 2021	1% Lower Inflation Rate	Current Assumptions	1% Higher Inflation Rate
Discount Rate	5.8%	6.8%	7.8%
Inflation	1.3%	2.3%	3.3%
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost	30.60%	29.00%	26.23%
b) Accrued Liability	\$1,372,888	\$1,301,901	\$1,173,880
c) Market Value of Assets	\$1,370,527	\$1,370,527	\$1,370,527
d) Unfunded Liability/(Surplus) [(b) - (c)]	\$2,361	(\$68,626)	(\$196,647)
e) Funded Ratio	99.8%	105.3%	116.8%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2021 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 improving or worsening mortality over the long-term.

As of June 30, 2021	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	29.38%	29.00%	28.64%
b) Accrued Liability	\$1,318,738	\$1,301,901	\$1,286,201
c) Market Value of Assets	\$1,370,527	\$1,370,527	\$1,370,527
d) Unfunded Liability/(Surplus) [(b) - (c)]	(\$51,789)	(\$68,626)	(\$84,326)
e) Funded Ratio	103.9%	105.3%	106.6%

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, 2020	June 30, 2021
1. Retired Accrued Liability	\$0	\$0
2. Total Accrued Liability	888,807	1,301,901
3. Ratio of Retiree AL to Total AL [(1) / (2)]	0.00	0.00

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, may be 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, 2020	June 30, 2021
1. Number of Actives	8	13
2. Number of Retirees	0	0
3. Support Ratio [(1) / (2)]	N/A	N/A

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 higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility than a plan with an asset-to-payroll ratio 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 the 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 ratio 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, 2020	June 30, 2021
1. Market Value of Assets	\$805,416	\$1,370,527
2. Payroll	969,229	1,611,346
3. Asset Volatility Ratio (AVR) [(1) / (2)]	0.8	0.9
4. Accrued Liability	\$888,807	\$1,301,901
5. Liability Volatility Ratio (LVR) [(4) / (2)]	0.9	0.8

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	0.00	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

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2021. The plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For the hypothetical 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.

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.

Market Value of Assets (MVA)	Hypothetical Termination Liability^{1,2} at 1.00%	Funded Ratio	Unfunded Termination Liability at 1.00%	Hypothetical Termination Liability^{1,2} at 2.25%	Funded Ratio	Unfunded Termination Liability at 2.25%
\$1,370,527	\$4,360,131	31.4%	\$2,989,604	\$2,924,632	46.9%	\$1,554,105

¹ The hypothetical 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 2.00% on June 30, 2021, 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, 2020	June 30, 2021
Active Members		
Counts	8	13
Average Attained Age	33.30	31.22
Average Entry Age to Rate Plan	29.87	28.34
Average Years of Credited Service	3.40	2.87
Average Annual Covered Pay	\$121,154	\$123,950
Annual Covered Payroll	\$969,229	\$1,611,346
Present Value of Future Payroll	\$11,679,941	\$20,712,706
Transferred Members	1	2
Separated Members	1	0
Retired Members and Beneficiaries		
Counts*	0	0
Average Annual Benefits*	\$0	\$0

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	No	
Benefit Provision		
Benefit Formula	2.7% @ 57	
Social Security Coverage	No	
Full/Modified	Full	
Employee Contribution Rate	13.75%	
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	\$500	
Survivor Allowance (PRSA)	Yes	
COLA	2%	

PEPPRA Member Contribution Rates

The California Public Employees' Pension Reform Act of 2013 (PEPPRA) 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 rate is dependent on the plan of retirement benefits, 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 PEPPRA member contribution rates effective July 1, 2023, based on 50% of the total normal cost rate as of the June 30, 2021 valuation.

Rate Plan Identifier	Benefit Group Name	Basis for Current Rate		Rates Effective July 1, 2023			
		Total Normal Cost	Member Rate	Total Normal Cost	Change	Change Needed	Member Rate
25874	Safety Police PEPPRA Level	27.634%	13.75%	29.00%	1.366%	Yes	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**