

1959 Survivor Benefit Program Actuarial Valuation

As of June 30, 2022



Table of Contents

Actuarial Certification	1
Highlights and Executive Summary	2
Introduction	3
Purpose	3
Funded Status	3
Required Employer and Employee Monthly Premiums	4
Changes Since the Prior Year's Valuation	5
Assets.....	6
Reconciliation of the Market Value of Assets	7
Asset Allocation	9
CalPERS History of Investment Returns.....	10
Liabilities and Funding Requirements.....	11
Key Results.....	12
Development of Normal Costs	15
Development of Funding Requirements.....	17
Schedule of Amortization Bases	20
(Gain)/Loss Analysis 6/30/2021-6/30/2022	20
Risk Analysis.....	23
Future Investment Return Scenarios	24
Discount Rate Sensitivity	25
Mortality Rate Sensitivity.....	26
Appendix A – Actuarial Methods and Assumptions.....	A-1
Appendix B – Principal Plan Provisions.....	B-1
Appendix C – Demographic and Experience Information	C-1
Appendix D – 1959 Survivor Deaths Per Year	D-1
Appendix E – List of Contracting Agencies	E-1
Appendix F – Glossary.....	F-1

Actuarial Certification



April 2023

To the best of our knowledge, this report is complete and accurate and contains sufficient information to fully and fairly disclose the funded condition of the 1959 Survivor Program for Public Agencies 1st, 2nd, 3rd, 4th, and Indexed Level pools, and the State and Schools 5th Level pools. This valuation is based on the survivor and membership data provided to the Actuarial Office, the statement of assets provided by the CalPERS Financial Office, and the benefits provided under this program. It is our opinion that this 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 program, as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

The undersigned are actuaries for CalPERS, who are members of the American Academy of Actuaries and the Society of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

A handwritten signature in black ink, appearing to read "Shelly Chu".

SHELLY CHU, ASA, MAAA
Senior Pension Actuary, CalPERS

A handwritten signature in black ink, appearing to read "Anthony Cuny".

Tony Cuny, ASA, MAAA
Senior Pension Actuary, CalPERS

A handwritten signature in black ink, appearing to read "Scott Terando".

Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS

Highlights and Executive Summary

- 3 Introduction
- 3 Purpose
- 3 Funded Status
- 4 Required Employer and Employee Monthly Premiums
- 5 Changes Since the Prior Year's Valuation

Highlights and Executive Summary

Introduction

The 1959 Survivor program was designed to provide pre-retirement death benefits comparable to those provided by Social Security, formally the Federal Old Age and Survivor Insurance (OASI) program, to CalPERS' members not covered by Social Security.

Purpose

This actuarial valuation of the 1959 Survivor Program for Public Agencies 1st, 2nd, 3rd, 4th, and Indexed Level pools, and the State and Schools 5th Level pools within the California Public Employees' Retirement System (CalPERS) was performed by CalPERS staff actuaries as of June 30, 2022 in order to:

- Set forth the funded status of the program, reflecting the assets and funding liabilities of this program as of June 30, 2022.
- Establish the actuarially required premiums for all levels and employee premiums for the Indexed Level, and State and Schools 5th Levels for the fiscal year July 1, 2023 through June 30, 2024; and
- Provide actuarial information as of June 30, 2022 to the CalPERS Board of Administration and other interested parties.

The use of this report for any other purposes may be inappropriate.

Funded Status

Shown below are the Accrued Liability, Market Value of Assets (MVA), and Funded Ratio of all pools within the 1959 Survivor Benefit Program as of June 30, 2022.

Plan	Accrued Liability ¹	Market Value of Assets	Funded Ratio
State 5 th Level Pool	\$154,319,353	\$118,493,561	76.8%
Schools 5 th Level Pool	14,198,856	98,145,312	691.2%
PA 1 st Level Pool	2,731,767	65,355,742	2,392.4%
PA 2 nd Level Pool	2,217,975	14,938,427	673.5%
PA 3 rd Level Pool	30,753,269	141,922,852	461.5%
PA 4 th Level Pool	148,619,003	157,027,464	105.7%
PA Indexed Level Pool	20,822,002	29,314,086	140.8%
Total	\$373,662,225	\$625,197,444	167.3%

- (1) Under the Term Insurance Method, the accrued liability and the present value of future benefits are defined to be equal. Under the Entry Age Actuarial Cost Method, which is being used to fund the benefit in the Indexed Level pool, the accrued liability is defined as the difference between the present value of future benefits and the present value of future normal costs.

Highlights and Executive Summary

Required Employer and Employee Monthly Premiums

Shown below are the 1959 Survivor Program's actuarially required employer and employee monthly premiums per covered member, per month for the fiscal year July 1, 2023 through June 30, 2024. The premiums for fiscal year July 1, 2022 through June 30, 2023 are shown for comparison. Except for the Public Agency Indexed Level pool, these monthly premiums are determined using a Modified Term Insurance Method. Monthly premiums for the Public Agency Indexed Level pool are determined using the Entry Age Actuarial Cost Method.

Required Monthly Premiums

Plan	2022-23 Premiums			2023-24 Premiums		
	Employer	Employee	Total	Employer	Employee	Total
State 5 th Level Pool ¹	\$5.60	\$5.60	\$11.20	\$6.35	\$6.35	\$12.70
Schools 5 th Level Pool ¹	\$0.00	\$2.00	\$2.00	\$0.00	\$2.00	\$2.00
PA 1 st Level Pool ²	\$0.00	\$2.00	\$2.00	\$0.00	\$2.00	\$2.00
PA 2 nd Level Pool ²	\$0.00	\$2.00	\$2.00	\$0.00	\$2.00	\$2.00
PA 3 rd Level Pool ²	\$0.00	\$2.00	\$2.00	\$0.00	\$2.00	\$2.00
PA 4 th Level Pool ²	\$2.40	\$2.00	\$4.40	\$5.20	\$2.00	\$7.20
PA Indexed Level Pool ¹	\$0.50	\$2.00	\$2.50	\$2.75	\$2.75	\$5.50

(1) For the Indexed Level and State and Schools 5th Levels, Section 21581 of the California Public Employees' Retirement Law requires mandatory cost sharing when the total premium exceeds \$4.00. Mandatory \$2.00 member monthly premium required.

(2) Mandatory \$2.00 member monthly premium required.

The required employee premium for the State 5th Level pool will change from \$5.60 to \$6.35 per member, per month (or from \$2.59 to \$2.94 for biweekly paid members) for fiscal year 2023-24. This is in accordance with Section 21581(c), which specifies that for State and Schools 5th Levels when the total required premium (after amortization of surplus/unfunded liability) exceeds \$4.00, the employer and the member shall evenly share the required monthly premium.

The required employee premium for the Indexed Level pool will change from \$2.00 to \$2.75 per member, per month (or from \$0.93 to \$1.27 for biweekly paid members) for fiscal year 2023-24. Employer premiums will change from \$0.50 to \$2.75 per member, per month. This increase is due to unfavorable investment experience in the past year.

Employee required premiums for Public Agency 1st, 2nd, and 3rd Level pools shall remain the same as in the prior year: \$2.00 per member, per month. There are no employer required premiums for these pools.

Employee required premiums for Public Agency 4th Level pool shall remain the same as in the prior year: \$2.00 per member, per month. Employer premiums will change from \$2.40 to \$5.20 per member, per month. This increase is due to unfavorable investment and non-investment experience in the past year.

Highlights and Executive Summary

Changes Since the Prior Year's Valuation

Actuarial Methods and Assumptions

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

Plan Provisions

No changes were made since the prior valuation. A complete description of the principal plan provisions used in the June 30, 2022 valuation may be found in Appendix B of this report.

Subsequent Changes

The required monthly premiums determined in this actuarial valuation report are based on demographic and financial information as of June 30, 2022. Changes subsequent to that date are not reflected. Investment returns below the assumed rate of return may increase future required monthly premiums while investment returns above the assumed rate of return may decrease future required monthly premiums.

This actuarial valuation report reflects statutory changes, regulatory changes, and board actions through January 2023. Any subsequent changes or actions are not reflected.

Assets

- 7 Reconciliation of the Market Value of Assets
- 9 Asset Allocation
- 10 CalPERS History of Investment Returns

Assets

Reconciliation of the Market Value of Assets

State 5 th Level	June 30, 2021	June 30, 2022
Beginning Balance	\$112,099,536	\$132,599,565
Contributions (Employer and Employee) Received During Fiscal Year	10,301,264	10,503,801
Benefit Payments During Fiscal Year	(14,783,314)	(14,705,250)
Net Transfer of Assets Into and Out of this Pool	—	—
Investment Earnings Credited	24,982,079	(9,904,555)
Ending Balance	\$132,599,565	\$118,493,561

Schools 5 th Level	June 30, 2021	June 30, 2022
Beginning Balance	\$88,551,569	\$107,430,815
Contributions (Employer and Employee) Received During Fiscal Year	208,342	210,204
Benefit Payments During Fiscal Year	(1,287,236)	(1,401,969)
Net Transfer of Assets Into and Out of this Pool	—	—
Investment Earnings Credited	19,958,140	(8,093,739)
Ending Balance	\$107,430,815	\$98,145,312

Public Agency 1 st Level	June 30, 2021	June 30, 2022
Beginning Balance	\$57,807,635	\$70,811,352
Contributions (Employer and Employee) Received During Fiscal Year	167,709	161,086
Benefit Payments During Fiscal Year	(265,231)	(252,836)
Net Transfer of Assets Into and Out of this Pool	—	—
Investment Earnings Credited	13,101,238	(5,363,860)
Ending Balance	\$70,811,352	\$65,355,742

Public Agency 2 nd Level	June 30, 2021	June 30, 2022
Beginning Balance	\$13,389,672	\$16,284,692
Contributions (Employer and Employee) Received During Fiscal Year	98,718	99,214
Benefit Payments During Fiscal Year	(220,649)	(217,551)
Net Transfer of Assets Into and Out of this Pool	—	—
Investment Earnings Credited	3,016,952	(1,227,930)
Ending Balance	\$16,284,692	\$14,938,427

Public Agency 3 rd Level	June 30, 2021	June 30, 2022
Beginning Balance	\$128,410,622	\$155,368,176
Contributions (Employer and Employee) Received During Fiscal Year	1,060,113	1,073,440
Benefit Payments During Fiscal Year	(2,831,833)	(2,795,327)
Net Transfer of Assets Into and Out of this Pool	(186,784)	—
Investment Earnings Credited	28,916,058	(11,723,437)
Ending Balance	\$155,368,176	\$141,922,852

Assets

Reconciliation of the Market Value of Assets (continued)

Public Agency 4 th Level	June 30, 2021	June 30, 2022
Beginning Balance	\$153,766,711	\$176,677,180
Contributions (Employer and Employee) Received During Fiscal Year	6,144,561	5,775,480
Benefit Payments During Fiscal Year	(13,765,000)	(13,755,031)
Net Transfer of Assets Into and Out of this Pool	186,784	—
Investment Earnings Credited	30,344,124	(11,670,165)
Ending Balance	\$176,677,180	\$157,027,464

Public Agency Indexed Level	June 30, 2021	June 30, 2022
Beginning Balance	\$27,295,626	\$32,409,114
Contributions (Employer and Employee) Received During Fiscal Year	632,098	633,482
Benefit Payments During Fiscal Year	(1,321,299)	(1,416,150)
Net Transfer of Assets Into and Out of this Pool	—	—
Investment Earnings Credited	5,802,688	(2,312,360)
Ending Balance	\$32,409,114	\$29,314,086

Assets

Asset Allocation

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

The asset allocation shown below reflects the allocation of the Public Employees' Retirement Fund (PERF) in its entirety. The assets for the 1959 Survivor Benefit Program are a subset of the PERF and are invested accordingly.

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

Strategic Asset Allocation Policy Targets

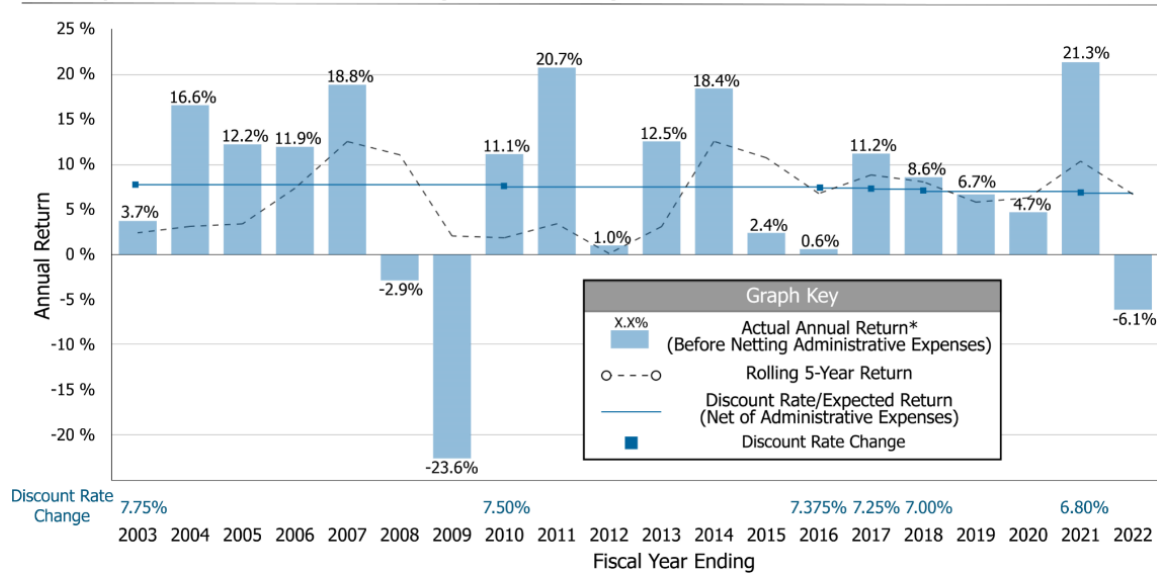
Asset Class	Actual Allocation 9/30/2022	Policy Target Allocation effective 7/1/2022
Global Public Equity		
Market Capitalization Weighted	33.7%	30.0%
Factor Weighted	12.6%	12.0%
Private Equity	11.6%	13.0%
Income		
Treasuries	3.9%	5.0%
Mortgage-backed Securities	5.6%	5.0%
Investment Grade Corporates	5.8%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

Assets

CalPERS History of Investment Returns

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

History of Investment Returns (2003 - 2022)



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

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

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

Liabilities and Funding Requirements

- 12 Key Results
- 15 Development of Normal Costs
- 17 Development of Funding Requirements
- 20 Schedule of Amortization Bases
- 20 (Gain)/Loss Analysis 6/30/2021 - 6/30/2022

Liabilities and Funding Requirements

Key Results

Key results of the current and prior valuations are shown below.

State 5 th Level	June 30, 2021	June 30, 2022
Covered Active Members	76,995	75,812
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	280	275
Receiving Benefits	1,402	1,420
Total	1,682	1,695
Accrued Liabilities	\$150,360,536	\$154,319,353
Market Value of Assets (MVA)	132,599,565	118,493,561
Unfunded Liability/(Excess Assets)	17,760,971	35,825,792
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/(Excess Assets)	\$7.20	\$8.30
After Amortization of Unfunded Liability/(Excess Assets)	\$11.20	\$12.70
After Employer/Employee Premium Sharing	\$5.60	\$6.35
Funded Ratio	88.2%	76.8%

Schools 5 th Level	June 30, 2021	June 30, 2022
Covered Active Members	10,413	10,390
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	17	18
Receiving Benefits	143	145
Total	160	163
Accrued Liabilities	\$14,435,090	\$14,198,856
Market Value of Assets (MVA)	107,430,815	98,145,312
Unfunded Liability/(Excess Assets)	(92,995,725)	(83,946,456)
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/(Excess Assets)	\$5.30	\$5.70
After Amortization of Unfunded Liability/(Excess Assets)	\$0.00	\$0.00
After Employer/Employee Premium Sharing	\$0.00	\$0.00
Funded Ratio	744.2%	691.2%

Liabilities and Funding Requirements

Key Results (continued)

Public Agency 1 st Level	June 30, 2021	June 30, 2022
Covered Active Members	6,899	6,716
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	26	24
Receiving Benefits	102	102
Total	128	126
Accrued Liabilities	\$2,840,806	\$2,731,767
Market Value of Assets (MVA)	70,811,352	65,355,742
Unfunded Liability/(Excess Assets)	(67,970,546)	(62,623,975)
Required Employer Monthly Premium Per Member		
Total Premium Required	\$1.30	\$1.40
Premium Required After Employee Contributions	\$0.00	\$0.00
Employer Premium After Amortization of Unfunded Liability/(Excess Assets)	\$0.00	\$0.00
Funded Ratio	2,492.7%	2,392.4%

Public Agency 2 nd Level	June 30, 2021	June 30, 2022
Covered Active Members	4,149	4,231
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	13	16
Receiving Benefits	75	70
Total	88	86
Accrued Liabilities	\$2,244,801	\$2,217,975
Market Value of Assets (MVA)	16,284,692	14,938,427
Unfunded Liability/(Excess Assets)	(14,039,891)	(12,720,452)
Required Employer Monthly Premium Per Member		
Total Premium Required	\$1.60	\$1.70
Premium Required After Employee Contributions	\$0.00	\$0.00
Employer Premium After Amortization of Unfunded Liability/(Excess Assets)	\$0.00	\$0.00
Funded Ratio	725.4%	673.5%

Public Agency 3 rd Level	June 30, 2021	June 30, 2022
Covered Active Members	44,591	46,284
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	173	166
Receiving Benefits	592	600
Total	765	766
Accrued Liabilities	\$30,817,673	\$30,753,269
Market Value of Assets (MVA)	155,368,176	141,922,852
Unfunded Liability/(Excess Assets)	(124,550,503)	(111,169,583)
Required Employer Monthly Premium Per Member		
Total Premium Required	\$2.50	\$2.70
Premium Required After Employee Contributions	\$0.50	\$0.70
Employer Premium After Amortization of Unfunded Liability/(Excess Assets)	\$0.00	\$0.00
Funded Ratio	504.2%	461.5%

Liabilities and Funding Requirements

Key Results (continued)

Public Agency 4 th Level	June 30, 2021	June 30, 2022
Covered Active Members	72,142	73,322
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	197	181
Receiving Benefits	1,022	1,058
Total	1,219	1,239
Accrued Liabilities	\$144,921,903	\$148,619,003
Market Value of Assets (MVA)	176,677,180	157,027,464
Unfunded Liability/(Excess Assets)	(31,755,277)	(8,408,461)
Required Employer Monthly Premium Per Member		
Total Premium Required	\$7.10	\$7.50
Premium Required After Employee Contributions	\$5.10	\$5.50
Employer Premium After Amortization of Unfunded Liability/(Excess Assets)	\$2.40	\$5.20
Funded Ratio	121.9%	105.7%
Public Agency Indexed Level	June 30, 2021	June 30, 2022
Covered Active Members	11,255	11,811
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	21	21
Receiving Benefits	108	112
Total	129	133
Accrued Liabilities	\$20,196,279	\$20,822,002
Market Value of Assets (MVA)	32,409,114	29,314,086
Unfunded Liability/(Excess Assets)	(12,212,835)	(8,492,084)
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/(Excess Assets)	\$9.20	\$9.50
After Amortization of Unfunded Liability/(Excess Assets)	\$2.50	\$5.50
After Employer/Employee Premium Sharing	\$0.50	\$2.75
Funded Ratio	160.5%	140.8%

Liabilities and Funding Requirements

Development of Normal Costs

The following six tables show the development of the Normal Cost using the Modified Term Method. The Normal Cost is developed using the historical present value of future benefits arising from deaths that occurred in the given year. These values are divided by the number of members in the given year and weighted by percentages listed below. Please see Appendix A – Actuarial Methods and Assumptions for more details.

State 5th Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2012	\$6,274,281	71,759	1%	\$7.29
2013	7,001,469	71,180	3%	8.20
2014	6,781,756	72,848	5%	7.76
2015	6,663,762	74,372	7%	7.47
2016	7,552,847	75,782	9%	8.31
2017	5,775,398	76,638	11%	6.28
2018	4,157,928	77,362	13%	4.48
2019	7,055,745	78,011	15%	7.54
2020	8,477,509	78,713	17%	8.98
2021	11,486,323	76,995	19%	12.43

Final Weighted Average Normal Cost

\$8.30

Schools 5th Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2012	\$678,418	10,123	1%	\$5.58
2013	434,475	9,944	3%	3.64
2014	356,592	10,287	5%	2.89
2015	693,955	10,490	7%	5.51
2016	200,586	10,259	9%	1.63
2017	874,049	10,557	11%	6.90
2018	979,346	10,894	13%	7.49
2019	1,207,583	11,190	15%	8.99
2020	207,932	11,219	17%	1.54
2021	995,922	10,413	19%	7.97

Final Weighted Average Normal Cost

\$5.70

Public Agencies 1st Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2012	\$2,867,574	132,754	1%	\$1.80
2013	2,437,847	129,796	3%	1.57
2014	1,771,714	132,024	5%	1.12
2015	1,870,607	134,879	7%	1.16
2016	2,177,004	139,581	9%	1.30
2017	2,338,412	141,063	11%	1.38
2018	2,253,797	140,339	13%	1.34
2019	1,951,324	141,374	15%	1.15
2020	2,013,700	141,081	17%	1.19
2021	3,028,163	139,036	19%	1.81

Final Weighted Average Normal Cost

\$1.40

Liabilities and Funding Requirements

Development of Normal Costs (continued)

Public Agencies 2nd Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2012	\$3,585,597	132,754	1%	\$2.25
2013	3,047,799	129,796	3%	1.96
2014	2,215,157	132,024	5%	1.40
2015	2,338,658	134,879	7%	1.44
2016	2,721,826	139,581	9%	1.62
2017	2,923,684	141,063	11%	1.73
2018	2,818,176	140,339	13%	1.67
2019	2,439,600	141,374	15%	1.44
2020	2,517,925	141,081	17%	1.49
2021	3,786,086	139,036	19%	2.27

Final Weighted Average Normal Cost **\$1.70**

Public Agencies 3rd Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2012	\$5,584,625	132,754	1%	\$3.51
2013	4,744,073	129,796	3%	3.05
2014	3,448,999	132,024	5%	2.18
2015	3,640,399	134,879	7%	2.25
2016	4,237,503	139,581	9%	2.53
2017	4,552,112	141,063	11%	2.69
2018	4,389,615	140,339	13%	2.61
2019	3,797,699	141,374	15%	2.24
2020	3,921,749	141,081	17%	2.32
2021	5,894,958	139,036	19%	3.53

Final Weighted Average Normal Cost **\$2.70**

Public Agencies 4th Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2012	\$15,771,239	132,754	1%	\$9.90
2013	13,510,031	129,796	3%	8.67
2014	9,687,436	132,024	5%	6.11
2015	10,319,088	134,879	7%	6.38
2016	12,032,521	139,581	9%	7.18
2017	12,856,158	141,063	11%	7.59
2018	12,335,721	140,339	13%	7.32
2019	10,865,065	141,374	15%	6.40
2020	11,045,570	141,081	17%	6.52
2021	16,761,925	139,036	19%	10.05

Final Weighted Average Normal Cost **\$7.50**

Liabilities and Funding Requirements

Development of Funding Requirements

The following table develops the annual premiums required for fiscal year 2023-24 for the State 5th and Schools 5th Level pools.

June 30, 2022	State 5 th Level	Schools 5 th Level
1) Development of Unfunded Liability		
a) Present Value of Future Benefits for Current Survivors as of 6/30/2022	\$152,042,353	\$13,820,856
b) Reserve for Unclaimed Benefits as of 6/30/2022	2,277,000	378,000
c) Total Accrued Liabilities as of 6/30/2022 [(1a) + (1b)]	154,319,353	14,198,856
d) Market Value of Assets as of 6/30/2022	118,493,561	98,145,312
e) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(1c) - (1d)]	\$35,825,792	(\$83,946,456)
2) Development of Normal Cost		
a) Total Per Member, Per Month 2022/2023 Term Insurance Normal Cost rounded to the nearest \$0.10	\$8.30	\$5.70
3) 2023 Projected Unfunded Liability		
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(1e)]	\$35,825,792	(\$83,946,456)
b) Projected Normal Cost Contributions with Interest 7/1/2022 – 6/30/2023	6,875,275	683,559
c) Projected UAL Payment 7/1/2022 – 6/30/2023	3,490,226	(683,559)
d) Projected Required Contributions 7/1/2022 – 6/30/2023 [(3b) + (3c)]	10,365,501	—
e) Projected Employee Contributions 7/1/2022 – 6/30/2023	5,174,400	249,600
f) Changes in Contributions due to Contribution (Gain)/Loss ¹	(1,057,742)	(49,236)
g) Excess Assets due to Employee Contributions [maximum, (\$0, (3e) - (3d))]	—	249,600
h) Projected UAL/(Excess Assets) as of 6/30/2023 [(3a) * 1.068 - ((3c) + (3f) + (3g)) * 1.068^{1/2}]	\$35,748,118	(\$89,155,462)
4) Required Contribution		
a) Required Normal Cost Per Member, Per Month [(2c)]	\$8.30	\$5.70
b) Projected Active Members as of 6/30/2023	75,800	10,400
c) Required Normal Cost Contribution [(4a) * (4b) * 12 * (1.068) ^{1/2}]	\$7,802,148	\$735,148
d) Amortization of the UAL/(Excess Assets) ²	3,750,109	(735,148)
e) Total Required Contributions [(4c) + (4d)]	11,552,257	0.00
f) Required Contributions Per Member, Per Month [(4e) / (4b) / 12], rounded to the nearest \$0.10	\$12.70	\$0.00
g) Amortization Period	See Table on Pg. 20	30-year
5) 2023-2024 Required Employer and Employee Premiums with Cost Sharing Provision		
a) Required Employee Premium Per Member, Per Month [maximum, (\$2, (4f) / 2)]	\$6.35	\$2.00
b) Required Employer Premium Per Member, Per Month [maximum, (\$0, (4f) - (5a))]	\$6.35	\$0.00

(1) This reflects differences in calculated Normal Costs from the prior year and the current year, as well as differences in actual and estimated member counts.

(2) See amortization schedule on Page 20.

Liabilities and Funding Requirements

Development of Funding Requirements (continued)

The following table develops the annual premiums required for fiscal year 2023-24 for the Public Agency 1st, 2nd, 3rd, and 4th Level pools.

June 30, 2022	Public Agency 1 st Level	Public Agency 2 nd Level	Public Agency 3 rd Level	Public Agency 4 th Level
1) Development of Unfunded Liability				
a) Present Value of Future Benefits for Current Survivors as of 6/30/2022	\$2,677,767	\$2,118,075	\$30,169,469	\$146,259,203
b) Reserve for Unclaimed Benefits as of 6/30/2022	54,000	99,900	583,800	2,359,800
c) Total Accrued Liabilities as of 6/30/2022 [(1a) + (1b)]	2,731,767	2,217,975	30,753,269	148,619,003
d) Market Value of Assets as of 6/30/2022	65,355,742	14,938,427	141,922,852	157,027,464
e) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(1c) - (1d)]	(\$62,623,975)	(\$12,720,452)	(\$111,169,583)	(\$8,408,461)
2) Development of Normal Cost				
a) Total Per Member, Per Month 2022/2023 Term Insurance Normal Cost rounded to the nearest \$0.10	\$1.40	\$1.70	\$2.70	\$7.50
3) 2023 Projected Unfunded Liability				
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(1e)]	(\$62,623,975)	(\$12,720,452)	(\$111,169,583)	(\$8,408,461)
b) Projected Normal Cost Contributions with Interest 7/1/2022 – 6/30/2023	111,240	81,352	1,382,744	6,348,344
c) Projected UAL Payment 7/1/2022 – 6/30/2023	(111,240)	(81,352)	(1,382,744)	(2,551,305)
d) Projected Required Contributions 7/1/2022 – 6/30/2023 [(3b) + (3c)]	—	—	—	3,797,039
e) Projected Employee Contributions 7/1/2022 – 6/30/2023	165,600	98,400	1,070,400	1,730,400
f) Changes in Contributions due to Contribution (Gain)/Loss ¹	(5,189)	(7,592)	(161,602)	(420,866)
g) Excess Assets due to Employee Contributions [maximum, (\$0, (3e) - (3d))]	165,600	98,400	1,070,400	—
h) Projected UAL/(Excess Assets) as of 6/30/2023 [(3a) * 1.068 - ((3c) + (3f) + (3g)) * 1.068^{1/2}]	(\$66,933,222)	(\$13,595,214)	(\$118,239,320)	(\$5,908,673)
4) Required Contribution				
a) Required Normal Cost Per Member, Per Month [(2c)]	\$1.40	\$1.70	\$2.70	\$7.50
b) Projected Active Members as of 6/30/2023	6,700	4,200	46,300	73,300
c) Required Normal Cost Contribution [(4a) * (4b) * 12 * (1.068) ^{1/2}]	\$116,324	\$88,545	\$1,550,285	\$6,817,609
d) Amortization of the UAL/(Excess Assets)	(116,324)	(88,545)	(1,550,285)	(451,529)
e) Total Required Contributions [(4c) + (4d)]	0.00	0.00	0.00	6,366,080
f) Required Contributions Per Member, Per Month [(4e) / (4b) / 12], rounded to the nearest \$0.10	\$0.00	\$0.00	\$0.00	\$7.20
g) Amortization Period	30-year	30-year	30-year	30-year
5) 2023-2024 Required Employer/Employee Premiums				
a) Required Employee Premium Per Member, Per Month [\$2]	\$2.00	\$2.00	\$2.00	\$2.00
b) Required Employer Premium Per Member, Per Month [maximum, (\$0, (4f) - (5a))]	\$0.00	\$0.00	\$0.00	\$5.20

(1) This reflects differences in calculated Normal Costs from the prior year and the current year, as well as differences in actual and estimated member counts.

Liabilities and Funding Requirements

Development of Funding Requirements (continued)

The following table develops the annual premiums required for fiscal year 2023-24 for the Public Agency Indexed Level pool.

June 30, 2022	Public Agency Indexed Level
1) Development of Unfunded Liability	
a) Present Value of Future Benefits for Current Survivors as of 6/30/2022	\$16,690,987
b) Present Value of Future Benefits for Active Members as of 6/30/2022	14,068,325
c) Reserve for Unclaimed Benefits as of 6/30/2022	18,552
d) Total Present Value of Future Benefits as of 6/30/2022 [(1a) + (1b)]	30,759,312
e) Present Value of Future Normal Costs as of 6/30/2022	9,955,862
f) Total Accrued Liabilities as of 6/30/2022 [(1c) + (1d) - (1e)]	20,822,002
g) Market Value of Assets as of 6/30/2022	29,314,086
h) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(1f) - (1g)]	(\$8,492,084)
2) Development of Normal Cost	
a) Required Entry Age Normal Cost	\$1,349,262
b) Active Members as of 6/30/2022	11,811
c) Total Per Member, Per Month 2022/2023 Entry Age Normal Cost	\$9.50
[(2a) / (2b) / 12], rounded to the nearest \$0.10	
3) 2023 Projected Unfunded Liability	
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(1h)]	(\$8,492,084)
b) Projected Normal Cost Contributions with Interest 7/1/2022 – 6/30/2023	1,289,238
c) Projected UAL Payment 7/1/2022 – 6/30/2023	(945,637)
d) Projected Required Contributions 7/1/2022 – 6/30/2023 [(3b) + (3c)]	343,601
e) Projected Employee Contributions 7/1/2022 – 6/30/2023	271,200
f) Changes in Contributions due to Contribution (Gain)/Loss ¹	(83,604)
g) Excess Assets due to Employee Contributions [maximum, (\$0, (3e) - (3d))]	—
h) Projected UAL/(Excess Assets) as of 6/30/2023 [(3a) * 1.068 - ((3c) + (3f) + (3g)) * 1.068^{1/2}]	(\$8,005,886)
4) Required Contribution	
a) Required Normal Cost Per Member, Per Month [(2c)]	\$9.50
b) Projected Active Members as of 6/30/2023	11,800
c) Required Normal Cost Contribution [(4a) * (4b) * 12 * (1.068) ^{1/2}]	\$1,390,185
d) Amortization of the UAL/(Excess Assets)	(611,793)
e) Total Required Contributions [(4c) + (4d)]	778,392
f) Required Contributions Per Member, Per Month [(4e) / (4b) / 12], rounded to the nearest \$0.10	\$5.50
g) Amortization Period	30-year
5) 2023-2024 Required Employer and Employee Premiums with Cost Sharing Provision	
a) Required Employee Premium Per Member, Per Month [maximum (\$2, (4f) / 2)]	\$2.75
b) Required Employer Premium Per Member, Per Month [maximum (\$0, (4f) - (5a))]	\$2.75

(1) This reflects differences in calculated Normal Costs from the prior year and the current year, as well as differences in actual and estimated member counts.

Liabilities and Funding Requirements

Schedule of Amortization Bases

The schedule below shows the development of the required payments on the Amortization Bases in accordance with the Amortization Policy.

State 5th Level Pool

	Date Established	Remaining Period	Original Period	Balance 6/30/2022	Payment 2022-23	Projected Balance 6/30/2023	Payment 2023-24
Fresh Start	6/30/2022	15	15	\$35,825,792	\$2,432,484	\$35,748,118	\$3,750,109
Total				\$35,825,792	\$2,432,484	\$35,748,118	\$3,750,109

(Gain)/Loss Analysis 6/30/2021 – 6/30/2022

To calculate the funding 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 actual gains or losses, as shown below.

	State 5 th Level	Schools 5 th Level
1) Prior Year Unfunded Accrued Liability/(Excess Assets) Development		
a) Accrued Liability as of 6/30/2021	\$150,360,536	\$14,435,090
b) Market Value of Assets as of 6/30/2021	132,599,565	107,430,815
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1a) - (1b)]	\$17,760,971	(\$92,995,725)
2) Development of Projected Unfunded Accrued Liability/(Excess Assets) for 6/30/2022		
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1c)]	\$17,760,971	(\$92,995,725)
b) Projected Unfunded Accrued Liability/(Excess Assets) Payment with Interest 7/1/2021 – 6/30/2022 ¹	3,967,336	(420,289)
c) Projected Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(2a) * 1.068 - (2b) * 1.068 ^{1/2}]	14,868,710	(98,885,091)
3) Development of Projected Assets		
a) Market Value of Assets as of 6/30/2021	\$132,599,565	\$107,430,815
b) Net Cash Flows 7/1/2021 – 6/30/2022	(4,201,448)	(1,191,765)
c) Net Transfer of Assets Into and Out of this Pool	—	—
d) Expected Assets as of 6/30/2022 [(3a) * 1.068 + ((3b) + (3c)) * 1.068^{1/2}]	\$137,274,387	\$113,504,492
4) Current Year Unfunded Liability/(Excess Assets) Development		
a) Accrued Liability as of 6/30/2022	\$154,319,353	\$14,198,856
b) Market Value of Assets as of 6/30/2022	118,493,561	98,145,312
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(4a) - (4b)]	\$35,825,792	(\$83,946,456)
5) Development of (Gain)/Loss due to changes in Reserve for Unclaimed Benefits		
a) Reserve for Unclaimed Benefits as of 6/30/2021	\$1,485,000	\$918,000
b) Reserve for Unclaimed Benefits as of 6/30/2022	2,277,000	378,000
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5b) - (5a)]	792,000	(540,000)
6) (Gain)/Loss for the Period of 6/30/2021 – 6/30/2022		
a) Total (Gain)/Loss [(4c) - (2c)]	\$20,957,082	\$14,938,635
b) Investment (Gain)/Loss [(3d) - (4b)]	18,780,826	15,359,180
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5c)]	792,000	(540,000)
d) Non-Investment (Gain)/Loss [(6a) - (6b) - (6c)]	1,384,256	119,455

(1) Includes payment gain/loss due to changes in Normal Costs, as well as differences in actual and estimated member counts.

Liabilities and Funding Requirements

(Gain)/Loss Analysis 6/30/2021 – 6/30/2022 (continued)

	Public Agency 1 st Level	Public Agency 2 nd Level	Public Agency 3 rd Level	Public Agency 4 th Level
1) Prior Year Unfunded Accrued Liability/(Excess Assets) Development				
a) Accrued Liability as of 6/30/2021	\$2,840,806	\$2,244,801	\$30,817,673	\$144,921,903
b) Market Value of Assets as of 6/30/2021	70,811,352	16,284,692	155,368,176	176,677,180
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1a) - (1b)]	(\$67,970,546)	(\$14,039,891)	(\$124,550,503)	(\$31,755,277)
2) Development of Projected Unfunded Accrued Liability/(Excess Assets) for 6/30/2022				
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1c)]	(\$67,970,546)	(\$14,039,891)	(\$124,550,503)	(\$31,755,277)
b) Projected Unfunded Accrued Liability/(Excess Assets) Payment with Interest 7/1/2021 – 6/30/2022 ¹	61,311	18,191	(299,161)	(511,344)
c) Projected Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(2a) * 1.068 - (2b) * 1.068 ^{1/2}]	(72,655,904)	(15,013,403)	(132,710,772)	(33,386,192)
3) Development of Projected Assets				
a) Market Value of Assets as of 6/30/2021	\$70,811,352	\$16,284,692	\$155,368,176	\$176,677,180
b) Net Cash Flows 7/1/2021 – 6/30/2022	(91,750)	(118,336)	(1,721,887)	(7,979,551)
c) Net Transfer of Assets Into and Out of this Pool	—	—	—	—
d) Expected Assets as of 6/30/2022 [(3a) * 1.068 + ((3b) + (3c)) * 1.068^{1/2}]	\$75,531,706	\$17,269,757	\$164,153,743	\$180,444,835
4) Current Year Unfunded Liability/(Excess Assets) Development				
a) Accrued Liability as of 6/30/2022	\$2,731,767	\$2,217,975	\$30,753,269	\$148,619,003
b) Market Value of Assets as of 6/30/2022	65,355,742	14,938,427	141,922,852	157,027,464
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(4a) - (4b)]	(\$62,623,975)	(\$12,720,452)	(\$111,169,583)	(\$8,408,461)
5) Development of (Gain)/Loss due to changes in the Reserve for Unclaimed Benefits				
a) Reserve for Unclaimed Benefits as of 6/30/2021	\$118,800	\$91,800	\$537,600	\$2,211,600
b) Reserve for Unclaimed Benefits as of 6/30/2022	54,000	99,900	583,800	2,359,800
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5b) - (5a)]	(64,800)	8,100	46,200	148,200
6) (Gain)/Loss for the Period of 6/30/2021 – 6/30/2022				
a) Total (Gain)/Loss [(4c) - (2c)]	\$10,031,929	\$2,292,951	\$21,541,189	\$24,977,731
b) Investment (Gain)/Loss [(3d) - (4b)]	10,175,964	2,331,330	22,230,891	23,417,371
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5c)]	(64,800)	8,100	46,200	148,200
d) Non-Investment (Gain)/Loss [(6a) - (6b) - (6c)]	(79,235)	(46,479)	(735,902)	1,412,160

(1) Includes payment gain/loss due to changes in Normal Costs, as well as differences in actual and estimated member counts.

Liabilities and Funding Requirements

(Gain)/Loss Analysis 6/30/2021 – 6/30/2022 (continued)

	Public Agency Indexed Level
1) Prior Year Unfunded Accrued Liability/(Excess Assets) Development	
a) Accrued Liability as of 6/30/2021	\$20,196,279
b) Market Value of Assets as of 6/30/2021	32,409,114
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1a) - (1b)]	(\$12,212,835)
2) Development of Projected Unfunded Accrued Liability/(Excess Assets) for 6/30/2022	
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1c)]	(\$12,212,835)
b) Projected Unfunded Accrued Liability/(Excess Assets) Payment with Interest 7/1/2021 – 6/30/2022 ¹	(647,128)
c) Projected Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(2a) * 1.068 - (2b) * 1.068 ^{1/2}]	(12,374,540)
3) Development of Projected Assets	
a) Market Value of Assets as of 6/30/2021	\$32,409,114
b) Net Cash Flows 7/1/2021 – 6/30/2022	(782,668)
c) Net Transfer of Assets Into and Out of this Pool	—
d) Expected Assets as of 6/30/2022 [(3a) * 1.068 + ((3b) + (3c)) * 1.068^{1/2}]	\$33,804,093
4) Current Year Unfunded Liability/(Excess Assets) Development	
a) Accrued Liability as of 6/30/2022	\$20,822,002
b) Market Value of Assets as of 6/30/2022	29,314,086
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2022 [(4a) - (4b)]	(\$8,492,084)
5) Development of (Gain)/Loss due to changes in the Reserve for Unclaimed Benefits	
a) Reserve for Unclaimed Benefits as of 6/30/2021	\$9,096
b) Reserve for Unclaimed Benefits as of 6/30/2022	18,552
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5b) - (5a)]	9,456
6) (Gain)/Loss for the Period of 6/30/2021 – 6/30/2022	
a) Total (Gain)/Loss [(4c) - (2c)]	\$3,882,456
b) Investment (Gain)/Loss [(3d) - (4b)]	4,490,007
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5c)]	9,456
d) Non-Investment (Gain)/Loss [(6a) - (6b) - (6c)]	(617,007)

(1) Includes payment gain/loss due to changes in Normal Costs, as well as differences in actual and estimated member counts.

Risk Analysis

24 Future Investment Return Scenarios

25 Discount Rate Sensitivity

26 Mortality Rate Sensitivity

Risk Analysis

Future Investment Return Scenarios

The asset portfolio has an expected volatility (or standard deviation) of 12.0% per year. Accordingly, in any given year there is a 2.5% probability that the annual return will be -17.2% or less and a 2.5% probability that the annual return will be 30.8% or more. These returns represent two standard deviations below and above the expected return of 6.8%.

The following tables show the effect of a two standard deviation investment loss in fiscal year 2022-23 on the fiscal year 2024-25 employer and employee contributions. Note that for the State 5th Level, 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 fiscal year 2024-25.

- -17.2% investment return (2 standard deviation loss)
- 6.8% investment return
- 30.8% investment return (2 standard deviation gain)

The tables below show fiscal year 2024-25 projected employee and employer contributions under the investment return scenarios mentioned above.

-17.2% Return

	2024-25 Employer Monthly Premium	2024-25 Employee Monthly Premium
State 5 th Level	\$6.70	\$6.70
Schools 5 th Level	0.00	2.00
PA 1 st Level	0.00	2.00
PA 2 nd Level	0.00	2.00
PA 3 rd Level	0.00	2.00
PA 4 th Level	6.50	2.00
PA Indexed Level	4.65	4.65

6.8% Return

	2024-25 Employer Monthly Premium	2024-25 Employee Monthly Premium
State 5 th Level	\$6.35	\$6.35
Schools 5 th Level	0.00	2.00
PA 1 st Level	0.00	2.00
PA 2 nd Level	0.00	2.00
PA 3 rd Level	0.00	2.00
PA 4 th Level	5.20	2.00
PA Indexed Level	2.75	2.75

30.8% Return

	2024-25 Employer Monthly Premium	2024-25 Employee Monthly Premium
State 5 th Level	\$6.30	\$6.30
Schools 5 th Level	0.00	2.00
PA 1 st Level	0.00	2.00
PA 2 nd Level	0.00	2.00
PA 3 rd Level	0.00	2.00
PA 4 th Level	2.50	2.00
PA Indexed Level	0.60	2.00

Risk Analysis

Discount Rate Sensitivity

The following tables illustrate the sensitivity of the valuation results to the discount rate assumption. Shown below are fiscal year 2023-24 contributions assuming alternate discount rates of 5.8% and 7.8%. Those rates were selected since they illustrate the impact of a 1.0% increase or decrease to the current discount rate assumption of 6.8%.

5.8% Discount Rate (-1%)

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$7.45	\$7.45
Schools 5 th Level	0.00	2.00
PA 1 st Level	0.00	2.00
PA 2 nd Level	0.00	2.00
PA 3 rd Level	0.00	2.00
PA 4 th Level	7.40	2.00
PA Indexed Level	4.40	4.40

Increase in Contribution

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$1.10	\$1.10
Schools 5 th Level	0.00	0.00
PA 1 st Level	0.00	0.00
PA 2 nd Level	0.00	0.00
PA 3 rd Level	0.00	0.00
PA 4 th Level	2.20	0.00
PA Indexed Level	1.65	1.65

7.8% Discount Rate (+1%)

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$5.35	\$5.35
Schools 5 th Level	0.00	2.00
PA 1 st Level	0.00	2.00
PA 2 nd Level	0.00	2.00
PA 3 rd Level	0.00	2.00
PA 4 th Level	3.40	2.00
PA Indexed Level	0.50	2.00

Decrease in Contribution

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	(\$1.00)	(\$1.00)
Schools 5 th Level	0.00	0.00
PA 1 st Level	0.00	0.00
PA 2 nd Level	0.00	0.00
PA 3 rd Level	0.00	0.00
PA 4 th Level	(1.80)	0.00
PA Indexed Level	(2.25)	(0.75)

Risk Analysis

Mortality Rate Sensitivity

The following tables illustrate the sensitivity of the valuation results to the mortality rate assumption. Shown below are fiscal year 2023-24 contributions assuming mortality rates that are 10% lower and 10% higher than the mortality tables used in the valuation. These mortality rates were only applied to individuals who were receiving a benefit or in a deferral status as of the valuation date. This analysis will give an indication of the potential required contributions if mortality were to be 10% lower or 10% higher than expected over the long term.

Lower Mortality Rates (-10%)

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$6.50	\$6.50
Schools 5 th Level	0.00	2.00
PA 1 st Level	0.00	2.00
PA 2 nd Level	0.00	2.00
PA 3 rd Level	0.00	2.00
PA 4 th Level	5.60	2.00
PA Indexed Level	2.90	2.90

Increase in Contribution

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$0.15	\$0.15
Schools 5 th Level	0.00	0.00
PA 1 st Level	0.00	0.00
PA 2 nd Level	0.00	0.00
PA 3 rd Level	0.00	0.00
PA 4 th Level	0.40	0.00
PA Indexed Level	0.15	0.15

Higher Mortality Rate (+10%)

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$6.15	\$6.15
Schools 5 th Level	0.00	2.00
PA 1 st Level	0.00	2.00
PA 2 nd Level	0.00	2.00
PA 3 rd Level	0.00	2.00
PA 4 th Level	5.00	2.00
PA Indexed Level	2.60	2.60

Decrease in Contribution

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	(\$0.20)	(\$0.20)
Schools 5 th Level	0.00	0.00
PA 1 st Level	0.00	0.00
PA 2 nd Level	0.00	0.00
PA 3 rd Level	0.00	0.00
PA 4 th Level	(0.20)	0.00
PA Indexed Level	(0.15)	(0.15)

Appendices

A-1 Appendix A – Actuarial Methods and Assumptions

B-1 Appendix B – Principal Plan Provisions

C-1 Appendix C – Demographic and Experience Information

D-1 Appendix D – 1959 Survivor Deaths Per Year

E-1 Appendix E – List of Contracting Agencies

F-1 Appendix F – Glossary

Appendix A – Actuarial Methods and Assumptions

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.

Actuarial Funding Method for Public Agency 1st, 2nd, 3rd, and 4th Level, and State and Schools 5th Level Pools

The actuarial funding method used, as provided in State statute for Public Agencies 1st, 2nd, 3rd, and 4th Level pools, and State and Schools 5th Level pools, is called the Term Insurance Method. This is a terminal funding arrangement with no pre-funding of the survivor benefits payable on account of deaths expected to occur beyond those in the coming year.

The Normal Cost for the year is equal to the Expected Claims (present value of benefits arising from deaths) that will occur in the coming fiscal year. The Expected Claims for the coming fiscal year are determined as the expected claim value divided by the expected member months for the coming fiscal year. The Normal Cost (or Expected Claims) per member, per month for the coming fiscal year is equal to a weighted average of ten years of Normal Costs. The Normal Cost (or Actual Claims divided by Actual Members) for each of the previous years are calculated as the Present Value of Benefits divided by the member counts. The ten years used in this calculation end one year before the valuation date. The most recent year is excluded, and the chart below shows the weights given to the years prior to and including the valuation year. The Present Value of Benefits for current Survivors are recalculated each year, using the current assumptions. The reason for excluding the claims from the most recent year is that when new deaths occur each year, it is often unknown which benefit will ultimately apply (i.e., 1957 Survivor, Industrial Death, Pre-Retirement Option 2, or 1959 Survivor). Many times, new deaths are initially placed under the 1959 Survivor roll, but ultimately are reclassified to another roll sometime later. This can create extreme volatility in the Normal Cost calculation between valuation years, especially for smaller pools.

Weights for Historical Data to Calculate Expected Claims

The table below displays the weights applied to historical Present Value of Benefits and member counts to develop the expected claims per member, per month.

Data 't' Years Ago	Weights
0	0.0%
1	19.0%
2	17.0%
3	15.0%
4	13.0%
5	11.0%
6	9.0%
7	7.0%
8	5.0%
9	3.0%
10	1.0%

A Reserve for Unclaimed Benefits is included in the Accrued Liability. This is done by finding all survivors that are eligible to receive a benefit but are not currently being paid the benefit. This population is assumed to be spouses that were in deferral but have not received a benefit yet due to unforeseen reasons. The amount of this reserve is calculated as the difference between each individual's age as of the valuation date rounded to the nearest whole year minus the age for which their deferral ends, multiplied by their monthly benefit amount. Based on expected lifetimes, the maximum assumed age for receiving benefits is 87.

Appendix A - Actuarial Methods and Assumptions

Actuarial Funding Method for Public Agency 1st, 2nd, 3rd and 4th Level, and State and Schools 5th Level Pools (continued)

Based upon current mortality tables, an individual who starts receiving a benefit at age 62 is expected to continue receiving until age 87.2, while an individual who starts receiving a benefit at age 60 is expected to continue receiving until age 87.0.

The Accrued Liability is equal to the Present Value of Benefits payable to current survivors, plus the Reserve for Unclaimed Benefits. If the Accrued Liability exceeds the Market Value of Assets, the difference is called the Unfunded Liability. On the other hand, if the Market Value of Assets exceeds the Accrued Liability, the difference is called Excess Assets.

The required employer monthly premium is the total required monthly premium less the \$2.00 per month member contributions as required by State Statute Section 21581. For all Levels, existing excess assets in the pool will be amortized and directly used to offset required employer contributions. However, for the State and Schools 5th Level pools, if the total required monthly premium after amortization of excess assets exceeds \$4.00, the member and the employer shall evenly share the required monthly premium. Excess assets for the Schools 5th Level pool, and Public Agency 1st, 2nd, and 3rd Level pools were sufficient to offset required employer contributions, based on June 30, 2022 data and assumptions. Excess assets for the Public Agency 4th Level were amortized over a 30-year period and are not sufficient to fully offset the required employer contribution. The resulting employer contribution for the 4th Level is \$5.20 per covered member, per month.

Actuarial Funding Method for Public Agency Indexed Level Pool

The funding method used for the Public Agency Indexed Level pool 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 an annual cost that increases by approximately 2% in each year.

The Normal Cost for the Public Agency Indexed Level pool is the portion of the total Entry Age Normal Cost, as described in the preceding paragraph that is allocated to the current fiscal year. Since there is no cost allocated to the current fiscal year for those already receiving benefits or are in a deferred status, only active members have a Normal Cost. The population demographics, excluding population growth, are assumed to remain stable for purposes of projecting the Normal Cost to the year for which the contribution requirement is being determined.

A Reserve for Unclaimed Benefits is included in the Accrued Liability. This is done by finding all survivors that are eligible to receive a benefit but are not currently being paid the benefit. This population is assumed to be spouses that were in deferral but have not received a benefit yet due to unforeseen reasons. The amount of this reserve is calculated as the difference between each individual's age as of the valuation date rounded to the nearest whole year minus the age for which their deferral ends, multiplied by their monthly benefit amount. Based on expected lifetimes, the maximum assumed age for receiving benefits is 87. Based upon current mortality tables, an individual who starts receiving a benefit at age 62 is expected to continue receiving until age 87.2, while an individual who starts receiving a benefit at age 60 is expected to continue receiving until age 87.0.

The Accrued Liability is equal to the Present Value of Future Benefits for both current survivors and active members, less the Present Value of Future Normal Costs.

The total required monthly premium is the sum of the individual Normal Costs divided by the number of member months. The required employer monthly premium is the total required monthly premium less the \$2.00 per month member contributions as required by State Statute Section 21581. Existing excess assets in the pool will be amortized and directly used to offset required employer contributions. However, if the total required monthly premium after amortization of excess assets exceeds \$4.00, the member and the employer shall evenly share the required monthly premium. Excess assets for the Public Agency Indexed Level are amortized over a 30-year period. The employer contribution for the Indexed Level is \$2.75 per covered member, per month.

Appendix A - Actuarial Methods and Assumptions

Asset Valuation Method

Commencing with the June 30, 2013 valuation, assets were and continue to be valued on a Market Value basis.

Method for Projecting Active Counts

The projected counts this year assume a stable population. Projected counts are necessary to determine employer premiums.

Actuarial Assumptions

The actuarial assumptions used in this valuation include the investment return rate and the mortality rates for current beneficiaries. These assumptions are shown below. Actual mortality rates for active members of all pools combined are shown in Appendix D and are used in the calculation of the annual normal costs, except for the Public Agency Indexed Level.

Economic Assumptions

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

Demographic Assumptions:

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.

Sample mortality rates for those who are receiving are shown in the following table:

Healthy Recipients			Healthy Recipients		
Age	Male	Female	Age	Male	Female
35	0.00058	0.00029	75	0.02391	0.01783
40	0.00075	0.00039	80	0.04371	0.03403
45	0.00093	0.00054	85	0.08274	0.06166
50	0.00267	0.00199	90	0.14539	0.11086
55	0.00390	0.00325	95	0.24665	0.20364
60	0.00578	0.00455	100	0.36198	0.31582
65	0.00857	0.00612	105	0.52229	0.44679
70	0.01333	0.00996	110	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.

Appendix A - Actuarial Methods and Assumptions

Indexed Level Claims Assumptions

The Public Agency Indexed Level pool's Accrued Liability and Entry Age Normal Cost for active members are calculated based on the actuarial assumptions for the plan that the members are currently in. For instance, if a member is currently working for an employer that provides a pension in a Miscellaneous 2% @ 55 plan, then the corresponding assumptions from the Miscellaneous 2% @ 55 plan would be used. Likewise, if the member is working in a Safety Police 2.7% @ 57 plan, then all the assumptions from the 2.7% @ 57 would be used. This is done to reflect the trends in the retirement based on the retirement formula and member category that an individual is working in.

The actuarial assumptions for each of these plans are as follows:

Eligible Survivor Status

For active members of both the Miscellaneous and Safety plans, the probability of having eligible survivor(s) at the date of death is assumed according to the following table:

Age at Death	Percent Having Eligible Survivor(s)
Age 20 and Under	30%
Between Ages 21 and 24	50%
Between Ages 25 and 29	70%
Between Ages 30 and 39	90%
Between Ages 40 and 49	95%
Between Ages 50 and 54	90%
Age 55 and Above	85%

Average claims are developed at every age using actual experience from the program. These average claims are then multiplied by the percentages in the above table. The results are used to estimate expected claims in the active population.

Benefit amounts and Present Value of Benefits were based on average claim experience. A sample of the average claim experience is shown in the table below:

Age at Death	Present Value of Average Claim ¹ at the Time of Death ²
Age 20 and Under	\$34,555
25	105,735
30	144,551
35	137,949
40	129,974
45	111,494
50	89,478
55	72,980
60	66,223
65	63,898
70	64,273
75	64,231
Age 80 and Above	59,264

(1) Average claims were calculated using actual experience from the 1959 Survivor program and smoothed using a polynomial regression model.

(2) Values are based on an initial benefit of \$500/\$1,000/\$1,500 for one, two, or three survivors, respectively. This was the benefit level on June 30, 2000, when the Indexed Level first became effective. The valuation program increases these amounts by 2% per year up to the current valuation year.

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level

Pre-Retirement Mortality

See sample rates in the table below. The non-industrial death rates are used for all plans. The industrial death rates are used for Safety plans (except for Local Prosecutor Safety members where the corresponding Miscellaneous plan does not have the Industrial Death Benefit).

Non-Industrial (Not Job-Related) and Industrial (Job-Related) Death

Rates vary by age and sex. See sample rates in table below.

Age	Pre-Retirement Mortality					
	Miscellaneous		Safety			
	Non-Industrial Death		Non-Industrial Death		Industrial Death	
	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

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.

Termination with Refund

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

Duration of Service	Public Agency Miscellaneous											
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Termination with Refund (continued)

Duration of Service	Public Agency Safety					
	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 Vested Benefits

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

Duration of Service	Public Agency Miscellaneous									
	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

The Miscellaneous termination with vested benefits rates are also used for Local Prosecutors.

Duration of Service	Public Agency Safety					
	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

The Police termination with vested benefits rates are also used for Public Agency Local Prosecutors, Other Safety, Local Sheriff, and School Police.

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Non-Industrial (Not Job-Related) and Industrial (Job-Related) Disability

Rates vary by age and gender. See sample rates in the table below.

Age	Public Agency Miscellaneous	
	Non-Industrial Disability	
	Male	Female
20	0.0001	0.0000
25	0.0001	0.0001
30	0.0002	0.0003
35	0.0004	0.0007
40	0.0009	0.0012
45	0.0015	0.0019
50	0.0015	0.0019
55	0.0014	0.0013
60	0.0012	0.0009

The Miscellaneous non-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.

Age	Public Agency Safety					
	Non-Industrial Disability			Industrial Disability		
	Fire	Police	County Peace Officer	Fire	Police	County Peace Officer
20	0.0001	0.0001	0.0001	0.0001	0.0000	0.0004
25	0.0001	0.0001	0.0001	0.0002	0.0017	0.0013
30	0.0001	0.0001	0.0001	0.0006	0.0048	0.0025
35	0.0001	0.0002	0.0003	0.0012	0.0079	0.0037
40	0.0001	0.0002	0.0006	0.0023	0.0110	0.0051
45	0.0002	0.0003	0.0011	0.0040	0.0141	0.0067
50	0.0004	0.0005	0.0016	0.0208	0.0185	0.0092
55	0.0006	0.0007	0.0009	0.0307	0.0479	0.0151
60	0.0006	0.0011	0.0005	0.0438	0.0602	0.0174

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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service 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. See sample rates in the tables below.

Age	Public Agency Miscellaneous 1.5% @ 65					
	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

Age	Public Agency Miscellaneous 2% @ 60					
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Miscellaneous 2% @ 55					
	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

Age	Public Agency Miscellaneous 2.5% @ 55					
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Miscellaneous 2.7% @ 55					
	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

Age	Public Agency Miscellaneous 3% @ 60					
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Miscellaneous 2% @ 62					
	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

Public Agency Police ½ @ 55 and 2% @ 55	
Age	Rate
50	0.026
51	0.000
52	0.016
53	0.027
54	0.010
55	0.167
56	0.069
57	0.051
58	0.072
59	0.070
60	0.300

Public Agency Fire ½ @ 55 and 2% @ 55	
Age	Rate
50	0.016
51	0.000
52	0.034
53	0.020
54	0.041
55	0.075
56	0.111
57	0.000
58	0.095
59	0.044
60	1.000

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Police 2% @ 50					
	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.

Age	Public Agency Fire 2% @ 50					
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Police 3% @ 55					
	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.

Age	Public Agency Fire 3% @ 55					
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Police 3% @ 50					
	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.

Age	Public Agency Fire 3% @ 50					
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Police 2% @ 57					
	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.

Age	Public Agency Fire 2% @ 57					
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Police 2.5% @ 57					
	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.

Age	Public Agency Fire 2.5% @ 57					
	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

Appendix A - Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level (continued)

Service Retirement (continued)

Age	Public Agency Police 2.7% @ 57					
	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.

Age	Public Agency Fire 2.7% @ 57					
	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

Appendix B – Principal Plan Provisions

The 1959 Survivor program was designed to provide pre-retirement death benefits comparable to those provided by Social Security, formally the Federal Old Age and Survivor Insurance (OASI) program, to CalPERS' members not covered by Social Security.

Eligibility

The benefit is available only to those members not covered by Social Security OASI benefits. For public agencies, this benefit is provided by contract with CalPERS. Only those public agencies that contract for the 1st, 2nd, 3rd, 4th, or Indexed Levels of the program are eligible for the benefits valued in this report. The Public Agency 1st and 2nd Levels have been closed since January 1, 1994 and the 3rd Level has been closed since July 1, 2001. For State and Schools members, the 5th Level benefit is provided by State statute to certain groups of employees. Members who are eligible for the benefit are given a one-time option to join at the time of the 1959 Survivor contract. Members hired subsequent to the time of contract are automatically enrolled in the program.

Spousal or Domestic Partner Benefit

The benefit is a monthly payment to eligible surviving spouses or domestic partners age 62 or older for the Public Agency 1st, 2nd, and 3rd Levels and age 60 or older for all other Levels. The benefit is also payable under these deferred ages for spouses or partners that have care of children under the age of 22. As an example, assume an agency contracts for the 3rd Level benefit and an active member dies and leaves behind a 35-year-old spouse and 2 children, ages 5 and 15. The following table describes how the benefit would be paid over the course of time.

Event	Monthly Benefit Paid
Member Death	\$840
1 st Child Turns 22	\$700
2 nd Child Turns 22 ¹	\$0
Spouse Turns 62 ²	\$350

(1) At this time, the spouse would be 52 years old and would not receive any benefit until age 62.

(2) Spouse would continue to receive this benefit until his/her death.

Child Benefit

Children are eligible if they are not married or in a registered domestic partnership and are under the age of 22 whether or not a spouse or domestic partner exists. For 3 or more children, the 3-survivor benefit is paid; for 2 children, the 2-survivor benefit is paid and so forth (see tables below). In all cases, unless a child is disabled, the benefit stops at age 22. If a child is disabled, the benefit is paid until the disability ceases.

Parental Benefits

If there is no eligible spouse or domestic partner or children, parent(s) dependent for at least half of their support from the deceased member may be eligible for benefits. The parent(s) must be over age 62 for the Public Agency 1st, 2nd, and 3rd Levels and over age 60 for all other Levels.

Appendix B - Principal Plan Provisions

Monthly Benefit Amounts

The monthly benefit amount depends upon the coverage Level within the program.

1st, 2nd, and 3rd Levels (For Members of Public Agencies who Contract)

	1 st Level	2 nd Level	3 rd Level
Spouse or Domestic Partner with Two or More Eligible Children; or Three or More Eligible Children	\$430	\$538	\$840
Spouse or Domestic Partner with One Eligible Child; or Two Eligible Children Only	360	450	700
Spouse or Domestic Partner Age 62 or Older; or One Eligible Child Only; or Eligible Dependent parents	180	225	350

4th Level and Indexed Level (For Members of Public Agencies who Contract) and 5th Level (State and Schools Members)

	4 th Level	Indexed Level	State and Schools 5 th Level
Spouse or Domestic Partner with Two or More Eligible Children; or Three or More Eligible Children	\$2,280	\$2,365 ¹	\$1,800
Spouse or Domestic Partner with One Eligible Child; or Two Eligible Children Only	1,900	1,577 ¹	1,500
Spouse or Domestic Partner Age 60 or Older; or One Eligible Child Only; or Eligible Dependent parents	950	789 ¹	750

(1) These figures indicate calendar year benefit amounts for the Indexed Level in effect for calendar year 2023. Benefit amounts will increase by 2% each January 1.

Comparison of Social Security and CalPERS 1959 Survivor Benefits

The following tables compare current Social Security survivor benefits with current benefit levels paid under the 1959 Survivor Program.

Social Security

Survivor Group	Low	Average	High
Three Survivors	\$1,720	\$2,738	\$4,375
Two Survivors	1,718	2,468	3,666
One Survivor	859	1,234	1,833

Unlike the 1959 Survivor Benefit (with the exception of the Indexed Level), Federal Social Security benefits normally receive an automatic cost-of-living adjustment every year. Also, unlike the 1959 Survivor Benefit, Social Security benefits are based on a worker's actual earnings up to the maximum covered. The values shown assume death at age 45 (benefits slightly higher at lower ages, lower at higher ages), and steady earnings. "Low" is a 2022 salary of \$25,000, "Average" is \$50,000, and "High" is \$90,000.

CalPERS 1959 Survivor Benefit

Survivor Group	1 st Level	2 nd Level	3 rd Level	4 th Level	Indexed Level ¹	State and Schools 5 th Level
Three Survivors	\$430	\$538	\$840	\$2,280	\$2,365	\$1,800
Two Survivors	360	450	700	1,900	1,577	1,500
One Survivor	180	225	350	950	789	750

(1) Amounts effective January 1, 2023

Summary of Plan Changes

Existing public agency employers joining the Public Agency 4th or Indexed Level pools during the 2023-24 fiscal year are required to pay only the Unfunded Liability based on their own membership (amortized over a period of five years) which exists at the time they join plus the agency's normal cost for all members at the new benefit level for the first five years. If they have excess assets, the excess assets will be amortized over five years and used to offset the agency's normal cost for each year.

Appendix C – Demographic and Experience Information

Current and Deferred Survivors – All Levels of the 1959 Survivor Program for Public Agencies, State and Schools

Currently, there are 4,208 cases where liability exists. These cases include surviving spouses or domestic partners in deferred status even though presently there are no benefits being paid. There are 9 possible survivor combinations that can be associated with each case. The combinations presented below are given as of the date of the valuation, for all Levels of the 1959 Survivor program.

Status as of 6/30/2022	Number	Percent
Surviving Spouse or Domestic Partner Deferred	701	16.7%
Surviving Spouse or Domestic Partner Only Receiving	2,559	60.8%
Surviving Spouse or Domestic Partner with One Child	322	7.7%
Surviving Spouse or Domestic Partner with Two or More Children	308	7.3%
One Child	165	3.9%
Two Children	89	2.1%
Three or More Children	33	0.8%
One Parent	26	0.6%
Two Parents	5	0.1%
Totals	4,208	100.0%¹

(1) Percentages may not sum to 100% due to rounding.

Survivor Combinations as of the Member's Date of Death – All Levels of the 1959 Survivor Program for Public Agencies, State and Schools

There exist 8,593 cases of death associated with the 1959 Survivor program since its inception where 1959 Survivor benefits became payable. With this data, a historical account of each combination can be made. Further, probabilities can be approximated with respect to these combinations when a member dies. Below is a list of all combinations on record, numbers and associated percentages as of the time of death, for all Levels of the 1959 Survivor program.

Status as of the Member's Date of Death	Number	Percent
Surviving Spouse or Domestic Partner Deferred	2,404	28.0%
Surviving Spouse or Domestic Partner Only Receiving	1,090	12.7%
Surviving Spouse or Domestic Partner with One Child	1,392	16.2%
Surviving Spouse or Domestic Partner with Two or More Children	2,288	26.6%
One Child	606	7.1%
Two Children	481	5.6%
Three or More Children	281	3.3%
One Parent	43	0.5%
Two Parents	8	0.1%
Totals	8,593	100.0%¹

(1) Percentages may not sum to 100% due to rounding.

Appendix D – 1959 Survivor Deaths Per Year

1959 Survivor Deaths Per Year

Displayed below is a year-by-year account of the number of deaths under the program and the death rate each year for the last 35 years for public agencies, State, and Schools. Deaths given in the exhibit are on a calendar year basis and may change from previous valuations due mainly to reclassification of the benefit that ultimately gets paid to the survivor. Counts represent mid-year active exposure. The historic covered active counts may not match those reported in the prior year's valuation. This is due to the fact that in some cases there is a time gap between the time of the member's death and the determination of which type of death benefit that the survivor will receive.

Calendar Year	Public Agency			State			Schools		
	Deaths	Mid-Year Active Counts	Death Rate	Deaths	Mid-Year Active Counts	Death Rate	Deaths	Mid-Year Active Counts	Death Rate
2021	115	139,036	0.08%	104	76,995	0.14%	9	10,413	0.09%
2020	99	141,081	0.07%	85	78,713	0.11%	9	11,219	0.08%
2019	83	141,374	0.06%	60	78,011	0.08%	7	11,190	0.06%
2018	75	140,339	0.05%	55	77,362	0.07%	7	10,894	0.06%
2017	82	141,063	0.06%	54	76,638	0.07%	4	10,557	0.04%
2016	80	139,581	0.06%	61	75,782	0.08%	7	10,259	0.07%
2015	76	134,879	0.06%	63	74,372	0.08%	5	10,490	0.05%
2014	67	132,024	0.05%	52	72,848	0.07%	3	10,287	0.03%
2013	77	129,796	0.06%	54	71,180	0.08%	4	9,944	0.04%
2012	94	132,754	0.07%	52	71,759	0.07%	7	10,123	0.07%
2011	106	134,255	0.08%	58	77,714	0.07%	5	9,811	0.05%
2010	86	138,470	0.06%	57	79,587	0.07%	7	10,203	0.07%
2009	98	143,207	0.07%	62	82,434	0.08%	4	10,562	0.04%
2008	107	144,828	0.07%	50	81,369	0.06%	8	10,550	0.08%
2007	102	140,012	0.07%	71	76,902	0.09%	5	10,131	0.05%
2006	88	137,095	0.06%	69	71,742	0.10%	13	9,469	0.14%
2005	105	133,510	0.08%	68	70,193	0.10%	7	9,402	0.07%
2004	91	131,633	0.07%	61	64,252	0.09%	4	9,325	0.04%
2003	93	129,620	0.07%	69	68,791	0.10%	6	9,390	0.06%
2002	87	129,355	0.07%	50	65,558	0.08%	4	9,195	0.04%
2001	83	116,161	0.07%	58	64,309	0.09%	5	7,884	0.06%
2000	78	121,538	0.06%	56	60,349	0.09%	7	8,338	0.08%
1999	92	118,850	0.08%	62	59,406	0.10%	2	7,444	0.03%
1998	87	112,389	0.08%	58	55,435	0.10%	6	6,956	0.09%
1997	68	102,475	0.07%	64	55,084	0.12%	4	6,794	0.06%
1996	82	100,494	0.08%	54	51,746	0.10%	6	6,726	0.09%
1995	74	99,235	0.07%	53	47,689	0.11%	9	6,751	0.13%
1994	68	98,088	0.07%	58	47,323	0.12%	10	6,653	0.15%
1993	74	97,752	0.08%	53	46,872	0.11%	4	6,776	0.06%
1992	88	95,840	0.09%	45	48,872	0.09%	8	6,823	0.12%
1991	96	91,574	0.10%	41	47,708	0.09%	7	7,752	0.09%
1990	88	86,196	0.10%	61	45,502	0.13%	7	7,942	0.09%
1989	65	82,046	0.08%	60	44,069	0.14%	6	6,899	0.09%
1988	74	84,808	0.09%	52	41,980	0.12%	9	7,100	0.13%
1987	62	69,340	0.09%	53	40,315	0.13%	11	6,200	0.18%

Appendix E – List of Contracting Agencies

Level 1

1. Belmont Fire Protection District, Miscellaneous
2. Central Basin Municipal Water District, Miscellaneous
3. City and County of San Francisco, Safety - County Peace Officer
4. City and County of San Francisco, Safety - Sheriff
5. City of Baldwin Park, Miscellaneous
6. City of Baldwin Park, Safety - Police
7. City of Bishop, Miscellaneous
8. City of Bishop, Safety - Police
9. City of Calexico, Safety - Fire
10. City of Calexico, Safety - Police
11. City of Camarillo, Safety - Fire
12. City of Camarillo, Safety - Police
13. City of Coachella City, Miscellaneous
14. City of Coachella City, Safety - Fire
15. City of Coachella City, Safety - Police
16. City of Compton, Safety - Fire
17. City of Culver City, Miscellaneous
18. City of Dixon, Miscellaneous
19. City of El Segundo, Miscellaneous
20. City of Glendora, Safety - Fire
21. City of Hawthorne, Miscellaneous
22. City of Hawthorne, Safety - Fire
23. City of Hawthorne, Safety - Police
24. City of Hemet, Safety - Police
25. City of Indio, Safety - Fire
26. City of Indio, Safety - Police
27. City of Lynwood, Safety - Police
28. City of Madera, Safety - Fire
29. City of Manhattan Beach, Safety - Police
30. City of Maywood, Safety - Police
31. City of Menlo Park, Miscellaneous
32. City of Palo Alto, Miscellaneous
33. City of Palo Alto, Safety - Fire
34. City of Palo Alto, Safety - Police
35. City of Placentia, Safety - Fire
36. City of Pleasanton, Safety - Police
37. City of Pomona, Miscellaneous
38. City of Pomona, Safety - Fire
39. City of Pomona, Safety - Police
40. City of Redondo Beach, Miscellaneous
41. City of Richmond, Miscellaneous
42. City of Richmond, Safety - Fire
43. City of Richmond, Safety - Police
44. City of Rolling Hills Estates, Miscellaneous
45. City of Salinas, Safety - Fire
46. City of San Fernando, Safety - Fire
47. City of San Mateo, Miscellaneous
48. City of San Pablo, Safety - Fire
49. City of Santa Clara, Miscellaneous
50. City of Santa Fe Springs, Safety - Police
51. City of Santa Monica, Safety - Other Safety
52. City of Santa Paula, Safety - Fire
53. City of Sausalito, Miscellaneous
54. City of Seal Beach, Safety - Fire
55. City of South Lake Tahoe, Safety - Police
56. City of South Pasadena, Miscellaneous
57. City of South Pasadena, Safety - Fire
58. City of South Pasadena, Safety - Police
59. City of South San Francisco, Miscellaneous
60. City of Sunnyvale, Safety - Fire
61. City of Tustin, Safety - Fire
62. City of Union City, Safety - Fire
63. City of Union City, Safety - Police
64. City of Vallejo, Miscellaneous
65. City of Vernon, Safety - Police
66. City of Vista, Safety - Police
67. City of Watsonville, Miscellaneous
68. City of Westminster, Safety - Fire
69. City of Whittier, Safety - Fire
70. County of Glenn, Miscellaneous
71. County of Inyo, Miscellaneous
72. County of Madera, Miscellaneous
73. County of Monterey, Miscellaneous
74. County of Plumas, Safety - Fire
75. County of Santa Clara, Miscellaneous
76. County of Santa Clara, Safety - County Peace Officer
77. County of Santa Clara, Safety - Fire
78. County of Santa Cruz, Safety - Fire
79. County of Siskiyou, Safety - Fire
80. County of Solano, Safety - Fire
81. East Contra Costa Irrigation District, Miscellaneous
82. Fruitridge Fire Protection District, Miscellaneous
83. Fruitridge Fire Protection District, Safety - Fire

Appendix E – List of Contracting Agencies

Level 1 (continued)

- | | |
|--|---|
| 84. Lakeside Fire Protection District, Miscellaneous | 92. Riverside County Flood Control and Water Conservation District, Miscellaneous |
| 85. Los Angeles Community College District, Safety - Police | 93. Riverside County Regional Park and Open Space District, Miscellaneous |
| 86. Monterey County Water Resources Agency, Miscellaneous | 94. San Luis Obispo Cal Poly Associated Students, Inc., Miscellaneous |
| 87. Monterey-Salinas Transit District, Miscellaneous | 95. Town of Hillsborough, Miscellaneous |
| 88. Moulton-Niguel Water District, Miscellaneous | 96. Town of Tiburon, Safety - Police |
| 89. Northern California Special Districts Insurance Authority, Miscellaneous | 97. Town of Yountville, Miscellaneous |
| 90. Pomona, Calif State Polytechnic University, Associated Students, Inc., Miscellaneous | |
| 91. Riverside County Air Pollution Control District, Miscellaneous | |

Level 2

- | | |
|---|--|
| 1. Belmont-San Carlos Fire Department, Miscellaneous | 32. City of Palos Verdes Estates, Safety - Fire |
| 2. Brooktrails Township Community Services District, Miscellaneous | 33. City of Palos Verdes Estates, Safety - Police |
| 3. California Interscholastic Federation, Southern Section, Miscellaneous | 34. City of Patterson, Safety - Fire |
| 4. California Interscholastic Federation, State Office, Miscellaneous | 35. City of Patterson, Safety - Police |
| 5. Capitol Area Development Authority, Miscellaneous | 36. City of Santa Barbara, Safety - Fire |
| 6. City and County of San Francisco, Safety - Police | 37. City of Santa Barbara, Safety - Police |
| 7. City of Antioch, Miscellaneous | 38. City of Sierra Madre, Safety - Police |
| 8. City of Capitola, Miscellaneous | 39. City of Solana Beach, Miscellaneous |
| 9. City of Capitola, Safety - Fire | 40. City of Solana Beach, Safety - Other Safety |
| 10. City of Capitola, Safety - Police | 41. City of Stanton, Miscellaneous |
| 11. City of Corcoran, Miscellaneous | 42. City of Stanton, Safety - Fire |
| 12. City of Corcoran, Safety - Fire | 43. City of Stanton, Safety - Police |
| 13. City of Corcoran, Safety - Police | 44. City of Susanville, Safety - Police |
| 14. City of Coronado, Safety - Fire | 45. City of Visalia, Miscellaneous |
| 15. City of Coronado, Safety - Police | 46. City of Vista, Miscellaneous |
| 16. City of Cotati, Safety - Police | 47. City of Watsonville, Safety - Fire |
| 17. City of Crescent City, Miscellaneous | 48. City of Watsonville, Safety - Police |
| 18. City of Crescent City, Safety - Police | 49. County of Alpine, Miscellaneous |
| 19. City of Del Mar, Safety - Other Safety | 50. County of Alpine, Safety - County Peace Officer |
| 20. City of Emeryville, Safety - Police | 51. County of Alpine, Safety - Fire |
| 21. City of Eureka, Safety - Fire | 52. County of Calaveras, Miscellaneous |
| 22. City of Eureka, Safety - Police | 53. County of Calaveras, Safety - County Peace Officer |
| 23. City of Glendora, Miscellaneous | 54. County of Calaveras, Safety - Fire |
| 24. City of Inglewood, Safety - Police | 55. Los Angeles County Office of Education, Miscellaneous |
| 25. City of La Puente, Miscellaneous | 56. Main San Gabriel Basin Watermaster, Miscellaneous |
| 26. City of Lakeport, Miscellaneous | 57. North Coast Unified Air Quality Management District, Miscellaneous |
| 27. City of Lakeport, Safety - Police | 58. Pacific Fire Protection District, Miscellaneous |
| 28. City of Martinez, Safety - Fire | 59. Public Risk Innovation, Solutions and Management, Miscellaneous |
| 29. City of Montclair, Miscellaneous | 60. Pupil Transportation Cooperative, Miscellaneous |
| 30. City of Montclair, Safety - Fire | 61. Rancho California Water District, Miscellaneous |
| 31. City of Palm Desert, Miscellaneous | 62. Running Springs Water District, Miscellaneous |

Appendix E – List of Contracting Agencies

Level 2 (continued)

- | | |
|---|--|
| 63. Running Springs Water District, Safety - Fire | 66. Sonoma County Library, Miscellaneous |
| 64. San Diego Trolley, Inc., Miscellaneous | 67. Tahoe Transportation District, Miscellaneous |
| 65. San Francisco County Transportation Authority,
Miscellaneous | |

Level 3

- | | |
|---|---|
| 1. Access Services Incorporated, Miscellaneous | 35. Cambria Community Healthcare District, Miscellaneous |
| 2. Agoura Hills and Calabasas Community Center,
Miscellaneous | 36. Cambria Community Healthcare District, Safety - Fire |
| 3. Alameda Alliance for Health, Miscellaneous | 37. Cameron Park Community Services District, Miscellaneous |
| 4. Alameda Corridor Transportation Authority, Miscellaneous | 38. Cameron Park Community Services District, Safety - Fire |
| 5. Alameda County Fire Department, Miscellaneous | 39. Camrosa Water District, Miscellaneous |
| 6. Alameda County Fire Department, Safety - Fire | 40. Casitas Municipal Water District, Miscellaneous |
| 7. Alameda County Mosquito Abatement District,
Miscellaneous | 41. Castaic Lake Water Agency, Miscellaneous |
| 8. Alameda County Transportation Authority, Miscellaneous | 42. Castro Valley Sanitary District, Miscellaneous |
| 9. American Canyon Fire Protection District, Safety - Fire | 43. Central Calaveras Fire and Rescue Protection District,
Safety - Fire |
| 10. Apple Valley Fire Protection District, Miscellaneous | 44. Central Coast Water Authority, Miscellaneous |
| 11. Apple Valley Fire Protection District, Safety - Fire | 45. Central Valley Regional Center, Inc., Miscellaneous |
| 12. Arcata Fire Protection District, Miscellaneous | 46. City and County of San Francisco, Miscellaneous |
| 13. Arcata Fire Protection District, Safety - Fire | 47. City of Adelanto, Safety - Police |
| 14. Association of California Water Agencies, Miscellaneous | 48. City of Agoura Hills, Miscellaneous |
| 15. Avila Beach Community Services District, Miscellaneous | 49. City of Alameda, Miscellaneous |
| 16. Baldwin Park Unified School District, Safety - Police | 50. City of Alameda, Safety - Fire |
| 17. Beaumont-Cherry Valley Recreation and Park District,
Miscellaneous | 51. City of Alameda, Safety - Police |
| 18. Belmont-San Carlos Fire Department, Safety - Fire | 52. City of Alhambra, Miscellaneous |
| 19. Belvedere-Tiburon Library Agency, Miscellaneous | 53. City of Alhambra, Safety - Fire |
| 20. Big Bear City Community Services District, Miscellaneous | 54. City of Alhambra, Safety - Police |
| 21. Bighorn-Desert View Water Agency, Miscellaneous | 55. City of Arcadia, Miscellaneous |
| 22. Bodega Bay Fire Protection District, Miscellaneous | 56. City of Arcadia, Safety - Police |
| 23. Bodega Bay Fire Protection District, Safety - Fire | 57. City of Bell, Safety - Fire |
| 24. Borrego Springs Fire Protection District, Miscellaneous | 58. City of Bell, Safety - Police |
| 25. Borrego Water District, Miscellaneous | 59. City of Belvedere, Miscellaneous |
| 26. Broadmoor Police Protection District, Miscellaneous | 60. City of Belvedere, Safety - Police |
| 27. Broadmoor Police Protection District, Safety - Police | 61. City of Benicia, Miscellaneous |
| 28. Brooktrails Township Community Services District, Safety -
Fire | 62. City of Berkeley, Miscellaneous |
| 29. Buena Park Library District, Miscellaneous | 63. City of Brentwood, Miscellaneous |
| 30. Butte County Air Quality Management District,
Miscellaneous | 64. City of Brentwood, Safety - Fire |
| 31. Butte Schools Self-Funded Programs, Miscellaneous | 65. City of Brentwood, Safety - Police |
| 32. California Firefighter's Joint Apprenticeship Committee,
Safety - Fire | 66. City of Brisbane, Miscellaneous |
| 33. California Intergovernmental Risk Authority, Miscellaneous | 67. City of Brisbane, Safety - Fire |
| 34. California Pines Community Services District,
Miscellaneous | 68. City of Brisbane, Safety - Police |
| | 69. City of Burlingame, Miscellaneous |
| | 70. City of Calabasas, Miscellaneous |
| | 71. City of Campbell, Miscellaneous |
| | 72. City of Carlsbad, Miscellaneous |
| | 73. City of Carlsbad, Safety - Police |

Appendix E – List of Contracting Agencies

Level 3 (continued)

- | | |
|---|---|
| 74. City of Claremont, Miscellaneous | 119. City of Hercules, Safety - Police |
| 75. City of Claremont, Safety - Police | 120. City of Hermosa Beach, Miscellaneous |
| 76. City of Clayton, Miscellaneous | 121. City of Hermosa Beach, Safety - Fire |
| 77. City of Compton, Miscellaneous | 122. City of Hermosa Beach, Safety - Police |
| 78. City of Compton, Safety - Police | 123. City of Highland, Miscellaneous |
| 79. City of Corona, Safety - Police | 124. City of Inglewood, Miscellaneous |
| 80. City of Costa Mesa, Miscellaneous | 125. City of Inglewood, Safety - Fire |
| 81. City of Costa Mesa, Safety - Fire | 126. City of La Mesa, Safety - Fire |
| 82. City of Costa Mesa, Safety - Police | 127. City of La Mesa, Safety - Police |
| 83. City of Cypress, Miscellaneous | 128. City of La Quinta, Miscellaneous |
| 84. City of Daly City, Miscellaneous | 129. City of Laguna Hills, Miscellaneous |
| 85. City of Daly City, Safety - Police | 130. City of Laguna Niguel, Miscellaneous |
| 86. City of Dana Point, Miscellaneous | 131. City of Lake Forest, Miscellaneous |
| 87. City of Del Mar, Miscellaneous | 132. City of Lancaster, Miscellaneous |
| 88. City of Dinuba, Miscellaneous | 133. City of Larkspur, Miscellaneous |
| 89. City of Dinuba, Safety - Fire | 134. City of Lathrop, Miscellaneous |
| 90. City of Dinuba, Safety - Police | 135. City of Lodi, Miscellaneous |
| 91. City of Downey, Safety - Fire | 136. City of Lodi, Safety - Fire |
| 92. City of Downey, Safety - Police | 137. City of Lodi, Safety - Police |
| 93. City of Duarte, Miscellaneous | 138. City of Lompoc, Miscellaneous |
| 94. City of Dublin, Miscellaneous | 139. City of Los Altos, Miscellaneous |
| 95. City of East Palo Alto, Miscellaneous | 140. City of Los Altos, Safety - Police |
| 96. City of East Palo Alto, Safety - Police | 141. City of Lynwood, Safety - Fire |
| 97. City of El Cajon, Safety - Fire | 142. City of Manhattan Beach, Miscellaneous |
| 98. City of El Cajon, Safety - Police | 143. City of Marysville, Miscellaneous |
| 99. City of El Centro, Miscellaneous | 144. City of Menlo Park, Safety - Police |
| 100. City of Encinitas, Miscellaneous | 145. City of Mill Valley, Miscellaneous |
| 101. City of Encinitas, Safety - Fire | 146. City of Milpitas, Miscellaneous |
| 102. City of Encinitas, Safety - Other Safety | 147. City of Milpitas, Safety - Fire |
| 103. City of Eureka, Miscellaneous | 148. City of Mission Viejo, Miscellaneous |
| 104. City of Exeter, Safety - Police | 149. City of Modesto, Miscellaneous |
| 105. City of Fortuna, Safety - Police | 150. City of Montclair, Safety - Police |
| 106. City of Gardena, Miscellaneous | 151. City of Montebello, Safety - Fire |
| 107. City of Gardena, Safety - Fire | 152. City of Montebello, Safety - Police |
| 108. City of Gardena, Safety - Police | 153. City of Mountain View, Miscellaneous |
| 109. City of Gilroy, Miscellaneous | 154. City of National City, Miscellaneous |
| 110. City of Gridley, Miscellaneous | 155. City of National City, Safety - Fire |
| 111. City of Gridley, Safety - Fire | 156. City of National City, Safety - Police |
| 112. City of Gridley, Safety - Police | 157. City of Norwalk, Miscellaneous |
| 113. City of Half Moon Bay, Miscellaneous | 158. City of Oakdale, Miscellaneous |
| 114. City of Hanford, Miscellaneous | 159. City of Oakdale, Safety - Police |
| 115. City of Hayward, Safety - Fire | 160. City of Oakland, Safety - Fire |
| 116. City of Hayward, Safety - Police | 161. City of Oceanside, Miscellaneous |
| 117. City of Hemet, Safety - Fire | 162. City of Oceanside, Safety - Fire |
| 118. City of Hercules, Miscellaneous | 163. City of Oceanside, Safety - Police |

Appendix E – List of Contracting Agencies

Level 3 (continued)

- | | |
|--|--|
| 164. City of Oxnard, Safety - Police | 209. City of South San Francisco, Safety - Police |
| 165. City of Palmdale, Miscellaneous | 210. City of Suisun City, Miscellaneous |
| 166. City of Palos Verdes Estates, Miscellaneous | 211. City of Suisun City, Safety - Fire |
| 167. City of Patterson, Miscellaneous | 212. City of Sunnyvale, Miscellaneous |
| 168. City of Petaluma, Miscellaneous | 213. City of Sunnyvale, Safety - Police |
| 169. City of Pinole, Miscellaneous | 214. City of Turlock, Miscellaneous |
| 170. City of Pinole, Safety - Fire | 215. City of Tustin, Miscellaneous |
| 171. City of Pinole, Safety - Police | 216. City of Twentynine Palms, Miscellaneous |
| 172. City of Pleasant Hill, Miscellaneous | 217. City of Ukiah, Miscellaneous |
| 173. City of Pleasant Hill, Safety - Police | 218. City of Ukiah, Safety - Fire |
| 174. City of Pleasanton, Miscellaneous | 219. City of Union City, Miscellaneous |
| 175. City of Redwood City, Miscellaneous | 220. City of Upland, Miscellaneous |
| 176. City of Riverside, Miscellaneous | 221. City of Upland, Safety - Fire |
| 177. City of Riverside, Safety - Fire | 222. City of Upland, Safety - Police |
| 178. City of Riverside, Safety - Police | 223. City of Vernon, Miscellaneous |
| 179. City of Rohnert Park, Miscellaneous | 224. City of Vernon, Safety - Prosecutor |
| 180. City of Rohnert Park, Safety - Fire | 225. City of Victorville, Safety - Police |
| 181. City of Rohnert Park, Safety - Police | 226. City of West Sacramento, Miscellaneous |
| 182. City of Roseville, Miscellaneous | 227. City of West Sacramento, Safety - Police |
| 183. City of Roseville, Safety - Fire | 228. City of Whittier, Miscellaneous |
| 184. City of San Buenaventura, Safety - Fire | 229. City of Whittier, Safety - Police |
| 185. City of San Carlos, Safety - Police | 230. City of Woodlake, Miscellaneous |
| 186. City of San Dimas, Miscellaneous | 231. City of Woodlake, Safety - Police |
| 187. City of San Joaquin, Miscellaneous | 232. City of Yucaipa, Miscellaneous |
| 188. City of San Jose, Miscellaneous | 233. Coachella Valley Association of Governments,
Miscellaneous |
| 189. City of San Luis Obispo, Safety - Fire | 234. Coast Life Support District, Miscellaneous |
| 190. City of San Marino, Safety - Police | 235. Coast Life Support District, Safety - Fire |
| 191. City of San Pablo, Miscellaneous | 236. Coastal Developmental Services Fdn DBA Westside
Regional Center, Miscellaneous |
| 192. City of San Pablo, Safety - Police | 237. Compton Unified School District, Safety - Police |
| 193. City of Santa Cruz, Miscellaneous | 238. Contra Costa County Schools Insurance Group,
Miscellaneous |
| 194. City of Santa Cruz, Safety - Fire | 239. Cooperative Personnel Services, Miscellaneous |
| 195. City of Santa Cruz, Safety - Police | 240. Cottonwood Fire Protection District, Safety - Fire |
| 196. City of Santa Paula, Miscellaneous | 241. County of Amador, Safety - County Peace Officer |
| 197. City of Santa Paula, Safety - Police | 242. County of Amador, Safety - Fire |
| 198. City of Santee, Miscellaneous | 243. County of Amador, Safety - Prosecutor |
| 199. City of Saratoga, Miscellaneous | 244. County of El Dorado, Miscellaneous |
| 200. City of Seal Beach, Miscellaneous | 245. County of Inyo, Safety - County Peace Officer |
| 201. City of Seal Beach, Safety - Other Safety | 246. County of Lassen, Safety - County Peace Officer |
| 202. City of Seal Beach, Safety - Police | 247. County of Plumas, Miscellaneous |
| 203. City of Sebastopol, Miscellaneous | 248. County of Santa Cruz, Safety - County Peace Officer |
| 204. City of Sebastopol, Safety - Fire | 249. County of Santa Cruz, Safety - Sheriff |
| 205. City of Sebastopol, Safety - Police | 250. County of Yuba, Miscellaneous |
| 206. City of Sonoma, Miscellaneous | 251. County of Yuba, Safety - County Peace Officer |
| 207. City of Sonoma, Safety - Fire | |
| 208. City of South San Francisco, Safety - Fire | |

Appendix E – List of Contracting Agencies

Level 3 (continued)

- | | |
|---|---|
| 252. Crestline Lake Arrowhead Water Agency, Miscellaneous | 292. Leucadia Wastewater District, Miscellaneous |
| 253. Dairy Council of California, Miscellaneous | 293. Los Angeles County Area 'E' Civil Defense and Disaster Board, Miscellaneous |
| 254. Del Norte County Library District, Miscellaneous | 294. Los Angeles County Sanitation District No. 2, Miscellaneous |
| 255. Dougherty Regional Fire Authority, Miscellaneous | 295. Los Angeles County West Vector Control District, Miscellaneous |
| 256. Dougherty Regional Fire Authority, Safety - Fire | 296. Los Angeles Regionalized Insurance Services Authority, Miscellaneous |
| 257. El Dorado County Fire Protection District, Miscellaneous | 297. Los Gatos-Saratoga Department of Community Education and Recreation, Miscellaneous |
| 258. El Dorado County Fire Protection District, Safety - Fire | 298. Los Osos Community Services District, Miscellaneous |
| 259. El Dorado County Transit Authority, Miscellaneous | 299. Los Osos Community Services District, Safety - Fire |
| 260. El Dorado Hills County Water District, Miscellaneous | 300. Majestic Pines Community Services District, Miscellaneous |
| 261. Encina Wastewater Authority, Miscellaneous | 301. Management of Emeryville Services Authority, Miscellaneous |
| 262. Encinitas Fire Protection District, Miscellaneous | 302. Meeks Bay Fire Protection District, Miscellaneous |
| 263. Encinitas Fire Protection District, Safety - Fire | 303. Mendocino Transit Authority, Miscellaneous |
| 264. Feather River Air Quality Management District, Miscellaneous | 304. Metropolitan Transportation Commission, Miscellaneous |
| 265. Fontana Unified School District, Safety - Police | 305. Mid City Development Corporation, Miscellaneous |
| 266. Fort Ord Reuse Authority, Miscellaneous | 306. Minter Field Airport District, Miscellaneous |
| 267. Georgetown Fire Protection District, Miscellaneous | 307. Mojave Air and Space Port, Safety - Fire |
| 268. Georgetown Fire Protection District, Safety - Fire | 308. Mojave Water Agency, Miscellaneous |
| 269. Greater Anaheim Special Education Local Plan Area, Miscellaneous | 309. Montecito Fire Protection District, Miscellaneous |
| 270. Greater Vallejo Recreation District, Miscellaneous | 310. Montecito Fire Protection District, Safety - Fire |
| 271. Green Valley County Water District, Miscellaneous | 311. Monterey County Regional Fire Protection District, Miscellaneous |
| 272. Grossmont Healthcare District, Miscellaneous | 312. Monterey County Regional Fire Protection District, Safety - Fire |
| 273. Gualala Community Services District, Miscellaneous | 313. Monterey One Water, Miscellaneous |
| 274. Henry Miller Reclamation District No. 2131, Miscellaneous | 314. Monterey Regional Waste Management District, Miscellaneous |
| 275. Higgins Area Fire Protection District, Miscellaneous | 315. Mountains Recreation and Conservation Authority, Miscellaneous |
| 276. Higgins Area Fire Protection District, Safety - Fire | 316. Murrieta Fire Protection District, Miscellaneous |
| 277. Hilton Creek Community Services District, Miscellaneous | 317. Nevada Irrigation District, Miscellaneous |
| 278. Housing Authority of the City of Madera, Miscellaneous | 318. North Bay Schools Insurance Authority, Miscellaneous |
| 279. Human Rights/Fair Housing Commission of the City and County of Sacramento, Miscellaneous | 319. North County Fire Protection District of Monterey County, Safety - Fire |
| 280. Humboldt Bay Harbor Recreation and Conservation District, Miscellaneous | 320. North Tahoe Fire Protection District, Miscellaneous |
| 281. Humboldt No. 1 Fire Protection District of Humboldt County, Safety - Fire | 321. North Tahoe Fire Protection District, Safety - Fire |
| 282. Independent Cities Association, Inc., Miscellaneous | 322. Northern Sierra Air Quality Management District, Miscellaneous |
| 283. Indian Wells Valley Water District, Miscellaneous | 323. Novato Sanitary District, Miscellaneous |
| 284. Inland Counties Regional Center, Inc., Miscellaneous | 324. Oakdale Rural Fire Protection District, Miscellaneous |
| 285. Inland Empire Health Plan, Miscellaneous | 325. Oakdale Rural Fire Protection District, Safety - Fire |
| 286. Isla Vista Recreation and Park District, Miscellaneous | 326. Oakland Unified School District, Safety - Police |
| 287. June Lake Public Utility District, Miscellaneous | |
| 288. Kern Health Systems, Miscellaneous | |
| 289. Kings Mosquito Abatement District, Miscellaneous | |
| 290. Laguna Beach County Water District, Miscellaneous | |
| 291. Lake Don Pedro Community Services District, Miscellaneous | |

Appendix E – List of Contracting Agencies

Level 3 (continued)

327. Ojai Valley Sanitary District, Miscellaneous
328. Ophir Hill Fire Protection District, Miscellaneous
329. Ophir Hill Fire Protection District, Safety - Fire
330. Orange County Health Authority, Miscellaneous
331. Orange County Transportation Authority, Miscellaneous
332. Pajaro Valley Fire Protection Agency, Safety - Fire
333. Peardale Chicago Park Fire Protection District, Safety - Fire
334. Peninsula Fire Protection District, Miscellaneous
335. Penn Valley Fire Protection District, Miscellaneous
336. Personal Assistance Services Council, Miscellaneous
337. Placer Hills Fire Protection District, Miscellaneous
338. Pleasant Hill - Martinez Joint Facilities Agency, Miscellaneous
339. Pomona Valley Transportation Authority, Miscellaneous
340. Public Entity Risk Management Authority, Miscellaneous
341. Public Transportation Services Corporation, Miscellaneous
342. Quincy Community Services District, Miscellaneous
343. Rancho Murieta Community Services District, Miscellaneous
344. Redwood Empire School Insurance Group, Miscellaneous
345. Rescue Fire Protection District, Miscellaneous
346. Rincon Del Diablo Municipal Water District, Safety - Fire
347. Riverbank City Housing Authority, Miscellaneous
348. Riverside County Department of Waste Resources, Miscellaneous
349. Riverside County Transportation Commission, Miscellaneous
350. Roseville Public Cemetery District, Miscellaneous
351. Ross Valley Fire Department, Safety - Fire
352. Rural County Representatives of California, Miscellaneous
353. Russian River Fire Protection District, Miscellaneous
354. Russian River Fire Protection District, Safety - Fire
355. Sacramento Area Council of Governments, Miscellaneous
356. Sacramento Metropolitan Air Quality Management District, Miscellaneous
357. Sacramento Public Library Authority, Miscellaneous
358. Sacramento Regional Fire/EMS Communications Center, Miscellaneous
359. Sacramento Transportation Authority, Miscellaneous
360. Sacramento-Yolo Mosquito and Vector Control District, Miscellaneous
361. Salida Fire Protection District, Miscellaneous
362. Salida Fire Protection District, Safety - Fire
363. Samoa Peninsula Fire Protection District, Safety - Fire
364. San Andreas Regional Center, Inc., Miscellaneous
365. San Diego County Law Library, Miscellaneous
366. San Diego Rural Fire Protection District, Miscellaneous
367. San Diego Rural Fire Protection District, Safety - Fire
368. San Dieguito Water District, Miscellaneous
369. San Francisco Health Authority, Miscellaneous
370. San Joaquin Delta Community College District, Safety - Police
371. San Luis Obispo Regional Transit Authority, Miscellaneous
372. San Mateo County Harbor District, Miscellaneous
373. San Mateo County In-Home Supportive Services Public Authority, Miscellaneous
374. Santa Barbara Regional Health Authority, Miscellaneous
375. Santa Clara County Central Fire Protection District, Miscellaneous
376. Santa Clara County Central Fire Protection District, Safety - Fire
377. Santa Clara County Health Authority, Miscellaneous
378. Santa Clarita Valley School Food Services Agency, Miscellaneous
379. Santa Cruz Metropolitan Transit District, Miscellaneous
380. Santa Cruz Regional 9-1-1, Miscellaneous
381. Santa Fe Irrigation District, Miscellaneous
382. Santa Maria Public Airport District, Miscellaneous
383. School Risk And Insurance Management Group, Miscellaneous
384. Schools Excess Liability Fund, Miscellaneous
385. Scotts Valley Water District, Miscellaneous
386. Sewer Authority Mid-Coastside, Miscellaneous
387. Shasta Lake Fire Protection District, Safety - Fire
388. Solano Cemetery District, Miscellaneous
389. Solano County Water Agency, Miscellaneous
390. Solano Transportation Authority, Miscellaneous
391. Southern California Regional Rail Authority, Miscellaneous
392. Stockton Unified School District, Safety - Police
393. Sunnyslope County Water District, Miscellaneous
394. Sweetwater Springs Water District, Miscellaneous
395. Tahoe-Truckee Sanitation Agency, Miscellaneous
396. Tehama County Mosquito Abatement District, Miscellaneous
397. Town of Atherton, Miscellaneous
398. Town of Atherton, Safety - Police
399. Town of Fairfax, Miscellaneous
400. Town of Fairfax, Safety - Police
401. Town of Loomis, Miscellaneous
402. Town of Truckee, Miscellaneous
403. Town of Yucca Valley, Miscellaneous
404. Transportation Agency for Monterey County, Miscellaneous

Appendix E – List of Contracting Agencies

Level 3 (continued)

405. Tri-City Mental Health Center, Miscellaneous
406. Tri-Counties Association for the Developmentally Disabled, Miscellaneous
407. Tuolumne Utilities District, Miscellaneous
408. Valley Mountain Regional Center, Inc., Miscellaneous
409. Valley-Wide Recreation and Park District, Miscellaneous
410. Ventura County Schools Business Services Authority, Miscellaneous
411. Victor Valley Wastewater Reclamation Authority, Miscellaneous
412. Water Facilities Authority, Miscellaneous
413. Weaverville Community Services District, Miscellaneous
414. West Almanor Community Services District, Safety - Fire
415. West Cities Communication Center, Miscellaneous
416. West End Communications Authority, Miscellaneous
417. West Valley-Mission Community College District, Safety - Police
418. Westlands Water District, Miscellaneous
419. Yolo County Public Agency Risk Management Insurance Authority, Miscellaneous
420. Yolo County Transportation District, Miscellaneous
421. Yuba County Water Agency, Miscellaneous
422. Yuba Sutter Transit Authority, Miscellaneous

Level 4

1. Academic Senate for California Community Colleges, Miscellaneous
2. Alameda County Congestion Management Agency, Miscellaneous
3. Alameda County Schools Insurance Group, Miscellaneous
4. Alameda County Transportation Commission, Miscellaneous
5. Alameda County Transportation Improvement Authority, Miscellaneous
6. Alameda County Waste Management Authority, Miscellaneous
7. Alameda County Water District, Miscellaneous
8. Albany Municipal Services Joint Powers Authority, Miscellaneous
9. Alliance of Schools for Cooperative Insurance Programs, Miscellaneous
10. Alpine Fire Protection District, Miscellaneous
11. Alpine Fire Protection District, Safety - Fire
12. Amador County Transportation Commission, Miscellaneous
13. Aptos/La Selva Fire Protection Agency, Safety - Fire
14. Association of California Water Agencies - Joint Powers Insurance Authority, Miscellaneous
15. Bay Area Water Supply and Conservation Agency, Miscellaneous
16. Belmont Fire Protection District, Safety - Fire
17. Berkeley Housing Authority, Miscellaneous
18. Big Bear Area Regional Wastewater Agency, Miscellaneous
19. Big Bear City Airport District, Miscellaneous
20. Black Gold Cooperative Library System, Miscellaneous
21. Blue Lake Fire Protection District, Safety - Fire
22. Bolinas Community Public Utility District, Miscellaneous
23. Bonita-Sunnyside Fire Protection District, Safety - Fire
24. Borrego Springs Fire Protection District, Safety - Fire
25. Boulder Creek Fire Protection District, Safety - Fire
26. Butte County Association of Governments, Miscellaneous
27. Butte County Fair Association, Miscellaneous
28. Butte County In-Home Supportive Services Public Authority, Miscellaneous
29. Butte Local Agency Formation Commission, Miscellaneous
30. Butte-Glenn Community College District, Safety - Police
31. Calaveras Council of Governments, Miscellaneous
32. California Firefighter's Joint Apprenticeship Committee, Miscellaneous
33. California Interscholastic Federation, Northern Section, Miscellaneous
34. California Joint Powers Risk Management Authority, Miscellaneous
35. California Pines Community Services District, Safety - Fire
36. California Redevelopment Association Foundation, Miscellaneous
37. Carmel Regional Fire Ambulance Authority, Safety - Fire
38. Central Calaveras Fire and Rescue Protection District, Miscellaneous
39. Central Contra Costa Solid Waste Authority, Miscellaneous
40. Central County Fire Department, Miscellaneous
41. Central County Fire Department, Safety - Fire
42. Central Marin Fire Authority, Miscellaneous
43. Central Marin Fire Authority, Safety - Fire
44. Central Marin Police Authority, Miscellaneous
45. Central Marin Police Authority, Safety - Police
46. Central Marin Sanitation Agency, Miscellaneous
47. Children and Families Commission of San Luis Obispo County, Miscellaneous
48. Chino Basin Watermaster, Miscellaneous
49. Chino Valley Independent Fire District, Miscellaneous

Appendix E – List of Contracting Agencies

Level 4 (continued)

- | | |
|---|--|
| 50. Chino Valley Independent Fire District, Safety - Fire | 95. City of Campbell, Safety - Police |
| 51. City of Adelanto, Miscellaneous | 96. City of Carlsbad, Safety - Fire |
| 52. City of Albany, Safety - Fire | 97. City of Carmel-By-The-Sea, Miscellaneous |
| 53. City of Albany, Safety - Police | 98. City of Carmel-By-The-Sea, Safety - Fire |
| 54. City of Anaheim, Miscellaneous | 99. City of Carmel-By-The-Sea, Safety - Police |
| 55. City of Anaheim, Safety - Fire | 100. City of Carson, Miscellaneous |
| 56. City of Anaheim, Safety - Police | 101. City of Cathedral City, Miscellaneous |
| 57. City of Arcadia, Safety - Fire | 102. City of Cathedral City, Safety - Fire |
| 58. City of Atascadero, Safety - Fire | 103. City of Cathedral City, Safety - Police |
| 59. City of Atascadero, Safety - Police | 104. City of Cerritos, Miscellaneous |
| 60. City of Auburn, Safety - Fire | 105. City of Chico, Miscellaneous |
| 61. City of Auburn, Safety - Police | 106. City of Chico, Safety - Fire |
| 62. City of Azusa, Miscellaneous | 107. City of Chico, Safety - Police |
| 63. City of Azusa, Safety - Police | 108. City of Chino, Miscellaneous |
| 64. City of Bakersfield, Miscellaneous | 109. City of Chino, Safety - Police |
| 65. City of Bakersfield, Safety - Fire | 110. City of Chowchilla, Miscellaneous |
| 66. City of Bakersfield, Safety - Police | 111. City of Chowchilla, Safety - Fire |
| 67. City of Barstow, Miscellaneous | 112. City of Chowchilla, Safety - Police |
| 68. City of Barstow, Safety - Police | 113. City of Chula Vista, Miscellaneous |
| 69. City of Beaumont, Safety - Police | 114. City of Chula Vista, Safety - Fire |
| 70. City of Bell Gardens, Miscellaneous | 115. City of Chula Vista, Safety - Police |
| 71. City of Bell Gardens, Safety - Police | 116. City of Citrus Heights, Miscellaneous |
| 72. City of Belmont, Miscellaneous | 117. City of Citrus Heights, Safety - Police |
| 73. City of Belmont, Safety - Police | 118. City of Clayton, Safety - Police |
| 74. City of Benicia, Safety - Fire | 119. City of Cloverdale, Miscellaneous |
| 75. City of Benicia, Safety - Police | 120. City of Cloverdale, Safety - Fire |
| 76. City of Berkeley, Safety - Police | 121. City of Cloverdale, Safety - Police |
| 77. City of Beverly Hills, Miscellaneous | 122. City of Clovis, Miscellaneous |
| 78. City of Beverly Hills, Safety - Fire | 123. City of Clovis, Safety - Fire |
| 79. City of Beverly Hills, Safety - Police | 124. City of Clovis, Safety - Police |
| 80. City of Bishop, Safety - Fire | 125. City of Colton, Miscellaneous |
| 81. City of Brea, Miscellaneous | 126. City of Colton, Safety - Fire |
| 82. City of Brea, Safety - Fire | 127. City of Colton, Safety - Police |
| 83. City of Brea, Safety - Police | 128. City of Corona, Miscellaneous |
| 84. City of Buena Park, Miscellaneous | 129. City of Corona, Safety - Fire |
| 85. City of Buena Park, Safety - Fire | 130. City of Cotati, Miscellaneous |
| 86. City of Buena Park, Safety - Police | 131. City of Covina, Miscellaneous |
| 87. City of Burbank, Miscellaneous | 132. City of Covina, Safety - Fire |
| 88. City of Burbank, Safety - Fire | 133. City of Covina, Safety - Police |
| 89. City of Burbank, Safety - Police | 134. City of Culver City, Safety - Fire |
| 90. City of Burlingame, Safety - Police | 135. City of Culver City, Safety - Police |
| 91. City of California City, Miscellaneous | 136. City of Cupertino, Miscellaneous |
| 92. City of California City, Safety - Fire | 137. City of Cypress, Safety - Police |
| 93. City of California City, Safety - Police | 138. City of Daly City, Safety - Fire |
| 94. City of Camarillo, Miscellaneous | 139. City of Davis, Miscellaneous |

Appendix E – List of Contracting Agencies

Level 4 (continued)

- | | |
|---|--|
| 140. City of Davis, Safety - Fire | 185. City of Half Moon Bay, Safety - Police |
| 141. City of Davis, Safety - Police | 186. City of Hanford, Safety - Police |
| 142. City of Diamond Bar, Miscellaneous | 187. City of Hayward, Miscellaneous |
| 143. City of Dixon, Safety - Fire | 188. City of Healdsburg, Miscellaneous |
| 144. City of Dixon, Safety - Police | 189. City of Healdsburg, Safety - Fire |
| 145. City of Downey, Miscellaneous | 190. City of Healdsburg, Safety - Police |
| 146. City of El Cajon, Miscellaneous | 191. City of Hemet, Miscellaneous |
| 147. City of El Centro, Safety - Fire | 192. City of Hesperia, Miscellaneous |
| 148. City of El Centro, Safety - Police | 193. City of Hollister, Miscellaneous |
| 149. City of El Cerrito, Safety - Fire | 194. City of Hollister, Safety - Fire |
| 150. City of El Cerrito, Safety - Police | 195. City of Hollister, Safety - Police |
| 151. City of El Monte, Miscellaneous | 196. City of Hughson, Miscellaneous |
| 152. City of El Monte, Safety - Fire | 197. City of Huntington Beach, Miscellaneous |
| 153. City of El Monte, Safety - Police | 198. City of Huntington Beach, Safety - Fire |
| 154. City of El Segundo, Safety - Fire | 199. City of Huntington Beach, Safety - Other Safety |
| 155. City of El Segundo, Safety - Police | 200. City of Huntington Beach, Safety - Police |
| 156. City of Elk Grove, Miscellaneous | 201. City of Huntington Park, Miscellaneous |
| 157. City of Elk Grove, Safety - Police | 202. City of Huntington Park, Safety - Fire |
| 158. City of Escondido, Miscellaneous | 203. City of Huntington Park, Safety - Police |
| 159. City of Escondido, Safety - Fire | 204. City of Industry, Miscellaneous |
| 160. City of Escondido, Safety - Police | 205. City of Irvine, Miscellaneous |
| 161. City of Exeter, Miscellaneous | 206. City of Irvine, Safety - Police |
| 162. City of Fairfield, Miscellaneous | 207. City of Irwindale, Miscellaneous |
| 163. City of Fairfield, Safety - Fire | 208. City of Irwindale, Safety - Fire |
| 164. City of Fairfield, Safety - Police | 209. City of Irwindale, Safety - Police |
| 165. City of Fontana, Miscellaneous | 210. City of La Canada Flintridge, Miscellaneous |
| 166. City of Fontana, Safety - Police | 211. City of La Habra, Miscellaneous |
| 167. City of Foster City, Miscellaneous | 212. City of La Habra, Safety - Fire |
| 168. City of Foster City, Safety - Fire | 213. City of La Habra, Safety - Police |
| 169. City of Foster City, Safety - Police | 214. City of La Mirada, Miscellaneous |
| 170. City of Fountain Valley, Miscellaneous | 215. City of La Palma, Miscellaneous |
| 171. City of Fremont, Miscellaneous | 216. City of La Palma, Safety - Police |
| 172. City of Fremont, Safety - Fire | 217. City of La Verne, Miscellaneous |
| 173. City of Fremont, Safety - Police | 218. City of La Verne, Safety - Fire |
| 174. City of Fullerton, Miscellaneous | 219. City of La Verne, Safety - Police |
| 175. City of Fullerton, Safety - Fire | 220. City of Laguna Beach, Miscellaneous |
| 176. City of Fullerton, Safety - Police | 221. City of Laguna Beach, Safety - Fire |
| 177. City of Gilroy, Safety - Fire | 222. City of Laguna Beach, Safety - Other Safety |
| 178. City of Gilroy, Safety - Police | 223. City of Laguna Beach, Safety - Police |
| 179. City of Glendale, Miscellaneous | 224. City of Larkspur, Safety - Fire |
| 180. City of Glendale, Safety - Fire | 225. City of Lathrop, Safety - Police |
| 181. City of Glendale, Safety - Police | 226. City of Lawndale, Miscellaneous |
| 182. City of Glendora, Safety - Police | 227. City of Lemon Grove, Miscellaneous |
| 183. City of Goleta, Miscellaneous | 228. City of Lemon Grove, Safety - Fire |
| 184. City of Grand Terrace, Miscellaneous | 229. City of Livermore, Miscellaneous |

Appendix E – List of Contracting Agencies

Level 4 (continued)

- | | |
|---|---|
| 230. City of Livermore, Safety - Police | 275. City of Newport Beach, Safety - Other Safety |
| 231. City of Loma Linda, Safety - Fire | 276. City of Newport Beach, Safety - Police |
| 232. City of Lomita, Miscellaneous | 277. City of Norco, Miscellaneous |
| 233. City of Lompoc, Safety - Fire | 278. City of Norco, Safety - Fire |
| 234. City of Lompoc, Safety - Police | 279. City of Novato, Miscellaneous |
| 235. City of Long Beach, Safety - Fire | 280. City of Novato, Safety - Police |
| 236. City of Long Beach, Safety - Police | 281. City of Oakdale, Safety - Fire |
| 237. City of Los Alamitos, Miscellaneous | 282. City of Oakley, Miscellaneous |
| 238. City of Los Alamitos, Safety - Police | 283. City of Oakley, Safety - Police |
| 239. City of Lynwood, Miscellaneous | 284. City of Ontario, Safety - Fire |
| 240. City of Manhattan Beach, Safety - Fire | 285. City of Ontario, Safety - Police |
| 241. City of Manteca, Miscellaneous | 286. City of Orange, Miscellaneous |
| 242. City of Manteca, Safety - Fire | 287. City of Orange, Safety - Fire |
| 243. City of Manteca, Safety - Police | 288. City of Orange, Safety - Police |
| 244. City of Marina, Miscellaneous | 289. City of Oroville, Miscellaneous |
| 245. City of Marina, Safety - Fire | 290. City of Oroville, Safety - Fire |
| 246. City of Marina, Safety - Police | 291. City of Oroville, Safety - Police |
| 247. City of Martinez, Safety - Police | 292. City of Oxnard, Miscellaneous |
| 248. City of Marysville, Safety - Fire | 293. City of Oxnard, Safety - Fire |
| 249. City of Marysville, Safety - Police | 294. City of Pacific Grove, Miscellaneous |
| 250. City of Menifee, Miscellaneous | 295. City of Pacific Grove, Safety - Fire |
| 251. City of Menifee, Safety - Police | 296. City of Pacific Grove, Safety - Police |
| 252. City of Millbrae, Miscellaneous | 297. City of Pacifica, Miscellaneous |
| 253. City of Milpitas, Safety - Police | 298. City of Pacifica, Safety - Fire |
| 254. City of Monrovia, Miscellaneous | 299. City of Pacifica, Safety - Police |
| 255. City of Monrovia, Safety - Fire | 300. City of Palm Springs, Miscellaneous |
| 256. City of Monrovia, Safety - Police | 301. City of Palm Springs, Safety - Fire |
| 257. City of Monterey, Miscellaneous | 302. City of Palm Springs, Safety - Police |
| 258. City of Monterey Park, Miscellaneous | 303. City of Paramount, Miscellaneous |
| 259. City of Monterey Park, Safety - Fire | 304. City of Pasadena, Miscellaneous |
| 260. City of Monterey Park, Safety - Police | 305. City of Pasadena, Safety - Fire |
| 261. City of Moorpark, Miscellaneous | 306. City of Pasadena, Safety - Police |
| 262. City of Moreno Valley, Miscellaneous | 307. City of Petaluma, Safety - Fire |
| 263. City of Morgan Hill, Miscellaneous | 308. City of Petaluma, Safety - Police |
| 264. City of Morgan Hill, Safety - Police | 309. City of Pico Rivera, Miscellaneous |
| 265. City of Morro Bay, Miscellaneous | 310. City of Piedmont, Safety - Fire |
| 266. City of Morro Bay, Safety - Fire | 311. City of Pittsburg, Safety - Police |
| 267. City of Morro Bay, Safety - Police | 312. City of Placentia, Miscellaneous |
| 268. City of Mountain View, Safety - Fire | 313. City of Placentia, Safety - Police |
| 269. City of Mountain View, Safety - Police | 314. City of Pleasanton, Safety - Fire |
| 270. City of Murrieta, Miscellaneous | 315. City of Porterville, Miscellaneous |
| 271. City of Murrieta, Safety - Police | 316. City of Porterville, Safety - Fire |
| 272. City of Napa, Safety - Police | 317. City of Porterville, Safety - Police |
| 273. City of Newport Beach, Miscellaneous | 318. City of Rancho Cucamonga, Miscellaneous |
| 274. City of Newport Beach, Safety - Fire | 319. City of Rancho Mirage, Miscellaneous |

Appendix E – List of Contracting Agencies

Level 4 (continued)

- | | |
|---|--|
| 320. City of Rancho Palos Verdes, Miscellaneous | 365. City of Santa Clara, Safety - Police |
| 321. City of Redding, Safety - Fire | 366. City of Santa Fe Springs, Miscellaneous |
| 322. City of Redding, Safety - Police | 367. City of Santa Fe Springs, Safety - Fire |
| 323. City of Redondo Beach, Safety - Fire | 368. City of Santa Maria, Miscellaneous |
| 324. City of Redondo Beach, Safety - Police | 369. City of Santa Maria, Safety - Fire |
| 325. City of Redwood City, Safety - Fire | 370. City of Santa Maria, Safety - Police |
| 326. City of Redwood City, Safety - Police | 371. City of Santa Monica, Miscellaneous |
| 327. City of Rialto, Miscellaneous | 372. City of Santa Monica, Safety - Fire |
| 328. City of Rialto, Safety - Fire | 373. City of Santa Monica, Safety - Police |
| 329. City of Rocklin, Miscellaneous | 374. City of Santa Rosa, Miscellaneous |
| 330. City of Rocklin, Safety - Fire | 375. City of Santa Rosa, Safety - Fire |
| 331. City of Rocklin, Safety - Police | 376. City of Santa Rosa, Safety - Police |
| 332. City of Roseville, Safety - Police | 377. City of Sausalito, Safety - Fire |
| 333. City of San Bernardino, Miscellaneous | 378. City of Sausalito, Safety - Police |
| 334. City of San Bernardino, Safety - Fire | 379. City of Seaside, Miscellaneous |
| 335. City of San Bruno, Miscellaneous | 380. City of Seaside, Safety - Fire |
| 336. City of San Bruno, Safety - Fire | 381. City of Seaside, Safety - Police |
| 337. City of San Bruno, Safety - Police | 382. City of Sierra Madre, Miscellaneous |
| 338. City of San Buenaventura, Miscellaneous | 383. City of Sierra Madre, Safety - Fire |
| 339. City of San Buenaventura, Safety - Police | 384. City of Signal Hill, Safety - Fire |
| 340. City of San Clemente, Miscellaneous | 385. City of Signal Hill, Safety - Police |
| 341. City of San Fernando, Miscellaneous | 386. City of Simi Valley, Miscellaneous |
| 342. City of San Fernando, Safety - Police | 387. City of Simi Valley, Safety - Police |
| 343. City of San Gabriel, Miscellaneous | 388. City of Sonoma, Safety - Police |
| 344. City of San Gabriel, Safety - Fire | 389. City of South Gate, Miscellaneous |
| 345. City of San Gabriel, Safety - Police | 390. City of Stockton, Miscellaneous |
| 346. City of San Jacinto, Miscellaneous | 391. City of Stockton, Safety - Fire |
| 347. City of San Jacinto, Safety - Fire | 392. City of Stockton, Safety - Police |
| 348. City of San Jacinto, Safety - Police | 393. City of Suisun City, Safety - Police |
| 349. City of San Leandro, Safety - Police | 394. City of Temecula, Miscellaneous |
| 350. City of San Luis Obispo, Miscellaneous | 395. City of Temple City, Miscellaneous |
| 351. City of San Luis Obispo, Safety - Police | 396. City of Thousand Oaks, Miscellaneous |
| 352. City of San Marino, Miscellaneous | 397. City of Torrance, Safety - Fire |
| 353. City of San Marino, Safety - Fire | 398. City of Torrance, Safety - Police |
| 354. City of San Mateo, Safety - Fire | 399. City of Tracy, Safety - Fire |
| 355. City of San Mateo, Safety - Police | 400. City of Tracy, Safety - Police |
| 356. City of San Ramon, Miscellaneous | 401. City of Tulare, Miscellaneous |
| 357. City of San Ramon, Safety - Police | 402. City of Tulare, Safety - Fire |
| 358. City of Sand City, Miscellaneous | 403. City of Tulare, Safety - Police |
| 359. City of Sand City, Safety - Police | 404. City of Turlock, Safety - Fire |
| 360. City of Santa Ana, Miscellaneous | 405. City of Turlock, Safety - Police |
| 361. City of Santa Ana, Safety - Fire | 406. City of Tustin, Safety - Police |
| 362. City of Santa Ana, Safety - Police | 407. City of Ukiah, Safety - Police |
| 363. City of Santa Barbara, Miscellaneous | 408. City of Vacaville, Miscellaneous |
| 364. City of Santa Clara, Safety - Fire | 409. City of Vacaville, Safety - Fire |

Appendix E – List of Contracting Agencies

Level 4 (continued)

410. City of Vacaville, Safety - Police
411. City of Vallejo, Safety - Fire
412. City of Vallejo, Safety - Police
413. City of Vernon, Safety - Fire
414. City of Victorville, Miscellaneous
415. City of Victorville, Safety - Fire
416. City of Villa Park, Miscellaneous
417. City of Visalia, Safety - Fire
418. City of Visalia, Safety - Police
419. City of Vista, Safety - Fire
420. City of Walnut, Miscellaneous
421. City of Walnut Creek, Miscellaneous
422. City of Walnut Creek, Safety - Police
423. City of West Covina, Miscellaneous
424. City of West Covina, Safety - Fire
425. City of West Covina, Safety - Police
426. City of West Hollywood, Miscellaneous
427. City of West Sacramento, Safety - Fire
428. City of Westminster, Miscellaneous
429. City of Westminster, Safety - Police
430. City of Wildomar, Miscellaneous
431. City of Woodland, Miscellaneous
432. City of Woodland, Safety - Fire
433. City of Woodland, Safety - Police
434. City of Yorba Linda, Miscellaneous
435. City/County Association of Governments of San Mateo County, Miscellaneous
436. Cloverdale Fire Protection District, Miscellaneous
437. Cloverdale Fire Protection District, Safety - Fire
438. Coastside Fire Protection District, Miscellaneous
439. Coastside Fire Protection District, Safety - Fire
440. Colusa County One-Stop Partnership, Miscellaneous
441. Conejo Recreation and Park District, Miscellaneous
442. Contra Costa Transportation Authority, Miscellaneous
443. Costa Mesa Sanitary District, Miscellaneous
444. Cosumnes Community Services District, Miscellaneous
445. Cosumnes Community Services District, Safety - Fire
446. County of El Dorado, Safety - County Peace Officer
447. County of Humboldt, Miscellaneous
448. County of Humboldt, Safety - County Peace Officer
449. County of Humboldt, Safety - Fire
450. County of Kings, Safety - County Peace Officer
451. County of Kings, Safety - Fire
452. County of Mono, Miscellaneous
453. County of Mono, Safety - County Peace Officer
454. County of Mono, Safety - Fire
455. County of Mono, Safety - Sheriff
456. County of Monterey, Safety - County Peace Officer
457. County of Monterey, Safety - Fire
458. County of Napa, Miscellaneous
459. County of Napa, Safety - County Peace Officer
460. County of Plumas, Safety - County Peace Officer
461. County of Plumas, Safety - Sheriff
462. County of Shasta, Safety - Sheriff
463. County of Siskiyou, Safety - County Peace Officer
464. County of Solano, Safety - County Peace Officer
465. County of Solano, Safety - Sheriff
466. Crestline Village Water District, Miscellaneous
467. Crockett - Valona Sanitary District, Miscellaneous
468. Crockett Community Services District, Miscellaneous
469. Cucamonga Valley Water District, Miscellaneous
470. Del Puerto Water District, Miscellaneous
471. East County Fire Protection District, Miscellaneous
472. East County Fire Protection District, Safety - Fire
473. East Valley Water District, Miscellaneous
474. Eastern Municipal Water District, Miscellaneous
475. Eastern Sierra Transit Authority, Miscellaneous
476. El Dorado County Transportation Commission, Miscellaneous
477. El Dorado County Water Agency, Miscellaneous
478. El Dorado Hills County Water District, Safety - Fire
479. El Dorado Local Agency Formation Commission, Miscellaneous
480. Esparto Fire Protection District, Miscellaneous
481. Estero Municipal Improvement District, Miscellaneous
482. Estero Municipal Improvement District, Safety - Fire
483. Estero Municipal Improvement District, Safety - Police
484. Exeter District Ambulance, Miscellaneous
485. Far Northern Coordinating Council on Developmental Disabilities, Miscellaneous
486. Florin Resource Conservation District Elk Grove Water District, Miscellaneous
487. Foothill-De Anza Community College District, Safety - Police
488. Georgetown Divide Resource Conservation District, Miscellaneous
489. Glen Ellen Fire Protection District, Safety - Fire
490. Glendale Community College District, Safety - Police
491. Gold Coast Transit, Miscellaneous
492. Gold Ridge Fire Protection District, Miscellaneous
493. Graton Community Services District, Miscellaneous

Appendix E – List of Contracting Agencies

Level 4 (continued)

- | | |
|---|--|
| 494. Graton Fire Protection District, Safety - Fire | 534. Lakeport County Fire Protection District, Miscellaneous |
| 495. Hacienda La Puente Unified School District, Safety - Police | 535. Lakeport County Fire Protection District, Safety - Fire |
| 496. Hamilton Branch Fire Protection District, Safety - Fire | 536. Lakeside Fire Protection District, Safety - Fire |
| 497. Health Plan of San Joaquin, Miscellaneous | 537. Lassen County Waterworks District No. 1, Miscellaneous |
| 498. Heartland Communications Facility Authority, Miscellaneous | 538. Linda Fire Protection District, Miscellaneous |
| 499. Helendale Community Services District, Miscellaneous | 539. Linda Fire Protection District, Safety - Fire |
| 500. Heritage Ranch Community Services District, Miscellaneous | 540. Livermore/Amador Valley Transit Authority, Miscellaneous |
| 501. Herlong Public Utility District, Miscellaneous | 541. Local Agency Formation Commission of Monterey County, Miscellaneous |
| 502. Hesperia Fire Protection District, Miscellaneous | 542. Local Agency Formation Commission of Solano County, Miscellaneous |
| 503. Hesperia Fire Protection District, Safety - Fire | 543. Local Government Services Authority, a Joint Powers Authority, Miscellaneous |
| 504. Hesperia Water District, Miscellaneous | 544. Los Angeles County Development Authority, Miscellaneous |
| 505. Hidden Valley Lake Community Services District, Miscellaneous | 545. Los Angeles Unified School District, Safety - Police |
| 506. Hopland Public Utility District, Miscellaneous | 546. Mammoth Lakes Fire District, Safety - Fire |
| 507. Housing Authority of the City of Alameda, Miscellaneous | 547. Mammoth Lakes Mosquito Abatement District, Miscellaneous |
| 508. Housing Authority of the City of San Buenaventura, Miscellaneous | 548. March Joint Powers Authority, Miscellaneous |
| 509. Hub Cities Consortium, Miscellaneous | 549. Marin Community College District, Safety - Police |
| 510. Humboldt Bay Fire Joint Powers Authority, Miscellaneous | 550. Mendocino County Russian River Flood Control & Water Conservation Improvement Dt, Miscellaneous |
| 511. Humboldt Bay Fire Joint Powers Authority, Safety - Fire | 551. Metropolitan Water District of Southern California, Miscellaneous |
| 512. Humboldt Transit Authority, Miscellaneous | 552. Midway Heights County Water District, Miscellaneous |
| 513. Humboldt Waste Management Authority, Miscellaneous | 553. Monterey Bay Unified Air Pollution Control District, Miscellaneous |
| 514. Idyllwild Fire Protection District, Safety - Fire | 554. Monterey Peninsula Regional Park District, Miscellaneous |
| 515. Intelcom Intelligent Telecommunications, Miscellaneous | 555. Monterey Peninsula Water Management District, Miscellaneous |
| 516. Intergovernmental Training and Development Center, Miscellaneous | 556. Municipal Pooling Authority, Miscellaneous |
| 517. Ironhouse Sanitary District, Miscellaneous | 557. Municipal Water District of Orange County, Miscellaneous |
| 518. Irvine Ranch Water District, Miscellaneous | 558. Murrieta Fire Protection District, Safety - Fire |
| 519. Kaweah Delta Water Conservation District, Miscellaneous | 559. Murrieta Valley Cemetery District, Miscellaneous |
| 520. Kensington Community Services District, Safety - Police | 560. Napa County Mosquito Abatement District, Miscellaneous |
| 521. Kentfield Fire Protection District, Miscellaneous | 561. Napa County Resource Conservation District, Miscellaneous |
| 522. Kentfield Fire Protection District, Safety - Fire | 562. Napa Sanitation District, Miscellaneous |
| 523. Kern-Tulare Water District, Miscellaneous | 563. Napa Valley Transportation Authority, Miscellaneous |
| 524. Kings County Area Public Transit Agency, Miscellaneous | 564. Nevada County Consolidated Fire District, Miscellaneous |
| 525. Kings County Association of Governments, Miscellaneous | 565. Nevada County Consolidated Fire District, Safety - Fire |
| 526. Kings County In-Home Supportive Services Public Authority, Miscellaneous | 566. Nipomo Community Services District, Miscellaneous |
| 527. Lake County Fire Protection District, Miscellaneous | 567. North Bay Regional Center, Miscellaneous |
| 528. Lake County Fire Protection District, Safety - Fire | 568. North Coast Railroad Authority, Miscellaneous |
| 529. Lake Shastina Community Services District, Miscellaneous | 569. North County Dispatch Joint Powers Authority, Miscellaneous |
| 530. Lake Shastina Community Services District, Safety - Fire | |
| 531. Lake Shastina Community Services District, Safety - Police | |
| 532. Lake Valley Fire Protection District, Miscellaneous | |
| 533. Lake Valley Fire Protection District, Safety - Fire | |

Appendix E – List of Contracting Agencies

Level 4 (continued)

570. North County Fire Protection District of San Diego County, Miscellaneous
571. North County Fire Protection District of San Diego County, Safety - Fire
572. Northshore Fire Protection District, Miscellaneous
573. Northshore Fire Protection District, Safety - Fire
574. Orange County Vector Control District, Miscellaneous
575. Pasadena Unified School District, Safety - Police
576. Pebble Beach Community Services District, Miscellaneous
577. Peninsula Traffic Congestion Relief Alliance, Miscellaneous
578. Penn Valley Fire Protection District, Safety - Fire
579. Phelan Pinon Hills Community Services District, Miscellaneous
580. Pixley Irrigation District, Miscellaneous
581. Placer Mosquito and Vector Control District, Miscellaneous
582. Plumas Eureka Community Services District, Miscellaneous
583. Point Montara Fire Protection District, Safety - Fire
584. Rancho Cucamonga Fire Protection District, Miscellaneous
585. Rancho Cucamonga Fire Protection District, Safety - Fire
586. Rancho Santa Fe Fire Protection District, Miscellaneous
587. Rancho Santa Fe Fire Protection District, Safety - Fire
588. Redwood Empire Municipal Insurance Fund, Miscellaneous
589. Regional Center of Orange County, Miscellaneous
590. Rescue Fire Protection District, Safety - Fire
591. Rincon Del Diablo Municipal Water District, Miscellaneous
592. Rincon Valley Fire Protection District, Miscellaneous
593. Rincon Valley Fire Protection District, Safety - Fire
594. Rose Bowl Operating Company, Miscellaneous
595. Rosedale-Rio Bravo Water Storage District, Miscellaneous
596. Sacramento Groundwater Authority, Miscellaneous
597. Sacramento Metropolitan Fire District, Miscellaneous
598. Sacramento Metropolitan Fire District, Safety - Fire
599. Sacramento Suburban Water District, Miscellaneous
600. Salinas Valley Solid Waste Authority, Miscellaneous
601. San Bernardino City Unified School District, Safety - Police
602. San Diego Association of Governments, Miscellaneous
603. San Diego Pooled Insurance Program Authority, Miscellaneous
604. San Diego Unified School District, Safety - Police
605. San Francisco Bay Area Rapid Transit District, Safety - Police
606. San Francisco Bay Area Water Emergency Transportation Authority, Miscellaneous
607. San Gabriel Valley Council of Governments, Miscellaneous
608. San Joaquin County IHSS Public Authority, Miscellaneous
609. San Luis Obispo Council of Governments, Miscellaneous
610. San Mateo Consolidated Fire Department, Miscellaneous
611. San Mateo Consolidated Fire Department, Safety - Fire
612. San Miguel Community Services District, Miscellaneous
613. San Miguel Consolidated Fire Protection District, Miscellaneous
614. San Miguel Consolidated Fire Protection District, Safety - Fire
615. San Simeon Community Services District, Miscellaneous
616. San Simeon Community Services District, Safety - Fire
617. Santa Ana Unified School District, Safety - Police
618. Santa Clara Valley Water District, Miscellaneous
619. Santa Clarita Valley Water Agency, Miscellaneous
620. Santa Cruz County Regional Transportation Commission, Miscellaneous
621. Santa Margarita Water District, Miscellaneous
622. Santos Manuel Student Union of California State University, San Bernardino, Miscellaneous
623. Schell Vista Fire Protection District, Safety - Fire
624. Selma-Kingsburg-Fowler County Sanitation District, Miscellaneous
625. Shasta Lake Fire Protection District, Miscellaneous
626. Shasta Regional Transportation Agency, Miscellaneous
627. Sierra-Sacramento Valley Emergency Medical Services Agency, Miscellaneous
628. Silicon Valley Animal Control Authority, Miscellaneous
629. Silicon Valley Clean Water, Miscellaneous
630. Sonoma County Fire District, Miscellaneous
631. Sonoma County Fire District, Safety - Fire
632. Sonoma Marin Area Rail Transit District, Safety - Other Safety
633. Soquel Creek Water District, Miscellaneous
634. South Central Los Angeles Regional Center for Developmentally Disabled Persons, Miscellaneous
635. South Coast Water District, Miscellaneous
636. South County Support Services Agency, Miscellaneous
637. South Orange County Wastewater Authority, Miscellaneous
638. South Placer Fire District, Miscellaneous
639. South Placer Fire District, Safety - Fire
640. South San Joaquin County Fire Authority, Miscellaneous
641. South San Joaquin County Fire Authority, Safety - Fire
642. Southeast Area Social Services Funding Authority, Miscellaneous
643. Stanislaus Consolidated Fire Protection District, Miscellaneous
644. Stanislaus Consolidated Fire Protection District, Safety - Fire

Appendix E – List of Contracting Agencies

Level 4 (continued)

- | | |
|--|---|
| 645. State Center Community College District, Safety - Police | 677. Truckee Tahoe Airport District, Miscellaneous |
| 646. Stinson Beach County Water District, Miscellaneous | 678. Tuolumne Fire District, Safety - Fire |
| 647. Stockton East Water District, Miscellaneous | 679. Twain Harte Community Services District, Miscellaneous |
| 648. Successor Agency to the Redevelopment Agency of the City of San Bernardino, Miscellaneous | 680. Twain Harte Community Services District, Safety - Fire |
| 649. Summit Cemetery District, Miscellaneous | 681. Twin Rivers Unified School District, Safety - Police |
| 650. Susanville Sanitary District, Miscellaneous | 682. Ukiah Valley Fire District, Safety - Fire |
| 651. Temescal Valley Water District, Miscellaneous | 683. Union Sanitary District, Miscellaneous |
| 652. Three Rivers Community Services District, Miscellaneous | 684. Upper San Gabriel Valley Municipal Water District, Miscellaneous |
| 653. Three Valleys Municipal Water District, Miscellaneous | 685. Val Verde Unified School District, Safety - Police |
| 654. Tiburon Fire Protection District, Miscellaneous | 686. Valley Center Municipal Water District, Miscellaneous |
| 655. Tiburon Fire Protection District, Safety - Fire | 687. Ventura County Schools Self-Funding Authority, Miscellaneous |
| 656. Town of Corte Madera, Miscellaneous | 688. Ventura Port District, Miscellaneous |
| 657. Town of Corte Madera, Safety - Fire | 689. Ventura Port District, Safety - Police |
| 658. Town of Hillsborough, Safety - Police | 690. Victor Valley Transit Authority, Miscellaneous |
| 659. Town of Los Altos Hills, Miscellaneous | 691. Water Employee Services Authority, Miscellaneous |
| 660. Town of Los Gatos, Miscellaneous | 692. West Bay Sanitary District, Miscellaneous |
| 661. Town of Los Gatos, Safety - Police | 693. West Contra Costa Integrated Waste Management Authority, Miscellaneous |
| 662. Town of Mammoth Lakes, Miscellaneous | 694. West Contra Costa Transportation Advisory Committee, Miscellaneous |
| 663. Town of Mammoth Lakes, Safety - Police | 695. West County Wastewater District, Miscellaneous |
| 664. Town of Moraga, Miscellaneous | 696. West Valley Mosquito and Vector Control District, Miscellaneous |
| 665. Town of Moraga, Safety - Police | 697. Western Contra Costa Transit Authority, Miscellaneous |
| 666. Town of Paradise, Miscellaneous | 698. Winton Water and Sanitary District, Miscellaneous |
| 667. Town of Paradise, Safety - Fire | 699. Woodbridge Rural County Fire Protection District, Miscellaneous |
| 668. Town of Paradise, Safety - Police | 700. Woodbridge Rural County Fire Protection District, Safety - Fire |
| 669. Town of Tiburon, Miscellaneous | 701. Woodside Fire Protection District, Safety - Fire |
| 670. Town of Windsor, Miscellaneous | 702. Yorba Linda Water District, Miscellaneous |
| 671. Transbay Joint Powers Authority, Miscellaneous | 703. Yuima Municipal Water District, Miscellaneous |
| 672. Transportation Authority of Marin, Miscellaneous | |
| 673. Treasure Island Development Authority, Miscellaneous | |
| 674. Trindel Insurance Fund, Miscellaneous | |
| 675. Truckee Fire Protection District, Miscellaneous | |
| 676. Truckee Fire Protection District, Safety - Fire | |

Indexed Level

- | | |
|---|---|
| 1. Alpine Springs County Water District, Miscellaneous | 8. Central Sierra Child Support Agency, Miscellaneous |
| 2. Alta California Regional Center, Inc., Miscellaneous | 9. Channel Islands Beach Community Services District, Miscellaneous |
| 3. BETA Healthcare Group Risk Management Authority, Miscellaneous | 10. City of Aliso Viejo, Miscellaneous |
| 4. California Central Valley Flood Control Association, Miscellaneous | 11. City of American Canyon, Miscellaneous |
| 5. California Special Districts Association, Miscellaneous | 12. City of Berkeley, Safety - Fire |
| 6. Central Fire Protection District of Santa Cruz County, Miscellaneous | 13. City of Crescent City, Safety - Fire |
| 7. Central Fire Protection District of Santa Cruz County, Safety - Fire | 14. City of Del Mar, Safety - Fire |
| | 15. City of Eastvale, Miscellaneous |
| | 16. City of Emeryville, Safety - Fire |

Appendix E – List of Contracting Agencies

Indexed Level (continued)

17. City of Garden Grove, Miscellaneous
18. City of Garden Grove, Safety - Fire
19. City of Garden Grove, Safety - Police
20. City of Greenfield, Safety - Fire
21. City of Hanford, Safety - Fire
22. City of Madera, Miscellaneous
23. City of Madera, Safety - Police
24. City of Maywood, Miscellaneous
25. City of Mill Valley, Safety - Fire
26. City of Mill Valley, Safety - Police
27. City of Modesto, Safety - Fire
28. City of Modesto, Safety - Police
29. City of Monterey, Safety - Fire
30. City of Monterey, Safety - Police
31. City of Napa, Miscellaneous
32. City of Napa, Safety - Fire
33. City of Newark, Miscellaneous
34. City of Newark, Safety - Fire
35. City of Newark, Safety - Police
36. City of Oceanside, Safety - Other Safety
37. City of Poway, Miscellaneous
38. City of Poway, Safety - Fire
39. City of Rancho Cordova, Miscellaneous
40. City of Rancho Santa Margarita, Miscellaneous
41. City of Redding, Miscellaneous
42. City of Sacramento, Safety - Police
43. City of Salinas, Safety - Police
44. City of San Carlos, Safety - Fire
45. City of San Marcos, Safety - Fire
46. City of Santa Clarita, Miscellaneous
47. City of Santee, Safety - Fire
48. City of Shasta Lake, Miscellaneous
49. City of Solana Beach, Safety - Fire
50. City of South Lake Tahoe, Miscellaneous
51. City of South Lake Tahoe, Safety - Fire
52. City of Yuba City, Miscellaneous
53. City of Yuba City, Safety - Fire
54. City of Yuba City, Safety - Police
55. Coalinga/Huron Unified School District Library District, Miscellaneous
56. Contra Costa Community College District, Safety - Police
57. Cooperative Organization for the Development of Employee Selection Procedures, Miscellaneous
58. County of Riverside, Miscellaneous
59. County of Riverside, Safety - County Peace Officer
60. County of Riverside, Safety - Fire
61. Foothill Municipal Water District, Miscellaneous
62. Foundation for California Community Colleges, Miscellaneous
63. Greater Los Angeles County Vector Control District, Miscellaneous
64. Greenfield Fire Protection District, Safety - Fire
65. Grossmont-Cuyamaca Community College District Auxiliary Organization, Miscellaneous
66. Hesperia Unified School District, Safety - Police
67. Housing Authority of the County of Santa Cruz, Miscellaneous
68. Inland Empire Resource Conservation District, Miscellaneous
69. Jurupa Area Recreation and Park District, Miscellaneous
70. Loomis Fire Protection District, Miscellaneous
71. Loomis Fire Protection District, Safety - Fire
72. Marin Children and Families Commission, Miscellaneous
73. Marin County In-Home Supportive Services Public Authority, Miscellaneous
74. Menlo Park Fire Protection District, Miscellaneous
75. Menlo Park Fire Protection District, Safety - Fire
76. Midpeninsula Regional Open Space District, Miscellaneous
77. Mojave Air and Space Port, Miscellaneous
78. North Bay Cooperative Library System, Miscellaneous
79. North Delta Water Agency, Miscellaneous
80. Oceano Community Services District, Safety - Fire
81. Penryn Fire Protection District, Safety - Fire
82. Plumas Local Agency Formation Commission, Miscellaneous
83. Redwood Coast Regional Center, Miscellaneous
84. Regional Center of the East Bay, Miscellaneous
85. Sacramento Area Flood Control Agency, Miscellaneous
86. San Diego County Office Of Education, Miscellaneous
87. San Elijo Joint Powers Authority, Miscellaneous
88. San Francisquito Creek Joint Powers Authority, Miscellaneous
89. Santa Clara Valley Open Space Authority, Miscellaneous
90. Santa Monica Community College District, Safety - Police
91. Schools Insurance Authority, Miscellaneous
92. Scotts Valley Fire Protection District, Miscellaneous
93. Scotts Valley Fire Protection District, Safety - Fire
94. Shasta Local Agency Formation Commission, Miscellaneous
95. Sonoma County Junior College District, Safety - Police
96. Sonoma Marin Area Rail Transit District, Miscellaneous

Appendix E – List of Contracting Agencies

Indexed Level (continued)

- | | |
|--|---|
| 97. State and Federal Contractors Water Agency,
Miscellaneous | 102. Williams Fire Protection Authority, Miscellaneous |
| 98. Stege Sanitary District, Miscellaneous | 103. Williams Fire Protection Authority, Safety - Fire |
| 99. Town of Truckee, Safety - Police | 104. Yolo County In-Home Supportive Services Public Authority,
Miscellaneous |
| 100. Utica Water and Power Authority, Miscellaneous | 105. Yuba Community College District, Safety – Police |
| 101. Vallejo Flood and Wastewater District, Miscellaneous | |

Appendix F – Glossary

Accrued Liability (Actuarial Accrued Liability)

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

Actuarial Assumptions

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

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. An actuary performing an actuarial valuation for a public retirement system in California must satisfy the qualification standards for actuaries issuing statements of actuarial opinion in the United States with regard to pensions.

Amortization Bases

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

Amortization Period

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

Discount Rate

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

Entry Age

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

Entry Age Actuarial Cost Method

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

Fresh Start

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

Funded Ratio

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

Appendix F – Glossary

Glossary (continued)

Funded Status

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

Funding Target

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

Normal Cost

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

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.

Term Insurance Method

An actuarial cost method designed such that contributions are made to the plan to meet benefit payments expected to fall due within the year for which the contribution is made.

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.

Actuarial Office
P.O. Box 942709 Sacramento, CA 94229-2709
TTY - (877) 249-7442
(888) 225-7377
FAX (916) 795-2744

Available online at www.calpers.ca.gov



California Public Employees' Retirement System
A Component Unit of the State of California

