

1959 Survivor Benefit Program Actuarial Valuation

As of June 30, 2021



Table of Contents

Actuarial Certification	1
Highlights and Executive Summary	2
Introduction	3
Purpose of Report.....	3
Funded Status of the Plan	3
Required Employer and Employee Monthly Premiums.....	4
Changes Since the Prior Year’s Valuation.....	5
Assets.....	6
State 5 th Level Pool.....	7
Schools 5 th Level Pool	7
Public Agency 1 st Level Pool.....	7
Public Agency 2 nd Level Pool.....	7
Public Agency 3 rd Level Pool	7
Public Agency 4 th Level Pool	8
Public Agency Indexed Level Pool.....	8
Liabilities and Funding Requirements.....	9
Comparison of Current and Prior Year Results.....	10
Development of Normal Costs.....	13
Development of Funding Requirements.....	15
Schedule of Amortization Bases	18
(Gain)/Loss Analysis.....	18
Risk Analysis.....	21
Analysis of Future Investment Return Scenarios.....	22
Analysis of Discount Rate Sensitivity.....	23
Analysis of Mortality Sensitivity.....	24
Appendix A – Statement of Actuarial Methods and Assumptions	A-1
Appendix B – Summary of 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 of Actuarial Terms	F-1

Actuarial Certification



April 2022

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 Agency 1st, 2nd, 3rd, 4th, and Indexed Level, 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 by qualified actuaries 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.

SHELLY CHU, ASA, MAAA
Senior Pension Actuary, CalPERS

Tony Cuny, ASA, MAAA
Senior Pension Actuary, CalPERS

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

Highlights and Executive Summary

- 3 Introduction
- 3 Purpose of Report
- 3 Funded Status of the Plan
- 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 of Report

This actuarial valuation of the 1959 Survivor Program for Public Agency 1st, 2nd, 3rd, 4th, and Indexed level, 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, 2021 in order to:

- Set forth the funded status of the program, reflecting the assets and funding liabilities of this program as of June 30, 2021.
- Establish the actuarially required premiums for all levels and employee premiums in the Indexed, and State and Schools 5th Level for the fiscal year July 1, 2022 through June 30, 2023; and
- Provide actuarial information as of June 30, 2021 to the CalPERS Board of Administration and other interested parties.

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

Funded Status of the Plan

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, 2021.

Plan	Accrued Liability ¹	Market Value of Assets	Funded Ratio
State 5 th Level Pool	\$150,360,536	\$132,599,565	88.2%
Schools 5 th Level Pool	14,435,090	107,430,815	744.2%
PA 1 st Level Pool	2,840,806	70,811,352	2,492.7%
PA 2 nd Level Pool	2,244,801	16,284,692	725.4%
PA 3 rd Level Pool	30,817,673	155,368,176	504.2%
PA 4 th Level Pool	144,921,903	176,677,180	121.9%
PA Indexed Level Pool	20,196,279	32,409,114	160.5%
Total	\$365,817,088	\$691,580,894	189.1%

(1) By definition, under the Term Insurance Method, the present value of future benefits and the accrued liability are equal. Under the Entry Age Actuarial Cost Method, which is being used to fund the benefit in the Indexed 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

The actuarially required employer and employee monthly premiums per covered member per month for the 1959 Survivor Program for the fiscal year July 1, 2022 through June 30, 2023 are shown below. The results for fiscal year July 1, 2021 through June 30, 2022 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	2021-22 Premiums			2022-23 Premiums		
	Employer	Employee	Total	Employer	Employee	Total
State 5 th Level Pool ¹	\$5.85	\$5.85	\$11.70	\$5.60	\$5.60	\$11.20
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	\$4.70	\$2.00	\$6.70	\$2.40	\$2.00	\$4.40
PA Indexed Level Pool ¹	\$2.35	\$2.35	\$4.70	\$0.50	\$2.00	\$2.50

(1) 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 \$5.85 to \$5.60 per member, per month (or from \$2.70 to \$2.59 for biweekly paid members) for fiscal year 2022-23. This is in accordance with Statute 21581(c), which specifies that 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 \$2.35 to \$2.00 per member, per month (or from \$1.09 to \$0.93 for biweekly paid members) for fiscal year 2022-23. Employer premiums will change from \$2.35 to \$0.50 per member, per month. This decrease is due to favorable investment and non-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 pool shall remain the same as in the prior year: \$2.00 per member, per month. Employer premiums will change from \$4.70 to \$2.40 per member, per month. This decrease is due to favorable investment and non-investment experience in the past year.

Highlights and Executive Summary

Changes Since the Prior Year's Valuation

Actuarial Methods and Assumptions

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

On November 17, 2021, the board adopted new actuarial assumptions based on the recommendations in the November 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for public agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contributions for fiscal year 2022-23. In addition, the board adopted a new strategic asset allocation as part of its Asset Liability Management process. The new asset allocation along with the new capital market assumptions and economic assumptions support a discount rate of 6.80%. This includes a reduction in the price inflation assumption from 2.50% to 2.30%.

Further descriptions of general changes are included in Appendix A, "Statement of Actuarial Methods and Assumptions."

Plan Provisions

No changes were made since the prior valuation. A complete description of the principal plan provisions used in the June 30, 2021 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, 2021. 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 2022. Any subsequent changes or actions are not reflected.

Assets

- 7 Reconciliation of the Market Value of Assets
- 7 State 5th Level Pool
- 7 Schools 5th Level Pool
- 7 Public Agency 1st Level Pool
- 7 Public Agency 2nd Level Pool
- 7 Public Agency 3rd Level Pool
- 8 Public Agency 4th Level Pool
- 8 Public Agency Indexed Level Pool

Assets

Reconciliation of the Market Value of Assets

Shown below are the changes in the market value of assets for the various pools.

State 5 th Level	June 30, 2020	June 30, 2021
Beginning Balance	\$112,515,580	\$112,099,536
Contributions (Employer and Employee) Received During Fiscal Year	9,842,751	10,301,264
Benefit Payments During Fiscal Year	(15,267,404)	(14,783,314)
Net Transfer of Assets In to and Out of this Pool	—	—
Investment Earnings Credited	5,008,609	24,982,079
Ending Balance	\$112,099,536	\$132,599,565
Fund Return for Year	4.56%	22.75%

Schools 5 th Level	June 30, 2020	June 30, 2021
Beginning Balance	\$86,061,386	\$88,551,569
Contributions (Employer and Employee) Received During Fiscal Year	222,817	208,342
Benefit Payments During Fiscal Year	(1,525,424)	(1,287,236)
Net Transfer of Assets In to and Out of this Pool	—	—
Investment Earnings Credited	3,792,790	19,958,140
Ending Balance	\$88,551,569	\$107,430,815
Fund Return for Year	4.44%	22.68%

Public Agency 1 st Level	June 30, 2020	June 30, 2021
Beginning Balance	\$55,422,944	\$57,807,635
Contributions (Employer and Employee) Received During Fiscal Year	171,624	167,709
Benefit Payments During Fiscal Year	(244,256)	(265,231)
Net Transfer of Assets In to and Out of this Pool	—	—
Investment Earnings Credited	2,457,324	13,101,238
Ending Balance	\$57,807,635	\$70,811,352
Fund Return for Year	4.44%	22.68%

Public Agency 2 nd Level	June 30, 2020	June 30, 2021
Beginning Balance	\$12,962,320	\$13,389,672
Contributions (Employer and Employee) Received During Fiscal Year	100,185	98,718
Benefit Payments During Fiscal Year	(244,156)	(220,649)
Net Transfer of Assets In to and Out of this Pool	—	—
Investment Earnings Credited	571,322	3,016,952
Ending Balance	\$13,389,672	\$16,284,692
Fund Return for Year	4.43%	22.64%

Public Agency 3 rd Level	June 30, 2020	June 30, 2021
Beginning Balance	\$126,394,624	\$128,410,622
Contributions (Employer and Employee) Received During Fiscal Year	1,089,159	1,060,113
Benefit Payments During Fiscal Year	(2,840,022)	(2,831,833)
Net Transfer of Assets In to and Out of this Pool	(1,787,874)	(186,784)
Investment Earnings Credited	5,554,735	28,916,058
Ending Balance	\$128,410,622	\$155,368,176
Fund Return for Year	4.46%	22.69%

Assets

Reconciliation of the Market Value of Assets (continued)

Public Agency 4 th Level	June 30, 2020	June 30, 2021
Beginning Balance	\$153,251,364	\$153,766,711
Contributions (Employer and Employee) Received During Fiscal Year	5,940,086	6,144,561
Benefit Payments During Fiscal Year	(13,395,446)	(13,765,000)
Net Transfer of Assets In to and Out of this Pool	1,787,874	186,784
Investment Earnings Credited	6,182,833	30,344,124
Ending Balance	\$153,766,711	\$176,677,180
Fund Return for Year	4.11%	20.23%

Public Agency Indexed Level	June 30, 2020	June 30, 2021
Beginning Balance	\$26,787,538	\$27,295,626
Contributions (Employer and Employee) Received During Fiscal Year	754,720	632,098
Benefit Payments During Fiscal Year	(1,378,305)	(1,321,299)
Net Transfer of Assets In to and Out of this Pool	—	—
Investment Earnings Credited	1,131,674	5,802,688
Ending Balance	\$27,295,626	\$32,409,114
Fund Return for Year	4.27%	21.53%

Liabilities and Funding Requirements

- 10 Comparison of Current and Prior Year Results
- 13 Development of Normal Costs
- 15 Development of Funding Requirements
- 18 Schedule of Amortization Bases
- 18 (Gain)/Loss Analysis

Liabilities and Funding Requirements

Comparison of Current and Prior Year Results

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

State 5 th Level	June 30, 2020	June 30, 2021
Covered Active Members	78,713	76,955
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	293	280
Receiving Benefits	1,419	1,402
Total	1,712	1,682
Accrued Liabilities	\$151,004,628	\$150,360,536
Market Value of Assets (MVA)	112,099,536	132,599,565
Unfunded Liability/(Excess Assets)	38,905,092	17,760,971
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/(Excess Assets)	\$7.10	\$7.20
After Amortization of Unfunded Liability/(Excess Assets)	\$11.70	\$11.20
After Employer/Employee Premium Sharing	\$5.85	\$5.60
Funded Ratio	74.2%	88.2%

Schools 5 th Level	June 30, 2020	June 30, 2021
Covered Active Members	11,219	10,413
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	17	17
Receiving Benefits	143	143
Total	160	160
Accrued Liabilities	\$14,267,527	\$14,435,090
Market Value of Assets (MVA)	88,551,569	107,430,815
Unfunded Liability/(Excess Assets)	(74,284,042)	(92,995,725)
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/(Excess Assets)	\$5.80	\$5.30
After Amortization of Unfunded Liability/(Excess Assets)	\$0.00	\$0.00
After Employer/Employee Premium Sharing	\$0.00	\$0.00
Funded Ratio	620.7%	744.2%

Liabilities and Funding Requirements

Comparison of Current and Prior Year Results (continued)

Public Agency 1 st Level	June 30, 2020	June 30, 2021
Covered Active Members	7,170	6,899
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	30	26
Receiving Benefits	105	102
Total	135	128
Accrued Liabilities	\$2,941,704	\$2,840,806
Market Value of Assets (MVA)	57,807,635	70,811,352
Unfunded Liability/(Excess Assets)	(54,865,931)	(67,970,546)
Required Employer Monthly Premium Per Member		
Total Premium Required	\$1.30	\$1.30
Premium Required After Employee Contributions	\$0.00	\$0.00
Employer Premium After Amortization of Unfunded Liability/(Excess Assets)	\$0.00	\$0.00
Funded Ratio	1,965.1%	2,492.7%
Public Agency 2 nd Level	June 30, 2020	June 30, 2021
Covered Active Members	4,198	4,149
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	15	13
Receiving Benefits	76	75
Total	91	88
Accrued Liabilities	\$2,405,625	\$2,244,801
Market Value of Assets (MVA)	13,389,672	16,284,692
Unfunded Liability/(Excess Assets)	(10,984,046)	(14,039,891)
Required Employer Monthly Premium Per Member		
Total Premium Required	\$1.70	\$1.60
Premium Required After Employee Contributions	\$0.00	\$0.00
Employer Premium After Amortization of Unfunded Liability/(Excess Assets)	\$0.00	\$0.00
Funded Ratio	556.6%	725.4%
Public Agency 3 rd Level	June 30, 2020	June 30, 2021
Covered Active Members	45,256	44,591
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	181	173
Receiving Benefits	592	592
Total	773	765
Accrued Liabilities	\$30,990,981	\$30,817,673
Market Value of Assets (MVA)	128,410,622	155,368,176
Unfunded Liability/(Excess Assets)	(97,419,641)	(124,550,503)
Required Employer Monthly Premium Per Member		
Total Premium Required	\$2.60	\$2.50
Premium Required After Employee Contributions	\$0.60	\$0.50
Employer Premium After Amortization of Unfunded Liability/(Excess Assets)	\$0.00	\$0.00
Funded Ratio	414.3%	504.2%

Liabilities and Funding Requirements

Comparison of Current and Prior Year Results (continued)

Public Agency 4 th Level	June 30, 2020	June 30, 2021
Covered Active Members	73,311	72,142
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	210	197
Receiving Benefits	1,013	1,022
Total	1,223	1,219
Accrued Liabilities	\$143,651,151	\$144,921,903
Market Value of Assets (MVA)	153,766,711	176,677,180
Unfunded Liability/(Excess Assets)	(10,115,561)	(31,755,277)
Required Employer Monthly Premium Per Member		
Total Premium Required	\$7.40	\$7.10
Premium Required After Employee Contributions	\$5.40	\$5.10
Employer Premium After Amortization of Unfunded Liability/(Excess Assets)	\$4.70	\$2.40
Funded Ratio	107.0%	121.9%

Public Agency Indexed Level	June 30, 2020	June 30, 2021
Covered Active Members	11,146	11,255
Survivors Included in the Valuation		
Deferred (eligible, but not currently receiving benefits)	20	21
Receiving Benefits	112	108
Total	132	129
Accrued Liabilities	\$19,718,925	\$20,196,279
Market Value of Assets (MVA)	27,295,626	32,409,114
Unfunded Liability/(Excess Assets)	(7,576,701)	(12,212,835)
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/(Excess Assets)	\$8.80	\$9.20
After Amortization of Unfunded Liability/(Excess Assets)	\$4.70	\$2.50
After Employer/Employee Premium Sharing	\$2.35	\$0.50
Funded Ratio	138.4%	160.5%

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 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 – Statement of 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)
2011	\$5,362,941	77,714	1%	\$5.75
2012	6,274,281	71,759	3%	7.29
2013	7,136,416	71,180	5%	8.35
2014	6,781,756	72,848	7%	7.76
2015	6,430,670	74,372	9%	7.21
2016	7,673,264	75,782	11%	8.44
2017	5,901,199	76,638	13%	6.42
2018	4,052,531	77,362	15%	4.37
2019	6,748,596	78,011	17%	7.21
2020	8,395,709	78,713	19%	8.89

Final Weighted Average Normal Cost \$7.20

Schools 5th Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2011	\$665,287	9,811	1%	\$5.65
2012	678,418	10,123	3%	5.58
2013	434,475	9,944	5%	3.64
2014	356,592	10,287	7%	2.89
2015	693,955	10,490	9%	5.51
2016	200,586	10,259	11%	1.63
2017	874,049	10,557	13%	6.90
2018	979,346	10,894	15%	7.49
2019	1,207,583	11,190	17%	8.99
2020	353,433	11,219	19%	2.63

Final Weighted Average Normal Cost \$5.30

Public Agencies 1st Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2011	\$2,238,701	134,255	1%	\$1.39
2012	2,860,494	132,754	3%	1.80
2013	2,437,847	129,796	5%	1.57
2014	1,771,714	132,024	7%	1.12
2015	1,870,607	134,879	9%	1.16
2016	2,177,004	139,581	11%	1.30
2017	2,353,283	141,063	13%	1.39
2018	2,273,353	140,339	15%	1.35
2019	1,977,720	141,374	17%	1.17
2020	2,086,053	141,081	19%	1.23

Final Weighted Average Normal Cost \$1.30

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)
2011	\$2,798,908	134,255	1%	\$1.74
2012	3,576,747	132,754	3%	2.25
2013	3,047,799	129,796	5%	1.96
2014	2,215,157	132,024	7%	1.40
2015	2,338,658	134,879	9%	1.44
2016	2,721,826	139,581	11%	1.62
2017	2,942,272	141,063	13%	1.74
2018	2,842,621	140,339	15%	1.69
2019	2,472,595	141,374	17%	1.46
2020	2,608,446	141,081	19%	1.54

Final Weighted Average Normal Cost \$1.60

Public Agencies 3rd Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2011	\$4,357,171	134,255	1%	\$2.70
2012	5,570,858	132,754	3%	3.50
2013	4,744,073	129,796	5%	3.05
2014	3,448,999	132,024	7%	2.18
2015	3,640,399	134,879	9%	2.25
2016	4,237,503	139,581	11%	2.53
2017	4,581,027	141,063	13%	2.71
2018	4,427,639	140,339	15%	2.63
2019	3,849,024	141,374	17%	2.27
2020	4,063,057	141,081	19%	2.40

Final Weighted Average Normal Cost \$2.50

Public Agencies 4th Level Pool

Year	Present Value of Future Benefits (PVB)	Members	Weight	Normal Cost (PVB / Members / 12)
2011	\$12,439,870	134,255	1%	\$7.72
2012	15,714,983	132,754	3%	9.86
2013	13,510,031	129,796	5%	8.67
2014	9,687,436	132,024	7%	6.11
2015	10,319,088	134,879	9%	6.38
2016	12,032,521	139,581	11%	7.18
2017	12,948,882	141,063	13%	7.65
2018	12,457,704	140,339	15%	7.40
2019	11,004,377	141,374	17%	6.49
2020	11,427,939	141,081	19%	6.75

Final Weighted Average Normal Cost \$7.10

Liabilities and Funding Requirements

Development of Funding Requirements

The following table develops the annual premiums required for fiscal year 2022-23 for the State 5th and Schools 5th Level Pools.

June 30, 2021	State 5 th Level	Schools 5 th Level
1) Development of Unfunded Liability		
a) Present Value of Future Benefits for Current Survivors as of 6/30/2021	\$148,875,536	\$13,517,090
b) Reserve for Unclaimed Benefits as of 6/30/2021	1,485,000	918,000
c) Total Accrued Liabilities as of 6/30/2021 [(1a) + (1b)]	150,360,536	14,435,090
d) Market Value of Assets as of 6/30/2021	132,599,565	107,430,815
e) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1c) - (1d)]	\$17,760,971	(\$92,995,725)
2) Development of Normal Cost		
a) Total Per Member, Per Month 2021/2022 Term Insurance Normal Cost rounded to the nearest \$0.10	\$7.20	\$5.30
3) 2022 Projected Unfunded Liability		
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1e)]	\$17,760,971	(\$92,995,725)
b) Projected Normal Cost Contributions with Interest 7/1/2021 – 6/30/2022	6,935,954	806,342
c) Projected UAL Payment 7/1/2021 – 6/30/2022	4,153,846	(806,342)
d) Projected Required Contributions 7/1/2021 – 6/30/2022 [(3b) + (3c)]	11,089,800	—
e) Projected Employee Contributions 7/1/2021 – 6/30/2022	5,524,740	268,800
f) Changes in Contributions due to Contribution (Gain)/Loss ¹	(186,510)	117,253
g) Excess Assets due to Employee Contributions [maximum, (\$0, (3e) - (3d))]	—	268,800
h) Projected UAL/(Excess Assets) as of 6/30/2022 [(3a) * 1.068 - ((3c) + (3f) + (3g)) * 1.068^{1/2}]	\$14,868,710	(\$98,885,091)
4) Required Contribution		
a) Required Normal Cost Per Member, Per Month [(2c)]	\$7.20	\$5.30
b) Projected Active Members as of 6/30/2022	77,000	10,400
c) Required Normal Cost Contribution [(4a) * (4b) * 12 * (1.068) ^{1/2}]	\$6,875,275	\$683,559
d) Amortization of the UAL/(Excess Assets) ²	3,490,226	(683,559)
e) Total Required Contributions [(4c) + (4d)]	10,365,501	0.00
f) Required Contributions Per Member, Per Month [(4e) / (4b) / 12], rounded to the nearest \$0.10	\$11.20	\$0.00
g) Amortization Period	See Table on Pg. 18	30-year
5) 2022-2023 Required Employer and Employee Premiums with Cost Sharing Provision		
a) Required Employee Premium Per Member, Per Month [maximum, (\$2, (4f) / 2)]	\$5.60	\$2.00
b) Required Employer Premium Per Member, Per Month [maximum, (\$0, (4f) - (5a))]	\$5.60	\$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 18.

Liabilities and Funding Requirements

Development of Funding Requirements (continued)

The following table develops the annual premiums required for fiscal year 2022-23 for the Public Agency 1st, 2nd, 3rd, and 4th Level Pools.

June 30, 2021	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 6/30/2021	\$2,722,006	\$2,153,001	\$30,280,073	\$142,710,303
b) Reserve for Unclaimed Benefits as of 6/30/2021	118,800	91,800	537,600	2,211,600
c) Total Accrued Liabilities as of 6/30/2021 [(1a) + (1b)]	2,840,806	2,244,801	30,817,673	144,921,903
d) Market Value of Assets as of 6/30/2021	70,811,352	16,284,692	155,368,176	176,677,180
e) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1c) - (1d)]	(\$67,970,546)	(\$14,039,891)	(\$124,550,503)	(\$31,755,277)
2) Development of Normal Cost				
a) Total Per Member, Per Month 2021/2022 Term Insurance Normal Cost rounded to the nearest \$0.10	\$1.30	\$1.60	\$2.50	\$7.10
3) 2022 Projected Unfunded Liability				
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1e)]	(\$67,970,546)	(\$14,039,891)	(\$124,550,503)	(\$31,755,277)
b) Projected Normal Cost Contributions with Interest 7/1/2021 – 6/30/2022	116,185	88,628	1,461,991	6,733,003
c) Projected UAL Payment 7/1/2021 – 6/30/2022	(116,185)	(88,628)	(1,461,991)	(808,574)
d) Projected Required Contributions 7/1/2021 – 6/30/2022 [(3b) + (3c)]	—	—	—	5,924,429
e) Projected Employee Contributions 7/1/2021 – 6/30/2022	172,800	100,800	1,087,200	1,759,200
f) Changes in Contributions due to Contribution (Gain)/Loss ¹	4,696	6,019	75,630	297,230
g) Excess Assets due to Employee Contributions [maximum, (\$0, (3e) - (3d))]	172,800	100,800	1,087,200	—
h) Projected UAL/(Excess Assets) as of 6/30/2022 [(3a) * 1.068 - ((3c) + (3f) + (3g)) * 1.068^{1/2}]	(\$72,655,904)	(\$15,013,403)	(\$132,710,772)	(\$33,386,192)
4) Required Contribution				
a) Required Normal Cost Per Member, Per Month [(2c)]	\$1.30	\$1.60	\$2.50	\$7.10
b) Projected Active Members as of 6/30/2022	6,900	4,100	44,600	72,100
c) Required Normal Cost Contribution [(4a) * (4b) * 12 * (1.068) ^{1/2}]	\$111,240	\$81,352	1,382,744	\$6,348,344
d) Amortization of the UAL/(Excess Assets)	(111,240)	(81,352)	(1,382,744)	(2,551,305)
e) Total Required Contributions [(4c) + (4d)]	0.00	0.00	0.00	3,797,039
f) Required Contributions Per Member, Per Month [(4e) / (4b) / 12], rounded to the nearest \$0.10	\$0.00	\$0.00	\$0.00	\$4.40
g) Amortization Period	30-year	30-year	30-year	30-year
5) 2022-2023 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	\$2.40

(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 2022-23 for the Public Agency Indexed Level Pool.

June 30, 2021	Public Agency Indexed Level
1) Development of Unfunded Liability	
a) Present Value of Future Benefits for Current Survivors as of 6/30/2021	\$16,105,387
b) Present Value of Future Benefits for Active Members as of 6/30/2021	13,239,777
c) Reserve for Unclaimed Benefits as of 6/30/2021	9,096
d) Total Present Value of Future Benefits as of 6/30/2021 [(1a) + (1b)]	\$29,345,164
e) Present Value of Future Normal Costs as of 6/30/2021	9,157,982
f) Total Accrued Liabilities as of 6/30/2021 [(1c) + (1d) - (1e)]	20,196,279
g) Market Value of Assets as of 6/30/2021	\$32,409,114
h) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1f) - (1g)]	(\$12,212,835)
2) Development of Normal Cost	
a) Required Entry Age Normal Cost	\$1,244,456
b) Active Members as of 6/30/2021	11,255
c) Total Per Member, Per Month 2021/2022 Entry Age Normal Cost [(2a) / (2b) / 12], rounded to the nearest \$0.10	\$9.20
3) 2022 Projected Unfunded Liability	
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(1h)]	(\$12,212,835)
b) Projected Normal Cost Contributions with Interest 7/1/2021 – 6/30/2022	1,212,492
c) Projected UAL Payment 7/1/2021 – 6/30/2022	(585,478)
d) Projected Required Contributions 7/1/2021 – 6/30/2022 [(3b) + (3c)]	627,014
e) Projected Employee Contributions 7/1/2021 – 6/30/2022	313,020
f) Changes in Contributions due to Contribution (Gain)/Loss ¹	(61,650)
g) Excess Assets due to Employee Contributions [maximum, (\$0, (3e) - (3d))]	—
h) Projected UAL/(Excess Assets) as of 6/30/2022 [(3a) * 1.068 - ((3c) + (3f) + (3g)) * 1.068^{1/2}]	(\$12,374,540)
4) Required Contribution	
a) Required Normal Cost Per Member, Per Month [(2c)]	\$9.20
b) Projected Active Members as of 6/30/2022	11,300
c) Required Normal Cost Contribution [(4a) * (4b) * 12 * (1.068) ^{1/2}]	\$1,289,238
d) Amortization of the UAL/(Excess Assets)	(945,637)
e) Total Required Contributions [(4c) + (4d)]	343,601
f) Required Contributions Per Member, Per Month [(4e) / (4b) / 12], rounded to the nearest \$0.10	\$2.50
g) Amortization Period	30-year
5) 2022-2023 Required Employer and Employee Premiums with Cost Sharing Provision	
a) Required Employee Premium Per Member, Per Month [maximum (\$2, (4f) / 2)]	\$2.00
b) Required Employer Premium Per Member, Per Month [maximum (\$0, (4f) - (5a))]	\$0.50

(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 6/30/2021	Payment 2021-22	Projected Balance 6/30/2022	Payment 2022-23
Fresh Start	6/30/2021	5	5	\$17,760,971	\$3,967,336	\$14,868,711	\$3,490,226
Total				\$17,760,971	\$3,967,336	\$14,868,711	\$3,490,226

(Gain)/Loss Analysis 6/30/2020 – 6/30/2021

The following table develops the asset and demographic gains and losses between June 30, 2020 and June 30, 2021 for the: State and Schools 5th Level Pools.

	State 5 th Level	Schools 5 th Level
1) Prior Year Unfunded Accrued Liability/(Excess Assets) Development		
a) Accrued Liability as of 6/30/2020	\$151,004,628	\$14,267,527
b) Market Value of Assets as of 6/30/2020	112,099,536	88,551,569
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2020 [(1a) - (1b)]	\$38,905,092	(\$74,284,042)
2) Development of Projected Unfunded Accrued Liability/(Excess Assets) for 6/30/2021		
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2020 [(1c)]	\$38,905,092	(\$74,284,042)
b) Projected Unfunded Accrued Liability/(Excess Assets) Payment with Interest 7/1/2020 – 6/30/2021 ¹	4,279,967	(527,766)
c) Projected Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(2a) * 1.07 - (2b) * 1.07 ^{1/2}]	37,201,216	(78,937,999)
3) Development of Projected Assets		
a) Market Value of Assets as of 6/30/2020	\$112,099,536	\$88,551,569
b) Net Cash Flows 7/1/2020 – 6/30/2021	(4,482,050)	(1,078,894)
c) Net Transfer of Assets Into and Out of this Pool	—	—
d) Expected Assets as of 6/30/2021 [(3a) * 1.07 + ((3b) + (3c)) * 1.07^{1/2}]	\$115,310,235	\$93,634,162
4) Current Year Unfunded 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 [(4a) - (4b)]	\$17,760,971	(\$92,995,725)
5) Development of (Gain)/Loss due to changes in Reserve for Unclaimed Benefits		
a) Reserve for Unclaimed Benefits as of 6/30/2020	\$1,827,000	\$891,000
b) Reserve for Unclaimed Benefits as of 6/30/2021	1,485,000	918,000
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5b) - (5a)]	(342,000)	27,000
6) (Gain)/Loss for the Period of 6/30/2020 – 6/30/2021		
a) Total (Gain)/Loss [(4c) - (2c)]	(\$19,440,245)	(\$14,057,726)
b) Investment (Gain)/Loss [(3d) - (4b)]	(17,289,330)	(13,796,653)
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5c)]	(342,000)	27,000
d) Change due to Assumption Changes	1,538,078	58,050
e) Non-Investment (Gain)/Loss [(6a) - (6b) - (6c) - (6d)]	(3,346,992)	(346,123)

(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 6/30/2020 – 6/30/2021 (continued)

The following table develops the asset and demographic gains and losses between June 30, 2020 and June 30, 2021 for the

Public Agency 1st, 2nd, 3rd, and 4th Level Pools.

	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 6/30/2020	\$2,941,704	\$2,405,625	\$30,990,981	\$143,651,151
b) Market Value of Assets as of 6/30/2020	57,807,635	13,389,672	128,410,622	153,766,711
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2020 [(1a) - (1b)]	(\$54,865,931)	(\$10,984,046)	(\$97,419,641)	(\$10,115,561)
2) Development of Projected Unfunded Accrued Liability/(Excess Assets) for 6/30/2021				
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2020 [(1c)]	(\$54,865,931)	(\$10,984,046)	(\$97,419,641)	(\$10,115,561)
b) Projected Unfunded Accrued Liability/(Excess Assets) Payment with Interest 7/1/2020 – 6/30/2021 ¹	65,156	15,681	(326,025)	(429,990)
c) Projected Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(2a) * 1.07 - (2b) * 1.07 ^{1/2}]	(58,773,944)	(11,769,150)	(103,901,773)	(10,378,865)
3) Development of Projected Assets				
a) Market Value of Assets as of 6/30/2020	\$57,807,635	\$13,389,672	\$128,410,622	\$153,766,711
b) Net Cash Flows 7/1/2020 – 6/30/2021	(97,521)	(121,931)	(1,771,720)	(7,620,439)
c) Net Transfer of Assets Into and Out of this Pool	—	—	(186,784)	186,784
d) Expected Assets as of 6/30/2021 [(3a) * 1.07 + ((3b) + (3c)) * 1.07^{1/2}]	\$61,753,293	\$14,200,822	\$135,373,473	\$156,840,948
4) Current Year Unfunded 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 [(4a) - (4b)]	(\$67,970,546)	(\$14,039,891)	(\$124,550,503)	(\$31,755,277)
5) Development of (Gain)/Loss due to changes in the Reserve for Unclaimed Benefits				
a) Reserve for Unclaimed Benefits as of 6/30/2020	\$95,040	\$83,700	\$600,600	\$2,485,200
b) Reserve for Unclaimed Benefits as of 6/30/2021	118,800	91,800	537,600	2,211,600
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5b) - (5a)]	23,760	8,100	(63,000)	(273,600)
6) (Gain)/Loss for the Period of 6/30/2020 – 6/30/2021				
a) Total (Gain)/Loss [(4c) - (2c)]	(\$9,196,602)	(\$2,270,740)	(\$20,648,730)	(\$21,376,412)
b) Investment (Gain)/Loss [(3d) - (4b)]	(9,058,059)	(2,083,870)	(19,994,703)	(19,836,232)
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5c)]	23,760	8,100	(63,000)	(273,600)
d) Change due to Assumption Changes	28,350	16,192	361,103	1,775,159
e) Non-Investment (Gain)/Loss [(6a) - (6b) - (6c) - (6d)]	(190,652)	(211,162)	(952,131)	(3,041,739)

(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 6/30/2020 – 6/30/2021 (continued)

The following table develops the asset and demographic gains and losses between June 30, 2020 and June 30, 2021 for the

Public Agency Indexed Level Pool.

	Public Agency Indexed Level
1) Prior Year Unfunded Accrued Liability/(Excess Assets) Development	
a) Accrued Liability as of 6/30/2020	\$19,718,925
b) Market Value of Assets as of 6/30/2020	27,295,626
c) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2020 [(1a) - (1b)]	(\$7,576,701)
2) Development of Projected Unfunded Accrued Liability/(Excess Assets) for 6/30/2021	
a) Unfunded Accrued Liability/(Excess Assets) as of 6/30/2020 [(1c)]	(\$7,576,701)
b) Projected Unfunded Accrued Liability/(Excess Assets) Payment with Interest 7/1/2020 – 6/30/2021 ¹	(572,187)
c) Projected Unfunded Accrued Liability/(Excess Assets) as of 6/30/2021 [(2a) * 1.07 - (2b) * 1.07 ^{1/2}]	(7,515,196)
3) Development of Projected Assets	
a) Market Value of Assets as of 6/30/2020	\$27,295,626
b) Net Cash Flows 7/1/2020 – 6/30/2021	(689,201)
c) Net Transfer of Assets Into and Out of this Pool	—
d) Expected Assets as of 6/30/2021 [(3a) * 1.07 + ((3b) + (3c)) * 1.07^{1/2}]	\$28,493,405
4) Current Year Unfunded 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 [(4a) - (4b)]	(\$12,212,835)
5) Development of (Gain)/Loss due to changes in the Reserve for Unclaimed Benefits	
a) Reserve for Unclaimed Benefits as of 6/30/2020	\$62,412
b) Reserve for Unclaimed Benefits as of 6/30/2021	9,096
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5b) - (5a)]	(53,316)
6) (Gain)/Loss for the Period of 6/30/2020 – 6/30/2021	
a) Total (Gain)/Loss [(4c) - (2c)]	(\$4,697,640)
b) Investment (Gain)/Loss [(3d) - (4b)]	(3,915,709)
c) (Gain)/Loss due to changes in Reserve for Unclaimed Benefits [(5c)]	(53,316)
d) Change due to Assumption Changes	(19,085)
e) Non-Investment (Gain)/Loss [(6a) - (6b) - (6c) - (6d)]	(709,530)

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

Risk Analysis

22 Analysis of Future Investment Return Scenarios

23 Analysis of Discount Rate Sensitivity

24 Analysis of Mortality Sensitivity

Risk Analysis

Analysis of 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%. To give the reader a sense of the short-term investment risk to contributions, fiscal year 2023-24 contributions are shown below based on the following fiscal year 2021-22 investment return scenarios:

- -17.2% investment return (2 standard deviation loss)
- 6.8% investment return
- 30.8% investment return (2 standard deviation gain)
- 2.3% investment return, this is the fiscal year-to-date return as of January 31, 2022

The tables below show fiscal year 2023-24 projected employee and employer contributions under the investment return scenarios mentioned above.

-17.2% Return

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$9.65	\$9.65
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	6.20	2.00
PA Indexed Level	3.50	3.50

6.8% Return

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$5.60	\$5.60
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	2.40	2.00
PA Indexed Level	0.60	2.00

30.8% Return

	2023-24 Employer Monthly Premium	2023-24 Employee Monthly Premium
State 5 th Level	\$2.10	\$2.10
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	0.00	2.00
PA Indexed Level	0.00	2.00

2.3% Return

	2023-24 Employer Monthly Premium	2023-24 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	3.10	2.00
PA Indexed Level	1.40	2.00

Risk Analysis

Analysis of Discount Rate Sensitivity

To give the reader a sense of long-term investment risk to contributions, fiscal year 2022-23 contributions are presented below using discount rates that are 1% lower and 1% higher than the valuation discount rate of 6.8%. This analysis will give an indication of the potential required contributions if the PERF had investment returns of 5.8% or 7.8% over the long-term.

5.8% Discount Rate (-1%)

	2022-23 Employer Monthly Premium	2022-23 Employee Monthly Premium
State 5 th Level	\$7.75	\$7.75
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	4.50	2.00
PA Indexed Level	3.05	3.05

Increase in Contribution

	2022-23 Employer Monthly Premium	2022-23 Employee Monthly Premium
State 5 th Level	\$2.15	\$2.15
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	2.10	0.00
PA Indexed Level	2.55	1.05

7.8% Discount Rate (+1%)

	2022-23 Employer Monthly Premium	2022-23 Employee Monthly Premium
State 5 th Level	\$3.70	\$3.70
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	0.30	2.00
PA Indexed Level	0.00	2.00

Decrease in Contribution

	2022-23 Employer Monthly Premium	2022-23 Employee Monthly Premium
State 5 th Level	(\$1.90)	(\$1.90)
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	(2.10)	0.00
PA Indexed Level	(0.50)	0.00

Risk Analysis

Analysis of Mortality Sensitivity

To give the reader a sense of the long-term mortality risk to contributions, fiscal year 2022-23 contributions are shown below using 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%)

	2022-23 Employer Monthly Premium	2022-23 Employee Monthly Premium
State 5 th Level	\$6.05	\$6.05
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	2.60	2.00
PA Indexed Level	0.90	2.00

Increase in Contribution

	2022-23 Employer Monthly Premium	2022-23 Employee Monthly Premium
State 5 th Level	\$0.45	\$0.45
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	0.40	0.00

Higher Mortality Rate (+10%)

	2022-23 Employer Monthly Premium	2022-23 Employee Monthly Premium
State 5 th Level	\$5.25	\$5.25
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	2.10	2.00
PA Indexed Level	0.20	2.00

Decrease in Contribution

	2022-23 Employer Monthly Premium	2022-23 Employee Monthly Premium
State 5 th Level	(\$0.35)	(\$0.35)
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	(0.30)	0.00
PA Indexed Level	(0.30)	0.00

Appendices

A-1 Appendix A – Statement of Actuarial Methods and Assumptions

B-1 Appendix B – Summary of 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 of Actuarial Terms

Appendix A – Statement of 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 Agency 1st, 2nd, 3rd, and 4th level, 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 is 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 - Statement of 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 based, 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, 2021 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 \$2.40 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 based, 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 \$0.50 per covered member per month.

Asset Valuation Method

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

Appendix A - Statement of Actuarial Methods and Assumptions

Method for Projecting Active Counts

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

Actuarial Assumptions

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

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

All actuarial assumptions represent an estimate of future experience rather than observations of the estimates inherent in market data.

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, 2021.

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:

Age	Healthy Recipients		Age	Healthy Recipients	
	Male	Female		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 - Statement of 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. Additionally, if the member was working in 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	\$34,547
25	106,049
30	144,981
35	138,202
40	129,999
45	111,328
50	89,242
55	72,780
60	66,098
65	63,808
70	64,041
75	63,493
Age 80 and Above	57,423

(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 - Statement of Actuarial Methods and Assumptions

Additional Actuarial Assumptions Applicable to the PA Indexed Level

Pre-Retirement Mortality

See sample rates in 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 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 - Statement of 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 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 - Statement of 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 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 - Statement of 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 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 - Statement of 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 - Statement of 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 - Statement of 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 - Statement of 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 - Statement of 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 - Statement of 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 - Statement of 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 - Statement of 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 - Statement of 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 – Summary of 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 level of the program are eligible for the benefits valued in this report. Public Agency 1st and 2nd levels have been closed since January 1, 1994 and 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 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 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 Public Agency 1st, 2nd, and 3rd Levels and over age 60 for all other levels.

Appendix B - Summary of Principal Plan Provisions (continued)

Monthly Benefit Amounts

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

1st, 2nd, and 3rd Level (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	\$2,318 ¹	\$1,800
Spouse or Domestic Partner with One Eligible Child; or Two Eligible Children Only	1,900	1,546 ¹	1,500
Spouse or Domestic Partner Age 60 or Older; or One Eligible Child Only; or Eligible Dependent parents	950	773 ¹	750

(1) These figures indicate calendar year benefit amounts for the Indexed Level in effect for calendar year 2022. 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	\$1,645	\$2,755	\$4,233
Two Survivors	1,644	2,398	3,606
One Survivor	822	1,199	1,803

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 2021 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	\$2,318	\$1,800
Two Survivors	360	450	700	1,900	1,546	1,500
One Survivor	180	225	350	950	773	750

(1) Amounts effective January 1, 2022

Summary of Plan Changes

Existing public agency employers joining the Public Agency 4th or Indexed Level Pool during the 2022-23 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 4,171 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 6/30/2021	Number	Percent
Surviving Spouse or Domestic Partner Deferred	727	17.4%
Surviving Spouse or Domestic Partner Only Receiving	2,516	60.3%
Surviving Spouse or Domestic Partner with One Child	328	7.9%
Surviving Spouse or Domestic Partner with Two or More Children	305	7.3%
One Child	171	4.1%
Two Children	70	1.7%
Three or More Children	29	0.7%
One Parent	20	0.5%
Two Parents	5	0.1%
Totals	4,171	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 8,397 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	2,369	28.2%
Surviving Spouse or Domestic Partner Only Receiving	1,053	12.5%
Surviving Spouse or Domestic Partner with One Child	1,359	16.2%
Surviving Spouse or Domestic Partner with Two or More Children	2,252	26.8%
One Child	589	7.0%
Two Children	460	5.5%
Three or More Children	270	3.2%
One Parent	37	0.4%
Two Parents	8	0.1%
Totals	8,397	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
2020	101	141,081	0.07%	85	78,713	0.11%	8	11,219	0.07%
2019	83	141,374	0.06%	58	78,011	0.06%	7	11,190	0.06%
2018	73	140,339	0.07%	54	77,362	0.07%	7	10,894	0.07%
2017	79	141,063	0.06%	53	76,638	0.09%	4	10,557	0.04%
2016	80	139,581	0.06%	61	75,782	0.07%	7	10,259	0.05%
2015	74	134,879	0.05%	62	74,372	0.08%	5	10,490	0.04%
2014	67	132,024	0.07%	48	72,848	0.09%	3	10,287	0.04%
2013	74	129,796	0.08%	54	71,180	0.08%	4	9,944	0.07%
2012	92	132,754	0.07%	48	71,759	0.07%	7	10,123	0.07%
2011	104	134,255	0.06%	57	77,714	0.09%	6	9,811	0.06%
2010	84	138,470	0.07%	57	79,587	0.06%	7	10,203	0.09%
2009	96	143,207	0.08%	61	82,434	0.07%	4	10,562	0.04%
2008	101	144,828	0.07%	50	81,369	0.09%	8	10,550	0.06%
2007	101	140,012	0.07%	69	76,902	0.10%	5	10,131	0.16%
2006	85	137,095	0.08%	69	71,742	0.09%	13	9,469	0.05%
2005	102	133,510	0.07%	66	70,193	0.11%	7	9,402	0.04%
2004	90	131,633	0.06%	61	64,252	0.08%	4	9,325	0.07%
2003	92	129,620	0.06%	66	68,791	0.08%	6	9,390	0.08%
2002	85	129,355	0.08%	50	65,558	0.10%	4	9,195	0.06%
2001	80	116,161	0.07%	56	64,309	0.10%	5	7,884	0.02%
2000	76	121,538	0.08%	55	60,349	0.09%	7	8,338	0.11%
1999	91	118,850	0.07%	59	59,406	0.11%	3	7,444	0.04%
1998	84	112,389	0.08%	57	55,435	0.12%	5	6,956	0.07%
1997	65	102,475	0.07%	64	55,084	0.10%	4	6,794	0.10%
1996	79	100,494	0.07%	54	51,746	0.13%	6	6,726	0.13%
1995	73	99,235	0.07%	50	47,689	0.12%	9	6,751	0.11%
1994	67	98,088	0.09%	57	47,323	0.09%	10	6,653	0.13%
1993	73	97,752	0.09%	52	46,872	0.10%	3	6,776	0.07%
1992	87	95,840	0.11%	44	48,872	0.10%	8	6,823	0.08%
1991	94	91,574	0.08%	40	47,708	0.14%	7	7,752	0.10%
1990	83	86,196	0.08%	60	45,502	0.13%	7	7,942	0.12%
1989	65	82,046	0.08%	56	44,069	0.12%	6	6,899	0.14%
1988	73	84,808	0.10%	51	41,980	0.13%	9	7,100	0.16%
1987	60	69,340	0.08%	53	40,315	0.15%	10	6,200	0.08%
1986	58	68,500	0.12%	43	39,391	0.18%	8	6,500	0.09%

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
84. Lakeside Fire Protection District, Miscellaneous
85. Los Angeles Community College District, Safety - Police
86. Monterey County Water Resources Agency, Miscellaneous
87. Monterey-Salinas Transit District, Miscellaneous
88. Moulton-Niguel Water District, Miscellaneous
89. Northern California Special Districts Insurance Authority, Miscellaneous
90. Pomona, Calif State Polytechnic University, Associated Students, Inc., Miscellaneous
91. Riverside County Air Pollution Control District, Miscellaneous

Appendix E – List of Contracting Agencies (continued)

Level 1 (continued)

- | | |
|---|---|
| 92. Riverside County Flood Control and Water Conservation District, Miscellaneous | Miscellaneous |
| 93. Riverside County Regional Park and Open Space District, Miscellaneous | 95. Town of Hillsborough, Miscellaneous |
| 94. San Luis Obispo Cal Poly Associated Students, Inc., | 96. Town of Tiburon, Safety - Police |
| | 97. Town of Yountville, Miscellaneous |

Level 2

- | | |
|---|--|
| 1. Belmont-San Carlos Fire Department, Miscellaneous | 34. City of Palos Verdes Estates, Safety - Police |
| 2. Brooktrails Township Community Services District, Miscellaneous | 35. City of Patterson, Safety - Fire |
| 3. CSAC Excess Insurance Authority, Miscellaneous | 36. City of Patterson, Safety - Police |
| 4. California Interscholastic Federation, Southern Section, Miscellaneous | 37. City of Santa Barbara, Safety - Fire |
| 5. California Interscholastic Federation, State Office, Miscellaneous | 38. City of Santa Barbara, Safety - Police |
| 6. Capitol Area Development Authority, Miscellaneous | 39. City of Sierra Madre, Safety - Police |
| 7. City and County of San Francisco, Safety - Police | 40. City of Solana Beach, Miscellaneous |
| 8. City of Antioch, Miscellaneous | 41. City of Solana Beach, Safety - Other Safety |
| 9. City of Capitola, Miscellaneous | 42. City of Stanton, Miscellaneous |
| 10. City of Capitola, Safety - Fire | 43. City of Stanton, Safety - Fire |
| 11. City of Capitola, Safety - Police | 44. City of Stanton, Safety - Police |
| 12. City of Corcoran, Miscellaneous | 45. City of Susanville, Safety - Police |
| 13. City of Corcoran, Safety - Fire | 46. City of Visalia, Miscellaneous |
| 14. City of Corcoran, Safety - Police | 47. City of Vista, Miscellaneous |
| 15. City of Coronado, Safety - Fire | 48. City of Watsonville, Safety - Fire |
| 16. City of Coronado, Safety - Police | 49. City of Watsonville, Safety - Police |
| 17. City of Cotati, Safety - Police | 50. County of Alpine, Miscellaneous |
| 18. City of Crescent City, Miscellaneous | 51. County of Alpine, Safety - County Peace Officer |
| 19. City of Crescent City, Safety - Police | 52. County of Alpine, Safety - Fire |
| 20. City of Del Mar, Safety - Other Safety | 53. County of Calaveras, Miscellaneous |
| 21. City of Emeryville, Safety - Police | 54. County of Calaveras, Safety - County Peace Officer |
| 22. City of Eureka, Safety - Fire | 55. County of Calaveras, Safety - Fire |
| 23. City of Eureka, Safety - Police | 56. Los Angeles County Office of Education, Miscellaneous |
| 24. City of Glendora, Miscellaneous | 57. Main San Gabriel Basin Watermaster, Miscellaneous |
| 25. City of Inglewood, Safety - Police | 58. North Coast Unified Air Quality Management District, Miscellaneous |
| 26. City of La Puente, Miscellaneous | 59. Pacific Fire Protection District, Miscellaneous |
| 27. City of Lakeport, Miscellaneous | 60. Pupil Transportation Cooperative, Miscellaneous |
| 28. City of Lakeport, Safety - Police | 61. Rancho California Water District, Miscellaneous |
| 29. City of Martinez, Safety - Fire | 62. Running Springs Water District, Miscellaneous |
| 30. City of Montclair, Miscellaneous | 63. Running Springs Water District, Safety - Fire |
| 31. City of Montclair, Safety - Fire | 64. San Diego Trolley, Inc., Miscellaneous |
| 32. City of Palm Desert, Miscellaneous | 65. San Francisco County Transportation Authority, Miscellaneous |
| 33. City of Palos Verdes Estates, Safety - Fire | 66. Sonoma County Library, Miscellaneous |
| | 67. Tahoe Transportation District, Miscellaneous |

Level 3

- | | |
|---|--|
| 1. Access Services Incorporated, Miscellaneous | 6. Alameda County Fire Department, Safety - Fire |
| 2. Agoura Hills and Calabasas Community Center, Miscellaneous | 7. Alameda County Mosquito Abatement District, Miscellaneous |
| 3. Alameda Alliance for Health, Miscellaneous | 8. Alameda County Transportation Authority, Miscellaneous |
| 4. Alameda Corridor Transportation Authority, Miscellaneous | 9. American Canyon Fire Protection District, Safety - Fire |
| 5. Alameda County Fire Department, Miscellaneous | 10. Apple Valley Fire Protection District, Miscellaneous |
| | 11. Apple Valley Fire Protection District, Safety - Fire |

Appendix E – List of Contracting Agencies

Level 3 (continued)

12. Arcata Fire Protection District, Miscellaneous
13. Arcata Fire Protection District, Safety - Fire
14. Association of California Water Agencies, Miscellaneous
15. Avila Beach Community Services District, Miscellaneous
16. Baldwin Park Unified School District, Safety - Police
17. Beaumont-Cherry Valley Recreation and Park District, Miscellaneous
18. Belmont-San Carlos Fire Department, Safety - Fire
19. Belvedere-Tiburon Library Agency, Miscellaneous
20. Big Bear City Community Services District, Miscellaneous
21. Bighorn-Desert View Water Agency, Miscellaneous
22. Bodega Bay Fire Protection District, Miscellaneous
23. Bodega Bay Fire Protection District, Safety - Fire
24. Borrego Springs Fire Protection District, Miscellaneous
25. Borrego Water District, Miscellaneous
26. Broadmoor Police Protection District, Miscellaneous
27. Broadmoor Police Protection District, Safety - Police
28. Brooktrails Township Community Services District, Safety - Fire
29. Buena Park Library District, Miscellaneous
30. Butte County Air Quality Management District, Miscellaneous
31. Butte Schools Self-Funded Programs, Miscellaneous
32. California Firefighter's Joint Apprenticeship Committee, Safety - Fire
33. California Pines Community Services District, Miscellaneous
34. Cambria Community Healthcare District, Miscellaneous
35. Cambria Community Healthcare District, Safety - Fire
36. Cameron Park Community Services District, Miscellaneous
37. Cameron Park Community Services District, Safety - Fire
38. Camrosa Water District, Miscellaneous
39. Casitas Municipal Water District, Miscellaneous
40. Castaic Lake Water Agency, Miscellaneous
41. Castro Valley Sanitary District, Miscellaneous
42. Central Calaveras Fire and Rescue Protection District, Safety - Fire
43. Central Coast Water Authority, Miscellaneous
44. Central Valley Regional Center, Inc., Miscellaneous
45. City and County of San Francisco, Miscellaneous
46. City of Adelanto, Safety - Police
47. City of Agoura Hills, Miscellaneous
48. City of Alameda, Miscellaneous
49. City of Alameda, Safety - Fire
50. City of Alameda, Safety - Police
51. City of Alhambra, Miscellaneous
52. City of Alhambra, Safety - Fire
53. City of Alhambra, Safety - Police
54. City of Arcadia, Miscellaneous
55. City of Arcadia, Safety - Police
56. City of Bell, Safety - Fire
57. City of Bell, Safety - Police
58. City of Belvedere, Miscellaneous
59. City of Belvedere, Safety - Police
60. City of Benicia, Miscellaneous
61. City of Berkeley, Miscellaneous
62. City of Brentwood, Miscellaneous
63. City of Brentwood, Safety - Fire
64. City of Brentwood, Safety - Police
65. City of Brisbane, Miscellaneous
66. City of Brisbane, Safety - Fire
67. City of Brisbane, Safety - Police
68. City of Burlingame, Miscellaneous
69. City of Calabasas, Miscellaneous
70. City of Campbell, Miscellaneous
71. City of Carlsbad, Miscellaneous
72. City of Carlsbad, Safety - Police
73. City of Claremont, Miscellaneous
74. City of Claremont, Safety - Police
75. City of Clayton, Miscellaneous
76. City of Compton, Miscellaneous
77. City of Compton, Safety - Police
78. City of Corona, Safety - Police
79. City of Costa Mesa, Miscellaneous
80. City of Costa Mesa, Safety - Fire
81. City of Costa Mesa, Safety - Police
82. City of Cypress, Miscellaneous
83. City of Daly City, Miscellaneous
84. City of Daly City, Safety - Police
85. City of Dana Point, Miscellaneous
86. City of Del Mar, Miscellaneous
87. City of Dinuba, Miscellaneous
88. City of Dinuba, Safety - Fire
89. City of Dinuba, Safety - Police
90. City of Downey, Safety - Fire
91. City of Downey, Safety - Police
92. City of Duarte, Miscellaneous
93. City of Dublin, Miscellaneous
94. City of East Palo Alto, Miscellaneous
95. City of East Palo Alto, Safety - Police
96. City of El Cajon, Safety - Fire
97. City of El Cajon, Safety - Police
98. City of El Centro, Miscellaneous
99. City of Encinitas, Miscellaneous
100. City of Encinitas, Safety - Fire
101. City of Encinitas, Safety - Other Safety
102. City of Eureka, Miscellaneous
103. City of Exeter, Safety - Police
104. City of Fortuna, Safety - Police
105. City of Gardena, Miscellaneous
106. City of Gardena, Safety - Fire
107. City of Gardena, Safety - Police
108. City of Gilroy, Miscellaneous
109. City of Gridley, Miscellaneous

Appendix E – List of Contracting Agencies

Level 3 (continued)

110. City of Gridley, Safety - Fire
111. City of Gridley, Safety - Police
112. City of Half Moon Bay, Miscellaneous
113. City of Hanford, Miscellaneous
114. City of Hayward, Safety - Fire
115. City of Hayward, Safety - Police
116. City of Hemet, Safety - Fire
117. City of Hercules, Miscellaneous
118. City of Hercules, Safety - Police
119. City of Hermosa Beach, Miscellaneous
120. City of Hermosa Beach, Safety - Fire
121. City of Hermosa Beach, Safety - Police
122. City of Highland, Miscellaneous
123. City of Inglewood, Miscellaneous
124. City of Inglewood, Safety - Fire
125. City of La Mesa, Safety - Fire
126. City of La Mesa, Safety - Police
127. City of La Quinta, Miscellaneous
128. City of Laguna Hills, Miscellaneous
129. City of Laguna Niguel, Miscellaneous
130. City of Laguna Woods, Miscellaneous
131. City of Lake Forest, Miscellaneous
132. City of Lancaster, Miscellaneous
133. City of Larkspur, Miscellaneous
134. City of Lathrop, Miscellaneous
135. City of Lodi, Miscellaneous
136. City of Lodi, Safety - Fire
137. City of Lodi, Safety - Police
138. City of Lompoc, Miscellaneous
139. City of Los Altos, Miscellaneous
140. City of Los Altos, Safety - Police
141. City of Lynwood, Safety - Fire
142. City of Manhattan Beach, Miscellaneous
143. City of Marysville, Miscellaneous
144. City of Menlo Park, Safety - Police
145. City of Mill Valley, Miscellaneous
146. City of Milpitas, Miscellaneous
147. City of Milpitas, Safety - Fire
148. City of Mission Viejo, Miscellaneous
149. City of Modesto, Miscellaneous
150. City of Montclair, Safety - Police
151. City of Montebello, Safety - Fire
152. City of Montebello, Safety - Police
153. City of Mountain View, Miscellaneous
154. City of National City, Miscellaneous
155. City of National City, Safety - Fire
156. City of National City, Safety - Police
157. City of Norwalk, Miscellaneous
158. City of Oakdale, Miscellaneous
159. City of Oakdale, Safety - Police
160. City of Oakland, Safety - Fire
161. City of Oceanside, Miscellaneous
162. City of Oceanside, Safety - Fire
163. City of Oceanside, Safety - Police
164. City of Oxnard, Safety - Police
165. City of Palmdale, Miscellaneous
166. City of Palos Verdes Estates, Miscellaneous
167. City of Patterson, Miscellaneous
168. City of Petaluma, Miscellaneous
169. City of Pinole, Miscellaneous
170. City of Pinole, Safety - Fire
171. City of Pinole, Safety - Police
172. City of Pleasant Hill, Miscellaneous
173. City of Pleasant Hill, Safety - Police
174. City of Pleasanton, Miscellaneous
175. City of Redwood City, Miscellaneous
176. City of Riverside, Miscellaneous
177. City of Riverside, Safety - Fire
178. City of Riverside, Safety - Police
179. City of Rohnert Park, Miscellaneous
180. City of Rohnert Park, Safety - Fire
181. City of Rohnert Park, Safety - Police
182. City of Roseville, Miscellaneous
183. City of Roseville, Safety - Fire
184. City of San Carlos, Safety - Police
185. City of San Dimas, Miscellaneous
186. City of San Joaquin, Miscellaneous
187. City of San Jose, Miscellaneous
188. City of San Luis Obispo, Safety - Fire
189. City of San Marino, Safety - Police
190. City of San Pablo, Miscellaneous
191. City of San Pablo, Safety - Police
192. City of Santa Cruz, Miscellaneous
193. City of Santa Cruz, Safety - Fire
194. City of Santa Cruz, Safety - Police
195. City of Santa Paula, Miscellaneous
196. City of Santa Paula, Safety - Police
197. City of Santee, Miscellaneous
198. City of Saratoga, Miscellaneous
199. City of Seal Beach, Miscellaneous
200. City of Seal Beach, Safety - Other Safety
201. City of Seal Beach, Safety - Police
202. City of Sebastopol, Miscellaneous
203. City of Sebastopol, Safety - Fire
204. City of Sebastopol, Safety - Police
205. City of Sonoma, Miscellaneous
206. City of Sonoma, Safety - Fire
207. City of South San Francisco, Safety - Fire
208. City of South San Francisco, Safety - Police
209. City of Suisun City, Miscellaneous
210. City of Suisun, Safety - Fire
211. City of Sunnyvale, Miscellaneous

Appendix E – List of Contracting Agencies

Level 3 (continued)

212. City of Sunnyvale, Safety - Police
213. City of Turlock, Miscellaneous
214. City of Tustin, Miscellaneous
215. City of Twentynine Palms, Miscellaneous
216. City of Ukiah, Miscellaneous
217. City of Ukiah, Safety - Fire
218. City of Union City, Miscellaneous
219. City of Upland, Miscellaneous
220. City of Upland, Safety - Fire
221. City of Upland, Safety - Police
222. City of Ventura, Safety - Fire
223. City of Vernon, Miscellaneous
224. City of Vernon, Safety - Prosecutor
225. City of Victorville, Safety - Police
226. City of West Sacramento, Miscellaneous
227. City of West Sacramento, Safety - Police
228. City of Whittier, Miscellaneous
229. City of Whittier, Safety - Police
230. City of Woodlake, Miscellaneous
231. City of Woodlake, Safety - Police
232. City of Yucaipa, Miscellaneous
233. Coachella Valley Association of Governments, Miscellaneous
234. Coast Life Support District, Miscellaneous
235. Coast Life Support District, Safety - Fire
236. Coastal Developmental Services Fdn DBA Westside Regional Center, Miscellaneous
237. Compton Unified School District, Safety - Police
238. Contra Costa County Schools Insurance Group, Miscellaneous
239. Cooperative Personnel Services, Miscellaneous
240. Cottonwood Fire Protection District, Safety - Fire
241. County of Amador, Safety - County Peace Officer
242. County of Amador, Safety - Fire
243. County of Amador, Safety - Prosecutor
244. County of El Dorado, Miscellaneous
245. County of Inyo, Safety - County Peace Officer
246. County of Lassen, Safety - County Peace Officer
247. County of Plumas, Miscellaneous
248. County of Santa Cruz, Safety - County Peace Officer
249. County of Santa Cruz, Safety - Sheriff
250. County of Yuba, Miscellaneous
251. County of Yuba, Safety - County Peace Officer
252. Crestline Lake Arrowhead Water Agency, Miscellaneous
253. Dairy Council of California, Miscellaneous
254. Del Norte County Library District, Miscellaneous
255. Dougherty Regional Fire Authority, Miscellaneous
256. Dougherty Regional Fire Authority, Safety - Fire
257. El Dorado County Fire Protection District, Miscellaneous
258. El Dorado County Fire Protection District, Safety - Fire
259. El Dorado County Transit Authority, Miscellaneous
260. El Dorado Hills County Water District, Miscellaneous
261. Encina Wastewater Authority, Miscellaneous
262. Encinitas Fire Protection District, Miscellaneous
263. Encinitas Fire Protection District, Safety - Fire
264. Feather River Air Quality Management District, Miscellaneous
265. Fontana Unified School District, Safety - Police
266. Fort Ord Reuse Authority, Miscellaneous
267. Georgetown Fire Protection District, Miscellaneous
268. Georgetown Fire Protection District, Safety - Fire
269. Greater Anaheim Special Education Local Plan Area, Miscellaneous
270. Greater Vallejo Recreation District, Miscellaneous
271. Green Valley County Water District, Miscellaneous
272. Grossmont Healthcare District, Miscellaneous
273. Gualala Community Services District, Miscellaneous
274. Henry Miller Reclamation District No. 2131, Miscellaneous
275. Higgins Area Fire Protection District, Miscellaneous
276. Higgins Area Fire Protection District, Safety - Fire
277. Hilton Creek Community Services District, Miscellaneous
278. Housing Authority of the City of Madera, Miscellaneous
279. Human Rights/Fair Housing Commission of the City and County of Sacramento, Miscellaneous
280. Humboldt Bay Harbor Recreation and Conservation District, Miscellaneous
281. Humboldt No. 1 Fire Protection District of Humboldt County, Safety - Fire
282. Independent Cities Association, Inc., Miscellaneous
283. Indian Wells Valley Water District, Miscellaneous
284. Inland Counties Regional Center, Inc., Miscellaneous
285. Inland Empire Health Plan, Miscellaneous
286. Isla Vista Recreation and Park District, Miscellaneous
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
292. Leucadia Wastewater District, Miscellaneous
293. Los Angeles County Area 'E' Civil Defense and Disaster Board, Miscellaneous
294. Los Angeles County Sanitation District No. 2, Miscellaneous
295. Los Angeles County West Vector Control District, Miscellaneous
296. Los Angeles Regionalized Insurance Services Authority, Miscellaneous
297. Los Gatos-Saratoga Department of Community Education and Recreation, Miscellaneous
298. Los Osos Community Services District, Miscellaneous
299. Los Osos Community Services District, Safety - Fire
300. Majestic Pines Community Services District, Miscellaneous
301. Management of Emeryville Services Authority, Miscellaneous
302. Meeks Bay Fire Protection District, Miscellaneous
303. Mendocino Transit Authority, Miscellaneous
304. Metropolitan Transportation Commission, Miscellaneous

Appendix E – List of Contracting Agencies

Level 3 (continued)

305. Mid City Development Corporation, Miscellaneous
306. Minter Field Airport District, Miscellaneous
307. Mojave Air and Space Port, Safety - Fire
308. Mojave Water Agency, Miscellaneous
309. Montecito Fire Protection District, Miscellaneous
310. Montecito Fire Protection District, Safety - Fire
311. Monterey County Regional Fire Protection District, Miscellaneous
312. Monterey County Regional Fire Protection District, Safety - Fire
313. Monterey One Water, Miscellaneous
314. Monterey Regional Waste Management District, Miscellaneous
315. Mountains Recreation and Conservation Authority, Miscellaneous
316. Murrieta Fire Protection District, Miscellaneous
317. Nevada Irrigation District, Miscellaneous
318. North Bay Schools Insurance Authority, Miscellaneous
319. North County Fire Protection District of Monterey County, Safety - Fire
320. North Tahoe Fire Protection District, Miscellaneous
321. North Tahoe Fire Protection District, Safety - Fire
322. Northern Sierra Air Quality Management District, Miscellaneous
323. Novato Sanitary District, Miscellaneous
324. Oakdale Rural Fire Protection District, Miscellaneous
325. Oakdale Rural Fire Protection District, Safety - Fire
326. Oakland Unified School District, Safety - Police
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 Agency Risk Sharing Authority of California, Miscellaneous
341. Public Entity Risk Management Authority, Miscellaneous
342. Public Transportation Services Corporation, Miscellaneous
343. Quincy Community Services District, Miscellaneous
344. Rancho Murieta Community Services District, Miscellaneous
345. Redwood Empire School Insurance Group, Miscellaneous
346. Rescue Fire Protection District, Miscellaneous
347. Rincon Del Diablo Municipal Water District, Safety - Fire
348. Riverbank City Housing Authority, Miscellaneous
349. Riverside County Department of Waste Resources, Miscellaneous
350. Riverside County Transportation Commission, Miscellaneous
351. Roseville Public Cemetery District, Miscellaneous
352. Ross Valley Fire Department, Safety - Fire
353. Rural County Representatives of California, Miscellaneous
354. Russian River Fire Protection District, Miscellaneous
355. Russian River Fire Protection District, Safety - Fire
356. Sacramento Area Council of Governments, Miscellaneous
357. Sacramento Metropolitan Air Quality Management District, Miscellaneous
358. Sacramento Public Library Authority, Miscellaneous
359. Sacramento Regional Fire/EMS Communications Center, Miscellaneous
360. Sacramento Transportation Authority, Miscellaneous
361. Sacramento-Yolo Mosquito and Vector Control District, Miscellaneous
362. Salida Fire Protection District, Miscellaneous
363. Salida Fire Protection District, Safety - Fire
364. Samoa Peninsula Fire Protection District, Safety - Fire
365. San Andreas Regional Center, Inc., Miscellaneous
366. San Diego County Law Library, Miscellaneous
367. San Diego Rural Fire Protection District, Miscellaneous
368. San Diego Rural Fire Protection District, Safety - Fire
369. San Dieguito Water District, Miscellaneous
370. San Francisco Health Authority, Miscellaneous
371. San Joaquin Delta Community College District, Safety - Police
372. San Luis Obispo Regional Transit Authority, Miscellaneous
373. San Mateo County Harbor District, Miscellaneous
374. San Mateo County In-Home Supportive Services Public Authority, Miscellaneous
375. Santa Barbara Regional Health Authority, Miscellaneous
376. Santa Clara County Central Fire Protection District, Miscellaneous
377. Santa Clara County Central Fire Protection District, Safety - Fire
378. Santa Clara County Health Authority, Miscellaneous
379. Santa Clarita Valley School Food Services Agency, Miscellaneous
380. Santa Cruz Metropolitan Transit District, Miscellaneous
381. Santa Cruz Regional 9-1-1, Miscellaneous
382. Santa Fe Irrigation District, Miscellaneous
383. Santa Maria Public Airport District, Miscellaneous
384. School Risk And Insurance Management Group, Miscellaneous
385. Schools Excess Liability Fund, Miscellaneous
386. Scotts Valley Water District, Miscellaneous
387. Sewer Authority Mid-Coastside, Miscellaneous
388. Shasta Lake Fire Protection District, Safety - Fire

Appendix E – List of Contracting Agencies

Level 3 (continued)

389. Solano Cemetery District, Miscellaneous
390. Solano County Water Agency, Miscellaneous
391. Solano Transportation Authority, Miscellaneous
392. Southern California Regional Rail Authority, Miscellaneous
393. Stockton Unified School District, Safety - Police
394. Sunnyslope County Water District, Miscellaneous
395. Sweetwater Springs Water District, Miscellaneous
396. Tahoe-Truckee Sanitation Agency, Miscellaneous
397. Tehama County Mosquito Abatement District, Miscellaneous
398. Town of Atherton, Miscellaneous
399. Town of Atherton, Safety - Police
400. Town of Fairfax, Miscellaneous
401. Town of Fairfax, Safety - Police
402. Town of Loomis, Miscellaneous
403. Town of Truckee, Miscellaneous
404. Town of Yucca Valley, Miscellaneous
405. Transportation Agency for Monterey County, Miscellaneous
406. Tri-City Mental Health Center, Miscellaneous
407. Tri-Counties Association for the Developmentally Disabled, Miscellaneous
408. Tuolumne Utilities District, Miscellaneous
409. Valley Mountain Regional Center, Inc., Miscellaneous
410. Valley-Wide Recreation and Park District, Miscellaneous
411. Ventura County Schools Business Services Authority, Miscellaneous
412. Victor Valley Wastewater Reclamation Authority, Miscellaneous
413. Water Facilities Authority, Miscellaneous
414. Weaverville Community Services District, Miscellaneous
415. West Almanor Community Services District, Safety - Fire
416. West Cities Communication Center, Miscellaneous
417. West End Communications Authority, Miscellaneous
418. West Valley-Mission Community College District, Safety - Police
419. Westlands Water District, Miscellaneous
420. Yolo County Public Agency Risk Management Insurance Authority, Miscellaneous
421. Yolo County Transportation District, Miscellaneous
422. Yuba County Water Agency, Miscellaneous
423. 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

Appendix E – List of Contracting Agencies

Level 4 (continued)

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

Appendix E – List of Contracting Agencies

Level 4 (continued)

147. City of El Centro, Safety - Fire
148. City of El Centro, Safety - Police
149. City of El Cerrito, Safety - Fire
150. City of El Cerrito, Safety - Police
151. City of El Monte, Miscellaneous
152. City of El Monte, Safety - Fire
153. City of El Monte, Safety - Police
154. City of El Segundo, Safety - Fire
155. City of El Segundo, Safety - Police
156. City of Elk Grove, Miscellaneous
157. City of Elk Grove, Safety - Police
158. City of Escondido, Miscellaneous
159. City of Escondido, Safety - Fire
160. City of Escondido, Safety - Police
161. City of Exeter, Miscellaneous
162. City of Fairfield, Miscellaneous
163. City of Fairfield, Safety - Fire
164. City of Fairfield, Safety - Police
165. City of Fontana, Miscellaneous
166. City of Fontana, Safety - Police
167. City of Foster City, Miscellaneous
168. City of Foster City, Safety - Fire
169. City of Foster City, Safety - Police
170. City of Fountain Valley, Miscellaneous
171. City of Fremont, Miscellaneous
172. City of Fremont, Safety - Fire
173. City of Fremont, Safety - Police
174. City of Fullerton, Miscellaneous
175. City of Fullerton, Safety - Fire
176. City of Fullerton, Safety - Police
177. City of Gilroy, Safety - Fire
178. City of Gilroy, Safety - Police
179. City of Glendale, Miscellaneous
180. City of Glendale, Safety - Fire
181. City of Glendale, Safety - Police
182. City of Glendora, Safety - Police
183. City of Goleta, Miscellaneous
184. City of Grand Terrace, Miscellaneous
185. City of Half Moon Bay, Safety - Police
186. City of Hanford, Safety - Police
187. City of Hayward, Miscellaneous
188. City of Healdsburg, Miscellaneous
189. City of Healdsburg, Safety - Fire
190. City of Healdsburg, Safety - Police
191. City of Hemet, Miscellaneous
192. City of Hesperia, Miscellaneous
193. City of Hollister, Miscellaneous
194. City of Hollister, Safety - Fire
195. City of Hollister, Safety - Police
196. City of Hughson, Miscellaneous
197. City of Huntington Beach, Miscellaneous
198. City of Huntington Beach, Safety - Fire
199. City of Huntington Beach, Safety - Other Safety
200. City of Huntington Beach, Safety - Police
201. City of Huntington Park, Miscellaneous
202. City of Huntington Park, Safety - Fire
203. City of Huntington Park, Safety - Police
204. City of Industry, Miscellaneous
205. City of Irvine, Miscellaneous
206. City of Irvine, Safety - Police
207. City of Irwindale, Miscellaneous
208. City of Irwindale, Safety - Fire
209. City of Irwindale, Safety - Police
210. City of La Canada Flintridge, Miscellaneous
211. City of La Habra, Miscellaneous
212. City of La Habra, Safety - Fire
213. City of La Habra, Safety - Police
214. City of La Mirada, Miscellaneous
215. City of La Palma, Miscellaneous
216. City of La Palma, Safety - Police
217. City of La Verne, Miscellaneous
218. City of La Verne, Safety - Fire
219. City of La Verne, Safety - Police
220. City of Laguna Beach, Miscellaneous
221. City of Laguna Beach, Safety - Fire
222. City of Laguna Beach, Safety - Other Safety
223. City of Laguna Beach, Safety - Police
224. City of Larkspur, Safety - Fire
225. City of Lathrop, Safety - Police
226. City of Lawndale, Miscellaneous
227. City of Lemon Grove, Miscellaneous
228. City of Lemon Grove, Safety - Fire
229. City of Livermore, Miscellaneous
230. City of Livermore, Safety - Police
231. City of Loma Linda, Safety - Fire
232. City of Lomita, Miscellaneous
233. City of Lompoc, Safety - Fire
234. City of Lompoc, Safety - Police
235. City of Long Beach, Safety - Fire
236. City of Long Beach, Safety - Police
237. City of Los Alamitos, Miscellaneous
238. City of Los Alamitos, Safety - Police
239. City of Lynwood, Miscellaneous
240. City of Manhattan Beach, Safety - Fire
241. City of Manteca, Miscellaneous
242. City of Manteca, Safety - Fire
243. City of Manteca, Safety - Police
244. City of Marina, Miscellaneous
245. City of Marina, Safety - Fire
246. City of Marina, Safety - Police
247. City of Martinez, Safety - Police
248. City of Marysville, Safety - Fire

Appendix E – List of Contracting Agencies

Level 4 (continued)

249. City of Marysville, Safety - Police
250. City of Menifee, Miscellaneous
251. City of Menifee, Safety - Police
252. City of Millbrae, Miscellaneous
253. City of Milpitas, Safety - Police
254. City of Monrovia, Miscellaneous
255. City of Monrovia, Safety - Fire
256. City of Monrovia, Safety - Police
257. City of Monterey, Miscellaneous
258. City of Monterey Park, Miscellaneous
259. City of Monterey Park, Safety - Fire
260. City of Monterey Park, Safety - Police
261. City of Moorpark, Miscellaneous
262. City of Moreno Valley, Miscellaneous
263. City of Morgan Hill, Miscellaneous
264. City of Morgan Hill, Safety - Police
265. City of Morro Bay, Miscellaneous
266. City of Morro Bay, Safety - Fire
267. City of Morro Bay, Safety - Police
268. City of Mountain View, Safety - Fire
269. City of Mountain View, Safety - Police
270. City of Murrieta, Miscellaneous
271. City of Murrieta, Safety - Police
272. City of Napa, Safety - Police
273. City of Newport Beach, Miscellaneous
274. City of Newport Beach, Safety - Fire
275. City of Newport Beach, Safety - Other Safety
276. City of Newport Beach, Safety - Police
277. City of Norco, Miscellaneous
278. City of Norco, Safety - Fire
279. City of Novato, Miscellaneous
280. City of Novato, Safety - Police
281. City of Oakdale, Safety - Fire
282. City of Oakley, Miscellaneous
283. City of Oakley, Safety - Police
284. City of Ontario, Safety - Fire
285. City of Ontario, Safety - Police
286. City of Orange, Miscellaneous
287. City of Orange, Safety - Fire
288. City of Orange, Safety - Police
289. City of Oroville, Miscellaneous
290. City of Oroville, Safety - Fire
291. City of Oroville, Safety - Police
292. City of Oxnard, Miscellaneous
293. City of Oxnard, Safety - Fire
294. City of Pacific Grove, Miscellaneous
295. City of Pacific Grove, Safety - Fire
296. City of Pacific Grove, Safety - Police
297. City of Pacifica, Miscellaneous
298. City of Pacifica, Safety - Fire
299. City of Pacifica, Safety - Police
300. City of Palm Springs, Miscellaneous
301. City of Palm Springs, Safety - Fire
302. City of Palm Springs, Safety - Police
303. City of Paramount, Miscellaneous
304. City of Pasadena, Miscellaneous
305. City of Pasadena, Safety - Fire
306. City of Pasadena, Safety - Police
307. City of Petaluma, Safety - Fire
308. City of Petaluma, Safety - Police
309. City of Pico Rivera, Miscellaneous
310. City of Piedmont, Safety - Fire
311. City of Pittsburg, Safety - Police
312. City of Placentia, Miscellaneous
313. City of Placentia, Safety - Police
314. City of Pleasanton, Safety - Fire
315. City of Porterville, Miscellaneous
316. City of Porterville, Safety - Fire
317. City of Porterville, Safety - Police
318. City of Rancho Cucamonga, Miscellaneous
319. City of Rancho Mirage, Miscellaneous
320. City of Rancho Palos Verdes, Miscellaneous
321. City of Redding, Safety - Fire
322. City of Redding, Safety - Police
323. City of Redondo Beach, Safety - Fire
324. City of Redondo Beach, Safety - Police
325. City of Redwood City, Safety - Fire
326. City of Redwood City, Safety - Police
327. City of Rialto, Miscellaneous
328. City of Rialto, Safety - Fire
329. City of Rocklin, Miscellaneous
330. City of Rocklin, Safety - Fire
331. City of Rocklin, Safety - Police
332. City of Roseville, Safety - Police
333. City of San Bernardino, Miscellaneous
334. City of San Bernardino, Safety - Fire
335. City of San Bruno, Miscellaneous
336. City of San Bruno, Safety - Fire
337. City of San Bruno, Safety - Police
338. City of San Clemente, Miscellaneous
339. City of San Fernando, Miscellaneous
340. City of San Fernando, Safety - Police
341. City of San Gabriel, Miscellaneous
342. City of San Gabriel, Safety - Fire
343. City of San Gabriel, Safety - Police
344. City of San Jacinto, Miscellaneous
345. City of San Jacinto, Safety - Fire
346. City of San Jacinto, Safety - Police
347. City of San Leandro, Safety - Police
348. City of San Luis Obispo, Miscellaneous
349. City of San Luis Obispo, Safety – Police
350. City of San Marino, Miscellaneous

Appendix E – List of Contracting Agencies

Level 4 (continued)

351. City of San Marino, Safety - Fire
352. City of San Mateo, Safety - Fire
353. City of San Mateo, Safety - Police
354. City of San Ramon, Miscellaneous
355. City of San Ramon, Safety - Police
356. City of Sand City, Miscellaneous
357. City of Sand City, Safety - Police
358. City of Santa Ana, Miscellaneous
359. City of Santa Ana, Safety - Fire
360. City of Santa Ana, Safety - Police
361. City of Santa Barbara, Miscellaneous
362. City of Santa Clara, Safety - Fire
363. City of Santa Clara, Safety - Police
364. City of Santa Fe Springs, Miscellaneous
365. City of Santa Fe Springs, Safety - Fire
366. City of Santa Maria, Miscellaneous
367. City of Santa Maria, Safety - Fire
368. City of Santa Maria, Safety - Police
369. City of Santa Monica, Miscellaneous
370. City of Santa Monica, Safety - Fire
371. City of Santa Monica, Safety - Police
372. City of Santa Rosa, Miscellaneous
373. City of Santa Rosa, Safety - Fire
374. City of Santa Rosa, Safety - Police
375. City of Sausalito, Safety - Fire
376. City of Sausalito, Safety - Police
377. City of Seaside, Miscellaneous
378. City of Seaside, Safety - Fire
379. City of Seaside, Safety - Police
380. City of Sierra Madre, Miscellaneous
381. City of Sierra Madre, Safety - Fire
382. City of Signal Hill, Safety - Fire
383. City of Signal Hill, Safety - Police
384. City of Simi Valley, Miscellaneous
385. City of Simi Valley, Safety - Police
386. City of Sonoma, Safety - Police
387. City of South Gate, Miscellaneous
388. City of Stockton, Miscellaneous
389. City of Stockton, Safety - Fire
390. City of Stockton, Safety - Police
391. City of Suisun City, Safety - Police
392. City of Temecula, Miscellaneous
393. City of Temple City, Miscellaneous
394. City of Thousand Oaks, Miscellaneous
395. City of Torrance, Safety - Fire
396. City of Torrance, Safety - Police
397. City of Tracy, Safety - Fire
398. City of Tracy, Safety - Police
399. City of Tulare, Miscellaneous
400. City of Tulare, Safety - Fire
401. City of Tulare, Safety - Police
402. City of Turlock, Safety - Fire
403. City of Turlock, Safety - Police
404. City of Tustin, Safety - Police
405. City of Ukiah, Safety - Police
406. City of Vacaville, Miscellaneous
407. City of Vacaville, Safety - Fire
408. City of Vacaville, Safety - Police
409. City of Vallejo, Safety - Fire
410. City of Vallejo, Safety - Police
411. City of Ventura, Miscellaneous
412. City of Ventura, 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

Appendix E – List of Contracting Agencies

Level 4 (continued)

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. Fairfield-Suisun Sewer District, Miscellaneous
486. Far Northern Coordinating Council on Developmental Disabilities, Miscellaneous
487. Florin Resource Conservation District Elk Grove Water District, Miscellaneous
488. Foothill-De Anza Community College District, Safety - Police
489. Georgetown Divide Resource Conservation District, Miscellaneous
490. Glen Ellen Fire Protection District, Safety - Fire
491. Glendale Community College District, Safety - Police
492. Gold Coast Transit, Miscellaneous
493. Gold Ridge Fire Protection District, Miscellaneous
494. Graton Community Services District, Miscellaneous
495. Graton Fire Protection District, Safety - Fire
496. Hacienda La Puente Unified School District, Safety - Police
497. Hamilton Branch Fire Protection District, Safety - Fire
498. Health Plan of San Joaquin, Miscellaneous
499. Heartland Communications Facility Authority, Miscellaneous
500. Helendale Community Services District, Miscellaneous
501. Heritage Ranch Community Services District, Miscellaneous
502. Herlong Public Utility District, Miscellaneous
503. Hesperia Fire Protection District, Miscellaneous
504. Hesperia Fire Protection District, Safety - Fire
505. Hesperia Water District, Miscellaneous
506. Hidden Valley Lake Community Services District, Miscellaneous
507. Hopland Public Utility District, Miscellaneous
508. Housing Authority of the City of Alameda, Miscellaneous
509. Housing Authority of the City of San Buenaventura, Miscellaneous
510. Hub Cities Consortium, Miscellaneous
511. Humboldt Bay Fire Joint Powers Authority, Miscellaneous
512. Humboldt Bay Fire Joint Powers Authority, Safety - Fire
513. Humboldt Transit Authority, Miscellaneous
514. Humboldt Waste Management Authority, Miscellaneous
515. Idyllwild Fire Protection District, Safety - Fire
516. Intelcom Intelligent Telecommunications, Miscellaneous
517. Intergovernmental Training and Development Center, Miscellaneous
518. Ironhouse Sanitary District, Miscellaneous
519. Irvine Ranch Water District, Miscellaneous
520. Kaweah Delta Water Conservation District, Miscellaneous
521. Kensington Community Services District, Safety - Police
522. Kentfield Fire Protection District, Miscellaneous
523. Kentfield Fire Protection District, Safety - Fire
524. Kern-Tulare Water District, Miscellaneous
525. Kings County Area Public Transit Agency, Miscellaneous
526. Kings County Association of Governments, Miscellaneous
527. Kings County In-Home Supportive Services Public Authority, Miscellaneous
528. Lake County Fire Protection District, Miscellaneous
529. Lake County Fire Protection District, Safety - Fire
530. Lake Shastina Community Services District, Miscellaneous
531. Lake Shastina Community Services District, Safety - Fire
532. Lake Shastina Community Services District, Safety - Police
533. Lake Valley Fire Protection District, Miscellaneous
534. Lake Valley Fire Protection District, Safety - Fire
535. Lakeport County Fire Protection District, Miscellaneous
536. Lakeport County Fire Protection District, Safety - Fire
537. Lakeside Fire Protection District, Safety - Fire
538. Lassen County Waterworks District No. 1, Miscellaneous
539. Linda Fire Protection District, Miscellaneous
540. Linda Fire Protection District, Safety - Fire
541. Livermore/Amador Valley Transit Authority, Miscellaneous
542. Local Agency Formation Commission of Monterey County, Miscellaneous
543. Local Agency Formation Commission of Solano County, Miscellaneous

Appendix E – List of Contracting Agencies

Level 4 (continued)

544. Local Government Services Authority, a Joint Powers Authority, Miscellaneous
545. Los Angeles County Development Authority, Miscellaneous
546. Los Angeles Unified School District, Safety - Police
547. Mammoth Lakes Fire District, Safety - Fire
548. Mammoth Lakes Mosquito Abatement District, Miscellaneous
549. March Joint Powers Authority, Miscellaneous
550. Marin Community College District, Safety - Police
551. Mendocino County Russian River Flood Control & Water Conservation Improvement Dt, Miscellaneous
552. Metropolitan Water District of Southern California, Miscellaneous
553. Midway Heights County Water District, Miscellaneous
554. Monterey Bay Unified Air Pollution Control District, Miscellaneous
555. Monterey Peninsula Regional Park District, Miscellaneous
556. Monterey Peninsula Water Management District, Miscellaneous
557. Municipal Pooling Authority, Miscellaneous
558. Municipal Water District of Orange County, Miscellaneous
559. Murrieta Fire Protection District, Safety - Fire
560. Murrieta Valley Cemetery District, Miscellaneous
561. Napa County Mosquito Abatement District, Miscellaneous
562. Napa County Resource Conservation District, Miscellaneous
563. Napa Sanitation District, Miscellaneous
564. Napa Valley Transportation Authority, Miscellaneous
565. Nevada County Consolidated Fire District, Miscellaneous
566. Nevada County Consolidated Fire District, Safety - Fire
567. Nevada-Sierra Connecting Point Public Authority, Miscellaneous
568. Nipomo Community Services District, Miscellaneous
569. North Bay Regional Center, Miscellaneous
570. North Coast Railroad Authority, Miscellaneous
571. North County Dispatch Joint Powers Authority, Miscellaneous
572. North County Fire Protection District of San Diego County, Miscellaneous
573. North County Fire Protection District of San Diego County, Safety - Fire
574. Northshore Fire Protection District, Miscellaneous
575. Northshore Fire Protection District, Safety - Fire
576. Orange County Vector Control District, Miscellaneous
577. Pasadena Unified School District, Safety - Police
578. Pebble Beach Community Services District, Miscellaneous
579. Peninsula Traffic Congestion Relief Alliance, Miscellaneous
580. Penn Valley Fire Protection District, Safety - Fire
581. Phelan Pinon Hills Community Services District, Miscellaneous
582. Pixley Irrigation District, Miscellaneous
583. Placer Mosquito and Vector Control District, Miscellaneous
584. Plumas Eureka Community Services District, Miscellaneous
585. Point Montara Fire Protection District, Safety - Fire
586. Rancho Cucamonga Fire Protection District, Miscellaneous
587. Rancho Cucamonga Fire Protection District, Safety - Fire
588. Rancho Santa Fe Fire Protection District, Miscellaneous
589. Rancho Santa Fe Fire Protection District, Safety - Fire
590. Redwood Empire Municipal Insurance Fund, Miscellaneous
591. Regional Center of Orange County, Miscellaneous
592. Rescue Fire Protection District, Safety - Fire
593. Rincon Del Diablo Municipal Water District, Miscellaneous
594. Rincon Valley Fire Protection District, Miscellaneous
595. Rincon Valley Fire Protection District, Safety - Fire
596. Rose Bowl Operating Company, Miscellaneous
597. Rosedale-Rio Bravo Water Storage District, Miscellaneous
598. Sacramento Groundwater Authority, Miscellaneous
599. Sacramento Metropolitan Fire District, Miscellaneous
600. Sacramento Metropolitan Fire District, Safety - Fire
601. Sacramento Suburban Water District, Miscellaneous
602. Salinas Valley Solid Waste Authority, Miscellaneous
603. San Bernardino City Unified School District, Safety - Police
604. San Diego Association of Governments, Miscellaneous
605. San Diego Community College District, Safety - Police
606. San Diego Pooled Insurance Program Authority, Miscellaneous
607. San Diego Unified School District, Safety - Police
608. San Francisco Bay Area Rapid Transit District, Safety - Police
609. San Francisco Bay Area Water Emergency Transportation Authority, Miscellaneous
610. San Gabriel Valley Council of Governments, Miscellaneous
611. San Joaquin County IHSS Public Authority, Miscellaneous
612. San Luis Obispo Council of Governments, Miscellaneous
613. San Mateo Consolidated Fire Department, Miscellaneous
614. San Mateo Consolidated Fire Department, Safety - Fire
615. San Miguel Community Services District, Miscellaneous
616. San Miguel Consolidated Fire Protection District, Miscellaneous
617. San Miguel Consolidated Fire Protection District, Safety - Fire
618. San Simeon Community Services District, Miscellaneous
619. Santa Ana Unified School District, Safety - Police
620. Santa Clara Valley Water District, Miscellaneous
621. Santa Clarita Valley Water Agency, Miscellaneous
622. Santa Cruz County Regional Transportation Commission, Miscellaneous
623. Santa Margarita Water District, Miscellaneous
624. Schell Vista Fire Protection District, Safety - Fire
625. Selma-Kingsburg-Fowler County Sanitation District, Miscellaneous
626. Shasta Lake Fire Protection District, Miscellaneous
627. Shasta Regional Transportation Agency, Miscellaneous
628. Sierra-Sacramento Valley Emergency Medical Services Agency, Miscellaneous
629. Silicon Valley Animal Control Authority, Miscellaneous
630. Silicon Valley Clean Water, Miscellaneous
631. Sonoma County Fire District, Miscellaneous

Appendix E – List of Contracting Agencies

Level 4 (continued)

632. Sonoma County Fire District, Safety - Fire
633. Sonoma Marin Area Rail Transit District, Safety - Other Safety
634. Soquel Creek Water District, Miscellaneous
635. South Central Los Angeles Regional Center for Developmentally Disabled Persons, Miscellaneous
636. South Coast Water District, Miscellaneous
637. South County Support Services Agency, Miscellaneous
638. South Orange County Wastewater Authority, Miscellaneous
639. South Placer Fire District, Miscellaneous
640. South Placer Fire District, Safety – Fire
641. South San Joaquin County Fire Authority, Miscellaneous
642. South San Joaquin County Fire Authority, Safety - Fire
643. Southeast Area Social Services Funding Authority, Miscellaneous
644. Stanislaus Consolidated Fire Protection District, Miscellaneous
645. Stanislaus Consolidated Fire Protection District, Safety - Fire
646. State Center Community College District, Safety - Police
647. Stinson Beach County Water District, Miscellaneous
648. Stockton East Water District, Miscellaneous
649. Student Union, San Bernardino, California State University, Miscellaneous
650. Successor Agency to the Redevelopment Agency of the City of San Bernardino, Miscellaneous
651. Summit Cemetery District, Miscellaneous
652. Susanville Sanitary District, Miscellaneous
653. Temescal Valley Water District, Miscellaneous
654. Three Rivers Community Services District, Miscellaneous
655. Three Valleys Municipal Water District, Miscellaneous
656. Tiburon Fire Protection District, Miscellaneous
657. Tiburon Fire Protection District, Safety - Fire
658. Town of Corte Madera, Miscellaneous
659. Town of Corte Madera, Safety - Fire
660. Town of Hillsborough, Safety - Police
661. Town of Los Altos Hills, Miscellaneous
662. Town of Los Gatos, Miscellaneous
663. Town of Los Gatos, Safety - Police
664. Town of Mammoth Lakes, Miscellaneous
665. Town of Mammoth Lakes, Safety - Police
666. Town of Moraga, Miscellaneous
667. Town of Moraga, Safety - Police
668. Town of Paradise, Miscellaneous
669. Town of Paradise, Safety - Fire
670. Town of Paradise, Safety - Police
671. Town of Tiburon, Miscellaneous
672. Town of Windsor, Miscellaneous
673. Transbay Joint Powers Authority, Miscellaneous
674. Transportation Authority of Marin, Miscellaneous
675. Treasure Island Development Authority, Miscellaneous
676. Trindel Insurance Fund, Miscellaneous
677. Truckee Fire Protection District, Miscellaneous
678. Truckee Fire Protection District, Safety - Fire
679. Truckee Tahoe Airport District, Miscellaneous
680. Tuolumne Fire District, Safety - Fire
681. Twain Harte Community Services District, Miscellaneous
682. Twain Harte Community Services District, Safety - Fire
683. Twin Rivers Unified School District, Safety - Police
684. Ukiah Valley Fire District, Safety - Fire
685. Union Sanitary District, Miscellaneous
686. Upper San Gabriel Valley Municipal Water District, Miscellaneous
687. Val Verde Unified School District, Safety - Police
688. Valley Center Municipal Water District, Miscellaneous
689. Ventura County Schools Self-Funding Authority, Miscellaneous
690. Ventura Port District, Miscellaneous
691. Ventura Port District, Safety - Police
692. Victor Valley Transit Authority, Miscellaneous
693. Water Employee Services Authority, Miscellaneous
694. West Bay Sanitary District, Miscellaneous
695. West Contra Costa Integrated Waste Management Authority, Miscellaneous
696. West Contra Costa Transportation Advisory Committee, Miscellaneous
697. West County Wastewater District, Miscellaneous
698. West Valley Mosquito and Vector Control District, Miscellaneous
699. Western Contra Costa Transit Authority, Miscellaneous
700. Winton Water and Sanitary District, Miscellaneous
701. Woodbridge Rural County Fire Protection District, Miscellaneous
702. Woodbridge Rural County Fire Protection District, Safety - Fire
703. Woodside Fire Protection District, Safety - Fire
704. Yorba Linda Water District, Miscellaneous
705. Yuima Municipal Water District, Miscellaneous

Indexed Level

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

Appendix E – List of Contracting Agencies

Indexed Level (continued)

12. City of Berkeley, Safety - Fire
13. City of Crescent City, Safety - Fire
14. City of Del Mar, Safety - Fire
15. City of Eastvale, Miscellaneous
16. City of Emeryville, Safety - Fire
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. Plumas Local Agency Formation Commission, Miscellaneous
82. Redwood Coast Regional Center, Miscellaneous
83. Regional Center of the East Bay, Miscellaneous
84. Sacramento Area Flood Control Agency, Miscellaneous
85. San Diego County Office Of Education, Miscellaneous
86. San Elijo Joint Powers Authority, Miscellaneous
87. San Francisquito Creek Joint Powers Authority, Miscellaneous
88. Santa Clara Valley Open Space Authority, Miscellaneous
89. Santa Monica Community College District, Safety - Police
90. Schools Insurance Authority, Miscellaneous
91. Scotts Valley Fire Protection District, Miscellaneous
92. Scotts Valley Fire Protection District, Safety - Fire
93. Shasta Local Agency Formation Commission, Miscellaneous
94. Sonoma County Junior College District, Safety - Police
95. Sonoma Marin Area Rail Transit District, Miscellaneous
96. State and Federal Contractors Water Agency, Miscellaneous
97. Stege Sanitary District, Miscellaneous
98. Town of Truckee, Safety – Police
99. Utica Water and Power Authority, Miscellaneous
100. Vallejo Flood and Wastewater District, Miscellaneous
101. Williams Fire Protection Authority, Miscellaneous
102. Williams Fire Protection Authority, Safety - Fire
103. Yolo County In-Home Supportive Services Public Authority, Miscellaneous
104. Yuba Community College District, Safety - Police

Appendix F – Glossary of Actuarial Terms

Accrued Liability (*Actuarial Accrued Liability*): The portion of the Present Value of Benefits allocated to prior years. Based on CalPERS funding policies, the accrued liability is the target level of assets on any valuation date.

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

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

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

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

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

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

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

Entry Age Actuarial Cost Method: An actuarial cost method designed to fund a member's total plan benefit evenly over the course of his or her career. This method yields a total normal cost rate, expressed as a percentage of payroll, which is designed to remain level throughout the member's career.

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

Funded Ratio: Defined as the Market Value of Assets divided by the Accrued Liability. It is a measure of how well funded a rate plan is. A ratio greater than 100% means the rate plan has more assets than the target established by CalPERS funding policies on the valuation date, and the employer need only contribute the Normal Cost, and 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 of Actuarial Terms (continued)

Normal Cost: The portion of the Present Value of Benefits allocated to the upcoming fiscal year for active employees. The normal cost plus the required amortization of the UAL, if any, make up the required contributions.

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

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

