

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

- The miscellaneous and PEPR safety service retirement benefit is not capped. The classic Safety service retirement benefit is capped at 90 percent of final compensation.

Vested Deferred Retirement

Eligibility for Deferred Status

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

Eligibility to Start Receiving Benefits

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

Benefit

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

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

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

Standard Benefit

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

- *Service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or
- *Service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33 1/3 percent of final compensation.

Improved Benefit

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

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

Industrial (Job Related) Disability Retirement

All safety members have this benefit. For miscellaneous members, employers have the option of providing this benefit. An employer may choose to provide the increased benefit option or the improved benefit option.

Eligibility

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

Standard Benefit

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

Increased Benefit (75 percent of Final Compensation)

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

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

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

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

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

Post-Retirement Death Benefit

Standard Lump Sum Payment

Upon the death of a retiree, a one-time lump sum payment of \$500 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Improved Lump Sum Payment

Employers have the option of providing an improved lump sum death benefit of \$600, \$2,000, \$3,000, \$4,000 or \$5,000.

Form of Payment for Retirement Allowance

Standard Form of Payment

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

Improved Form of Payment (Post-Retirement Survivor Allowance)

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

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

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

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

Pre-Retirement Death Benefits

Basic Death Benefit

This is a standard benefit.

Eligibility

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

Benefit

The basic death benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year, plus a lump sum in the amount of one month's salary for each completed year of current service, up to a maximum of six months' salary. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

1957 Survivor Benefit

This is a standard benefit.

Eligibility

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

Benefit

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

Optional Settlement 2 Death Benefit

This is an optional benefit.

Eligibility

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

Benefit

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

Special Death Benefit

This is a standard benefit for safety members. An employer may elect to provide this benefit for miscellaneous members.

Eligibility

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

Benefit

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

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

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

Alternate Death Benefit for Local Fire Members

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

Eligibility

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

Benefit

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

Cost-of-Living Adjustments (COLA)

Standard Benefit

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

Improved Benefit

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

Purchasing Power Protection Allowance (PPPA)

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

Employee Contributions

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

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

<u>Benefit Formula</u>	<u>Percent Contributed above the Breakpoint</u>
Miscellaneous, 1.5% at 65	2%
Miscellaneous, 2% at 60	7%
Miscellaneous, 2% at 55	7%
Miscellaneous, 2.5% at 55	8%
Miscellaneous, 2.7% at 55	8%
Miscellaneous, 3% at 60	8%
Miscellaneous, 2% at 62	50% of the Total Normal Cost
Miscellaneous, 1.5% at 65	50% of the Total Normal Cost
Safety, 1/2 at 55	Varies by entry age
Safety, 2% at 55	7%
Safety, 2% at 50	9%
Safety, 3% at 55	9%
Safety, 3% at 50	9%
Safety, 2% at 57	50% of the Total Normal Cost
Safety, 2.5% at 57	50% of the Total Normal Cost
Safety, 2.7% at 57	50% of the Total Normal Cost

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

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

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

Refund of Employee Contributions

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

1959 Survivor Benefit

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

This benefit is not included in the results presented in this valuation. More information on this benefit is available on the CalPERS website at www.calpers.ca.gov.

Appendix C

Participant Data

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

Summary of Valuation Data

	June 30, 2016	June 30, 2017
1. Active Members		
a) Counts	3,731	3,527
b) Average Attained Age	39.41	39.81
c) Average Entry Age to Rate Plan	28.62	28.55
d) Average Years of Service	10.79	11.26
e) Average Annual Covered Pay	\$ 90,809	\$ 93,110
f) Annual Covered Payroll	338,809,025	328,400,573
g) Projected Annual Payroll for Contribution Year	370,225,769	357,547,257
h) Present Value of Future Payroll	3,208,681,648	3,168,939,598
2. Transferred Members		
a) Counts	585	625
b) Average Attained Age	41.63	41.18
c) Average Years of Service	3.06	3.31
d) Average Annual Covered Pay	\$ 84,364	\$ 86,432
3. Terminated Members		
a) Counts	582	625
b) Average Attained Age	41.45	41.69
c) Average Years of Service	3.10	3.25
d) Average Annual Covered Pay	\$ 49,696	\$ 51,591
4. Retired Members and Beneficiaries		
a) Counts	2,391	2,554
b) Average Attained Age	63.05	63.25
c) Average Annual Benefits	\$ 44,830	\$ 47,357
5. Active to Retired Ratio [(1a) / (4a)]	1.56	1.38

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

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

Active Members

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

Distribution of Active Members by Age and Service

Attained Age	Years of Service at Valuation Date						Total
	0-4	5-9	10-14	15-19	20-25	25+	
15-24	85	4	0	0	0	0	89
25-29	360	96	10	0	0	0	466
30-34	239	245	137	1	0	0	622
35-39	92	189	300	89	1	0	671
40-44	36	119	215	216	53	1	640
45-49	22	64	126	151	130	61	554
50-54	19	26	70	56	59	73	303
55-59	8	15	32	35	20	27	137
60-64	0	9	10	7	4	5	35
65 and over	1	1	2	2	0	4	10
All Ages	862	768	902	557	267	171	3,527

Distribution of Average Annual Salaries by Age and Service

Attained Age	Years of Service at Valuation Date						Average
	0-4	5-9	10-14	15-19	20-25	25+	
15-24	\$54,453	\$69,742	\$0	\$0	\$0	\$0	\$55,140
25-29	62,050	75,337	82,517	0	0	0	65,226
30-34	65,353	82,785	93,287	102,929	0	0	78,432
35-39	68,059	87,207	100,406	104,192	140,504	0	92,815
40-44	71,780	90,072	100,495	107,020	124,000	96,912	101,085
45-49	67,461	90,230	106,276	109,423	131,310	138,922	113,207
50-54	86,010	82,522	106,363	101,466	128,451	143,828	115,463
55-59	94,640	91,783	104,196	96,413	119,720	135,772	108,780
60-64	0	121,192	91,697	79,774	114,926	127,628	104,684
65 and over	63,566	58,378	75,756	85,609	0	156,419	107,035
All Ages	\$64,235	\$85,209	\$100,413	\$105,568	\$128,148	\$140,352	\$93,110

Transferred and Terminated Members

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

Attained Age	Years of Service at Valuation Date						Total	Average Salary
	0-4	5-9	10-14	15-19	20-25	25+		
15-24	9	0	0	0	0	0	9	\$63,265
25-29	67	1	0	0	0	0	68	72,355
30-34	86	18	0	0	0	0	104	81,616
35-39	89	20	6	2	0	0	117	81,678
40-44	82	19	2	1	0	0	104	93,766
45-49	81	18	5	5	0	0	109	93,545
50-54	45	13	6	1	2	0	67	96,850
55-59	26	2	3	0	0	0	31	79,832
60-64	10	3	1	0	0	0	14	106,086
65 and over	2	0	0	0	0	0	2	44,577
All Ages	497	94	23	9	2	0	625	86,432

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

Attained Age	Years of Service at Valuation Date						Total	Average Salary
	0-4	5-9	10-14	15-19	20-25	25+		
15-24	5	0	0	0	0	0	5	\$41,217
25-29	51	7	0	0	0	0	58	47,902
30-34	94	23	1	0	0	0	118	52,394
35-39	90	29	6	1	0	0	126	53,536
40-44	70	13	9	1	0	0	93	49,131
45-49	52	21	11	7	2	3	96	63,400
50-54	53	9	5	0	0	0	67	47,330
55-59	28	4	2	0	0	0	34	42,249
60-64	21	1	1	0	0	0	23	37,702
65 and over	4	0	0	1	0	0	5	40,273
All Ages	468	107	35	10	2	3	625	51,591

Retired Members and Beneficiaries

Distribution of Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	0	0	2	6	8
30-34	0	2	9	0	0	2	13
35-39	0	1	19	0	1	2	23
40-44	0	6	24	0	0	2	32
45-49	0	5	46	0	2	1	54
50-54	247	6	72	1	6	11	343
55-59	394	4	76	1	4	15	494
60-64	418	5	107	4	5	21	560
65-69	305	5	86	2	2	30	430
70-74	197	0	65	1	1	35	299
75-79	89	1	41	2	1	20	154
80-84	40	0	17	0	1	27	85
85 and Over	26	0	6	0	0	27	59
All Ages	1716	35	568	11	25	199	2,554

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

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 30	\$0	\$0	\$0	\$0	\$21,395	\$7,735	\$11,150
30-34	0	17,563	31,648	0	0	16,572	27,162
35-39	0	8,441	23,276	0	55,939	23,702	24,088
40-44	0	15,513	32,460	0	0	10,053	27,882
45-49	0	19,410	27,616	0	24,855	14,599	26,513
50-54	68,540	18,488	32,412	7,658	51,888	37,602	58,620
55-59	60,002	17,789	32,421	18,261	58,715	37,680	54,644
60-64	56,120	10,847	28,610	38,499	42,609	29,799	49,226
65-69	53,631	12,267	26,931	34,722	39,582	37,962	46,564
70-74	50,653	0	33,066	11,697	22,391	26,385	43,764
75-79	41,518	23,422	32,661	33,264	26,472	29,723	37,306
80-84	34,377	0	25,334	0	35,438	24,343	29,393
85 and Over	31,203	0	33,314	0	0	22,181	27,289
All Ages	\$56,087	\$15,851	\$30,054	\$29,780	\$42,845	\$28,539	\$47,357

Retired Members and Beneficiaries (continued)

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

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	528	11	90	2	1	88	720
5-9	563	8	75	2	2	50	700
10-14	351	4	69	3	5	27	459
15-19	168	7	92	3	4	13	287
20-24	71	4	85	0	6	11	177
25-29	25	1	55	1	2	6	90
30 and Over	10	0	102	0	5	4	121
All Years	1716	35	568	11	25	199	2,554

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

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 5 Yrs	\$60,452	\$18,473	\$35,986	\$34,401	\$51,742	\$34,051	\$53,441
5-9	59,500	16,223	33,670	49,587	48,565	24,286	53,663
10-14	51,954	9,966	36,406	18,501	31,636	27,777	47,389
15-19	50,913	16,093	32,474	27,923	46,621	28,708	42,847
20-24	39,306	13,136	27,265	0	45,668	16,219	31,713
25-29	38,620	16,734	25,706	20,335	57,462	24,096	29,732
30 and Over	28,285	0	20,348	0	37,733	5,555	21,233
All Years	\$56,087	\$15,851	\$30,054	\$29,780	\$42,845	\$28,539	\$47,357

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

Appendix D

Normal Cost Information by Group

- **Normal Cost by Benefit Group**
- **PEPRA Member Contribution Rates**

Normal Cost by Benefit Group

The table below displays the Total Normal Cost broken out by benefit group for Fiscal Year 2019-20. The Total Normal Cost is the annual cost of service accrual for the fiscal year for active employees and can be viewed as the long-term contribution rate for the benefits contracted. Generally, the normal cost for a benefit group subject to more generous benefit provisions will exceed the normal cost for a group with less generous benefits. However, based on the characteristics of the members (particularly when the number of actives is small), this may not be the case. Future measurements of the Total Normal Cost for each group may differ significantly from the current values due to such factors as: changes in the demographics of the group, changes in economic and demographic assumptions, changes in plan benefits or applicable law.

Rate Plan Identifier	Benefit Group Name	Total Normal Cost FY 2019-20	Number of Actives	Payroll on 6/30/2017
63	County Peace Officer First Tier	30.136%	2,654	272,373,166
25051	Safety County Peace Officers PEPR	24.463%	741	46,610,913
30194	Safety Fire First Tier	27.843%	1	103,791
30195	County Peace Officer Second Tier	26.095%	131	9,312,703

Note that if a Benefit Group above has multiple bargaining units, each of which has separately contracted for different benefits such as Employer Paid Member Contributions, then the Normal Cost split does not reflect those differences. Additionally, if a 2nd Tier Benefit Group amended to the same benefit formula as a 1st Tier Benefit Group their Normal Costs may be dissimilar due to demographic or other population differences. In these situations you should consult with your plan actuary.

PEPRA Member Contribution Rates

The table below shows the determination of the PEPRA Member contribution rates based on 50 percent of the Total Normal Cost for each respective plan on June 30, 2017. Assembly Bill (AB) 340 created PEPRA that implemented new benefit formulas and a final compensation period as well as new contribution requirements for new employees. In accordance with Section Code 7522.30(b), "new members ... shall have an initial contribution rate of at least 50 percent of the normal cost rate." The normal cost for the plan is dependent on the benefit levels, actuarial assumptions and demographics of the plan particularly the entry age into the plan. Should the total normal cost of the plan change by one percent or more from the base total normal cost established for the plan, the new member rate shall be 50 percent of the new normal cost rounded to the nearest quarter percent.

Rate Plan Identifier	Benefit Group Name	Basis for Current Rate		Rates Effective July 1, 2019			
		Total Normal Cost	Member Rate	Total Normal Cost	Change	Change Needed	Member Rate
25051	Safety County Peace Officers PEPRA	22.646%	11.250%	23.731%	1.085%	Yes	11.750%

The PEPRA employee contribution rate determined in the table above may not necessarily be 50 percent of the Total Normal Cost by Group based on the PEPRA Normal Cost calculation methodology. Each non-pooled plan is stable with a sufficiently large demographic representation of active employees. It is preferable to determine normal cost using a large active population ongoing so that this rate remains relatively stable. The total PEPRA normal cost will be calculated using all active members within a non-pooled plan until the number of members covered under the PEPRA formula meets either:

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

Once either of the conditions above is met for a non-pooled plan, the total PEPRA normal cost will be based on the active PEPRA population in the plan.

Accordingly, the total normal cost will be funded equally between employer and employee based on the demographics of the employees of that employer.

Appendix E

Glossary of Actuarial Terms

Glossary of Actuarial Terms

Accrued Liability (*also called Actuarial Accrued Liability or Entry Age Normal Accrued Liability*)

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

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 funding method, setting the length of time to fund the Accrued Liability and determining the Value of Assets.

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 to their plan provisions.

Amortization Bases

Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a Risk Pool or non-pooled plan can be segregated by "cause," creating "bases" and each such base will be separately amortized and paid for over a specific period of time. However, all bases are amortized using investment and payroll assumptions from the current valuation. This can be likened to a home having a first mortgage of 24 years remaining payments and a second mortgage that has 10 years remaining payments. Each base or each mortgage note has its own terms (payment period, principal, etc.)

Generally, in an actuarial valuation, the separate bases consist of changes in unfunded liability due to contract amendments, actuarial assumption changes, actuarial methodology changes, and/or gains and losses. Payment periods are determined by Board policy and vary based on the cause of the change.

Amortization Period

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

Classic Member (under PEPR)

A classic member is a member who joined CalPERS prior to January 1, 2013 and who is not defined as a new member under PEPR. (See definition of new member below)

Discount Rate Assumption

The actuarial assumption that was called "investment return" in earlier CalPERS reports or "actuarial interest rate" in Section 20014 of the California Public Employees' Retirement Law (PERL).

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 Normal Cost Method

An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method is designed to yield a rate expressed as a level percentage of payroll.
(The assumed retirement age less the entry age is the amount of time required to fund a member's total benefit. Generally, the older a member on the date of hire, the greater the entry age normal cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

Fresh Start

A Fresh Start is when multiple amortization bases are collapsed to one base and amortized together over a new funding period.

Funded Status

A measure of how well funded, or how "on track" a plan or risk pool is with respect to assets versus accrued liabilities. A ratio greater than 100 percent means the plan or risk pool has more assets than liabilities and a ratio less than 100 percent means liabilities are greater than assets.

GASB 68

Statement No. 68 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting and financial reporting for pensions. GASB 68 replaces GASB 27 effective the first fiscal year beginning after June 15, 2014.

New Member (under PEPRA)

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

Normal Cost

The annual cost of service accrual for the upcoming fiscal year for active employees. The normal cost should be viewed as the long-term contribution rate.

Pension Actuary

A business professional that is authorized by the Society of Actuaries, and the American Academy of Actuaries to perform the calculations necessary to properly fund a pension plan.

PEPRA

The California Public Employees' Pension Reform Act of 2013

Prepayment Contribution

A payment made by the employer to reduce or eliminate the year's required employer contribution towards the UAL.

Present Value of Benefits (PVB)

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

Unfunded Accrued Liability (UAL)

When a plan or pool's Value of Assets is less than its Accrued Liability, the difference is the plan or pool's Unfunded Accrued Liability (or unfunded liability). If the unfunded liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.

DRAFT
1/9/2019

Proprietary & Confidential



Actuarial Valuation Report

County of Riverside

County of Riverside Postretirement Benefits Plan

As of June 30, 2018

Executive Summary

Background

The County of Riverside provides retiree medical benefits for eligible retirees enrolled in County sponsored plans. The benefits are provided in the form of:

- Monthly County contributions toward the retiree's premium,
- Access to CalPERS health plan coverage at subsidized premium levels, and
- \$25 per month to the RSA Trust for RSA law enforcement retirees.

County Contributions

The County of Riverside makes contributions to eligible retirees for their medical plan premiums when the retiree enrolls in a County sponsored health plan. The current monthly amount paid by the County ranges from \$25 – \$256, depending on the retiree's bargaining unit at retirement. The County provided amounts are detailed in the Summary of Principal Plan Provisions and outlined as follows:

- **CalPERS Health Benefits program retirees** (Law Enforcement Management, Deputy District Attorneys Association (Deputy DAs), and RSA Public Safety members) are eligible for the greater of the stated Public Employees' Medical and Hospital Care Act (PEMHCA) amounts and the bargaining unit's negotiated amount. The PEMHCA monthly amounts are \$133.12 and \$136.00 in 2018 and 2019, respectively, and increase annually thereafter by Medical CPI. These are the only groups that have inflation-indexed benefits.
- **All other retirees** are eligible for their bargaining unit negotiated amount (i.e., \$25–\$256). These amounts do not increase in future years to account for inflation.

Note: The County contributes \$25.00 per month to the RSA Benefit Trust for RSA Law Enforcement retirees, and this cost is included in Plan liabilities.

As described above, the majority of participants are eligible to receive benefits that are fixed at current levels. Retirees receiving the PEMHCA benefits are eligible for inflation-indexed benefits. The long-term benefit under PEMHCA could be more than 10 times greater than certain fixed benefit amounts in 17 years, as illustrated in Appendix A.

Implicit Subsidy

Under CalPERS health plans, retirees receive benefits prior to age 65 by paying premiums that are developed by blending active and retiree costs. Since retirees are older and generally cost more than actives, the premium paid by the retiree is less than the "true cost" of coverage for retirees. For example, under the Blue Shield Access Plus, the estimated "true cost" for an age 60 retiree is \$1,109.27 per month, while the required premium is only \$760.04 per month in 2019. Subsidization can also occur for post 65 benefits due to demographic differences between the County retirees and the CalPERS population used to develop premiums. This implicit subsidy is considered an employer obligation under the Actuarial Standards of Practice (ASOP) No. 6 requirements (see below) and is included in this valuation.

ASOP 6

The Actuarial Standards Board (ASB) amended Actuarial Standards of Practice (ASOP) No. 6 – Measuring Retiree Group Benefit Obligations, effective for measurement dates after March 31, 2015. This amendment requires plans to recognize certain additional healthcare costs (i.e. implicit subsidy) for pooled health plans. Since CalPERS plans are considered pooled health plans, the implicit subsidy is reflected in this actuarial valuation.

GASB 75

In June 2015, GASB released Statement 75, which is effective for the FYE June 30, 2018. This July 1, 2018 valuation is based on census data provided as of July 1, 2018 for the purpose of providing GASB 75 financial statement information, including final expense for FYE June 30, 2019.

The measurement date for results shown in this valuation report is June 30, 2018.

It is important to note that only current active and retired participants are valued in this actuarial study. Future new entrants or any projected growth in the County's employee population are not considered.

Summary of Results

Liabilities

There are a few terms to understand related to the Plan's liabilities. The Present Value of Benefits (PVB) represents the actuarial present value of all future benefits expected to be paid to current employees and retirees. The Actuarial Accrued Liability (AAL) is the portion of the PVB attributable to past service. The Normal Cost is the portion of the PVB that is allocated to the current plan year for active employees.

Each liability is a present value calculated by using a selected discount rate. Results in this report are shown using a 6.73% discount rate. The table below summarizes the liability results as of July 1, 2018:

Present Value of Benefits (PVB)	\$81,250,990
Actuarial Accrued Liability (AAL)	\$68,391,694
Normal Cost	\$1,433,883

Discount Rate

The discount rate can have a considerable impact on the magnitude of the liabilities, with lower discount rates resulting in higher liabilities. GASB 75 prescribes the discount rate methodology to be used. Based on the County's current funding policy, projected cash flows, and the assumed asset return, the plan assets are not projected to be depleted, and the discount rate for GASB disclosures can be based entirely on the assumed asset return. For funding purposes, the discount rate is based on the assumed asset return of 6.73%.

Plan Participation

A review of plan participation experience over the year ending June 30, 2018 revealed a higher proportion of retire eligible participants electing postretirement medical coverage compared to prior experience. The increase in participation experience beyond that assumed in the prior valuation led to a liability loss. It is difficult to determine if this experience is a one-year anomaly or a trend that should be included in the future participation rate assumption. For the July 1, 2018 actuarial valuation, the participation rate assumption was increased in recognition of this recent experience. However, the County may wish to continue review of plan participation rates to further assess this assumption.

Development of Funding Contribution

The funding contribution is developed on a projected basis using prior year valuation results. For example, the funding contribution for Fiscal Year Ending (FYE) 2019 is \$2,141,196 and was developed based on the 2017 valuation.

This valuation develops the funding contribution for FYE 2020, which is \$4,254,133 and is based on a projection of the normal cost, amortization of the 2017 initial Unfunded Actuarial Accrued Liability (UAAL) over the period ending June 30, 2037, and amortization of the subsequent unanticipated changes in unfunded liability (i.e., actuarial gains / losses and changes in assumptions) over 15-year periods.

The table below shows the contributions for Safety and Miscellaneous for FYE 2019, 2020 and an estimate for FYE 2021.

	2018-2019	2019-2020	2020-2021 ¹
Contribution for Safety	\$1,156,009	\$2,530,651	\$2,600,244
Contribution for Miscellaneous	\$985,187	\$1,723,482	\$1,770,878
Total Funding Contribution	\$2,141,196	\$4,254,133	\$4,371,122

The large increase in the funding contribution for FYE 2020 is primarily due to an update in the future plan participation assumption, as further discussed elsewhere in this executive summary, which was updated in the July 1, 2018 funding valuation to reflect more recent experience.

GASB 75 Expense

The OPEB expense for FYE June 30, 2019 is \$4,222,794 and is developed using the valuation results in this report, including a Valuation Date of July 1, 2018, Measurement Period of July 1, 2017 to June 30, 2018, and a Measurement Date of June 30, 2018.

¹ Estimated assuming funding policy discussed in the report.

Comparison to Prior Valuation

The following table compares certain results to the prior valuation:

	July 1, 2017	July 1, 2018
Discount Rate	6.73%	6.73%
Present Value of Benefits (PVB)	\$59,143,312	\$81,250,990
Actuarial Accrued Liability (AAL)	51,927,906	68,391,694
Normal Cost	\$882,147	\$1,433,883
Market Value of Assets	36,785,654	40,110,224
Funding Contribution		
Smoothed Value of Assets	35,854,640	39,544,183
Unfunded AAL	16,073,266	28,847,511
Funded Status	69.0%	57.8%
Funding Contribution for FYE 2019 / 2020	\$2,141,196	\$4,254,133
GASB 75 Accounting		
Net OPEB Liability	\$15,142,252	\$28,281,470
Plan Fiduciary Net Position as a percentage of the OPEB Liability	70.8%	58.6%
GASB Annual Expense for FYE 2018 / 2019	\$2,001,177	\$4,222,794

Plan liabilities and annual costs are considerably higher than the prior valuation, primarily due to increased plan participation (i.e., retirees electing coverage) for CalPERS and RSA participants. As the past year's higher elections caused an increase in liabilities, the assumption was also increased to reflect this recent experience, resulting in an increase in liabilities exceeding \$15 million.

Beyond the higher participation impact, July 1, 2018 unfunded AAL and costs are still slightly higher than expected based on a projection from the prior valuation, as a net result of the following factors:

- Census experience was different than assumed, resulting in an actuarial loss.
- Updated premiums were lower than assumed, resulting in a reduction in liabilities.
- Mortality assumptions were updated to reflect the revised mortality table developed in the 2017 CalPERS Experience Study, with generational future improvement scale MP-2018, resulting in an increase in liabilities.
- Other demographic assumptions were updated to reflect the new assumptions developed in the 2017 CalPERS Experience Study, resulting in a small increase in liabilities.
- The liabilities, by their nature, grow each year as all participants get closer to receiving benefits and active participants accrue additional benefits.
- Investment return on assets was slightly lower than expected, resulting in an asset loss.

It should be noted that employee groups from Special Districts (Waste, Parks, Flood and RCA) and active Court members were not included in the valuation results presented in this report.

Effect of Asset Allocation Strategy Selection and the Discount Rate Impact

CalPERS offers three asset allocation strategies for selection by employers who contract to pre-fund their future OPEB costs through CERBT.

The asset allocation and associated expected asset return, and thus the assumed discount rate, have a considerable impact on valuation results and the magnitude of liabilities. CalPERS periodically reviews the expected asset returns and the rates used in this valuation are based on CalPERS revised guidance adopted in October 2014. The following table summarizes financial characteristics of the three strategies:

	Strategy 1	Strategy 2	Strategy 3
Expected 20 Year Return / Discount Rate	7.28%	6.73%	6.12%
Standard Deviation of Expected Returns	11.74%	9.32%	7.14%

All three asset allocation strategies invest to some extent in each of the five asset classes (Global Equity, Domestic Fixed Income, U.S. Inflation Linked Bonds, Global Public Real Estate and Commodities). The portion of assets allocated to each asset class varies among the strategies, and thus, the long term expected rate of return and level of risk of each asset allocation is different for each strategy.

Effective July 1, 2017, the County switched from Asset Strategy 1 to Asset Strategy 2, although it should continue to monitor the return versus risk balance and maintain an asset allocation strategy appropriate for the County's funding and overall financial policies.

In order to understand the impact of strategy selection, we compared valuation results under each Asset Allocation Strategy:

	Asset Allocation Strategy 1 7.28%	Asset Allocation Strategy 2 6.73%	Asset Allocation Strategy 3 6.12%
Liabilities			
Present Value of Benefits (PVB)	\$74,549,252	\$81,250,990	\$89,934,179
Actuarial Accrued Liability (AAL)	\$63,765,376	\$68,391,694	\$74,208,017
Normal Cost	\$1,252,520	\$1,433,883	\$1,673,272

Under GASB 75, the expected return will be considered along with the municipal bond index to determine a blended discount rate.

* * *

The following report shows the details of results by participant status and benefits provided, based on a 6.73% discount rate.

Table of Contents

Actuarial Valuation Certificate	1
Plan Liabilities	3
Plan Assets	5
Development of Funding Contribution	6
Projected Benefit Payments	7
GASB 75 Reporting and Disclosure Information For Fiscal Year Ending June 30, 2019	8
Participant Information	18
Summary of Principal Plan Provisions	21
Actuarial Assumptions and Methods	22
Appendix A – Comparison of County Contribution to PEMHCA	31
Appendix B – GASB 75 Expense Estimate For Fiscal Year Ending June 30, 2020	32
Appendix C – Pre-65 / Post-65 Breakdown	33

Actuarial Valuation Certificate

This report documents the results of the July 1, 2018 actuarial valuation for the County of Riverside Postretirement Medical Benefits. The information provided in this report is intended strictly for documenting:

- Disclosure items under Governmental Accounting Standards Board (GASB) Statement 75 for Fiscal year ending June 30, 2019.

Determinations for purposes other than the financial accounting requirements may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board. In addition, the valuation results are based on our understanding of the financial accounting and reporting requirements under U.S. Generally Accepted Accounting Principles as set forth in Government Accounting Standards Board Statement 75 (GASB 75) including any guidance or interpretations provided by the Company and/or its audit partners prior to the issuance of this report. The information in this report is not intended to supersede or supplant the advice and interpretations of the County of Riverside's auditors. Additional disclosures may be required under GASB 74.

Future actuarial measurements may differ significantly from the current measurements presented in this report due (but not limited to) to such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in actuarial methods or in economic or demographic assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- Changes in plan provisions or applicable law.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

Funded status measurements shown in this report are determined based on various measures of plan assets and liabilities. For entity and plan disclosure and reporting purposes, funded status is determined using plan assets measured at market value. Plan liabilities are measured based on the interest rates and other assumptions summarized in the Actuarial Assumptions and Methods section of this report.

These funded status measurements may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and funded status measurements for County of Riverside and plan disclosure and reporting purposes may not be appropriate for assessing the need for or the amount of future contributions. In conducting the valuation, we have relied on personnel, plan design, health care claim cost, and asset information supplied by County of Riverside as of the valuation date. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results.

The actuarial assumptions and methods used in this valuation are described in the Actuarial Assumptions and Methods section of this report. County of Riverside selected the economic and demographic assumptions and prescribed them for use for purposes of compliance with GASB 75. Aon provided guidance with respect to these assumptions, and it is our belief that the assumptions represent reasonable expectations of anticipated plan experience.

The undersigned are familiar with the near-term and long-term aspects of OPEB valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.

To our knowledge, no colleague of Aon providing services to County of Riverside has any material direct or indirect financial interest in County of Riverside. Thus, we believe there is no relationship existing that might affect our capacity to prepare and certify this actuarial report for County of Riverside.

Bradley J. Au, MAAA, EA
(213) 996-1729
Brad.Au@aon.com

Steven Kilbride, FIA, FSA, EA
(213) 996-1735
Steven.Kilbride1@aon.com

Stephen Lambert-Oswald, FSA, MAAA
(813) 636-3084
Stephen.Lambert.Oswald@aon.com

Aon
707 Wilshire Boulevard
Suite 2600
Los Angeles, CA 90017

January 9, 2019

Plan Liabilities

The liabilities shown in this exhibit were calculated using a 6.73% discount rate.

The **Present Value of Benefits (PVB)** represents the actuarial present value of all benefits ever to be paid to current employees and retirees. The PVB is as follows:

	Safety Employees	Miscellaneous Employees	Total
PVB			
<i>County Contribution</i>			
Retirees	\$14,735,026	\$17,259,382	\$31,994,408
Actives	\$12,086,632	\$9,512,647	\$21,599,279
Subtotal	\$26,821,658	\$26,772,029	\$53,593,687
<i>Implicit Subsidy</i>			
Retirees	\$10,420,703	\$913,271	\$11,333,974
Actives	\$13,185,252	\$3,138,077	\$16,323,329
Subtotal	\$23,605,955	\$4,051,348	\$27,657,303
<i>All Benefits</i>			
Retirees	\$25,155,729	\$18,172,653	\$43,328,382
Actives	\$25,271,884	\$12,650,724	\$37,922,608
Total PVB	\$50,427,613	\$30,823,377	\$81,250,990
Number of Retirees as of 7/1/2018	855	1,428	2,283
Number of Actives as of 7/1/2018	3,324	15,430	18,754
PVB Per Retiree	\$29,422	\$12,726	\$18,979
PVB Per Active	\$7,603	\$820	\$2,022

The **Actuarial Accrued Liability (AAL)** is a portion of the PVB attributable to past service. For retirees and fully eligible active employees, the AAL is equal to the PVB. For other active employees, the AAL is the portion of the PVB deemed to be accrued to date. The **Normal Cost** is the portion of the PVB that is allocated to the current plan year for only active employees.

The AAL in this report is based on the Entry Age Normal cost method and has been developed by spreading costs as a level percentage of payrolls.

	Safety Employees	Miscellaneous Employees	Total
AAL			
<i>County Contribution</i>			
Retirees	\$14,735,026	\$17,259,382	\$31,994,408
Actives	\$7,967,697	\$6,307,066	\$14,274,763
Subtotal	\$22,702,723	\$23,566,448	\$46,269,171
<i>Implicit Subsidy</i>			
Retirees	\$10,420,703	\$913,271	\$11,333,974
Actives	\$8,887,636	\$1,900,913	\$10,788,549
Subtotal	\$19,308,339	\$2,814,184	\$22,122,523
<i>All Benefits</i>			
Retirees	\$25,155,729	\$18,172,653	\$43,328,382
Actives	\$16,855,333	\$8,207,979	\$25,063,312
Total AAL	\$42,011,062	\$26,380,632	\$68,391,694
Number of Retirees as of 7/1/2018	855	1,428	2,283
Number of Actives as of 7/1/2018	3,324	15,430	18,754
AAL Per Retiree	\$29,422	\$12,726	\$18,979
AAL Per Active	\$5,071	\$532	\$1,336
Normal Cost			
County Contribution	\$447,623	\$422,118	\$869,741
Implicit Subsidy	\$440,197	\$123,945	\$564,142
Total Normal Cost	\$887,820	\$546,063	\$1,433,883
Normal Cost per Active	\$267	\$35	\$76

Plan Assets

The County of Riverside participates in CalPERS' CERBT trust fund. The following table shows the development of assets since the prior valuation.

	July 1, 2017 to June 30, 2018
Reconciliation of Plan Assets	
Market Value of Assets, Beginning of Year	\$36,785,654
Contributions	
Retiree Premiums	\$2,563,684
Reimbursement from CERBT	\$0
Implicit Subsidy	\$699,574
Pre-Funding	\$1,000,000
Total Contributions	\$4,263,258
Investment Earnings	\$2,342,895
Administrative Expense	(\$18,325)
Benefit Payments	
Retiree Premiums	(\$2,563,684)
Implicit Subsidy	(\$699,574)
Total Benefit Payments	(\$3,263,258)
Market Value of Assets at Valuation Date	\$40,110,224
Return on Assets	6.29%
Development of (Gain)/Loss	
Expected Investment Earnings (assumed 6.73%)	\$2,508,170
Actual Investment Earnings	\$2,342,895
(Gain)/Loss on Assets	\$165,275
Smoothed Value of Assets at Valuation Date	
Market Value of Assets at Valuation Date	\$40,110,224
Unrecognized (Gain)/Loss ¹	(\$566,041)
Preliminary Smoothed Value of Assets at Valuation Date	\$39,544,183
Lower Corridor (80% of Market Value)	\$32,088,179
Upper Corridor (120% of Market Value)	\$48,132,269
Smoothed Value of Assets	\$39,544,183

¹Schedule of the Current and Prior Asset (Gain)/Losses as of June 30, 2018

Date Established	Original (Gain)/Loss	Years Remaining As of 6/30/2018	Amount recognized	Total Amount Unrecognized
6/30/2018	(\$1,163,768)	3	(\$465,507)	(\$698,261)
6/30/2018	\$165,275	4	\$33,055	\$132,220
Total			(\$432,452)	(\$566,041)

Development of Funding Contribution

Effective July 1, 2017, the County's funding policy is to contribute a level percentage of pay based on the sum of:

- Normal Cost with interest, plus
- Amortization of July 1, 2017 Unfunded Actuarial Accrued Liability (UAAL) over the period ending June 30, 2037, plus
- Amortization of subsequent unanticipated UAAL changes (i.e., actuarial gains / losses and changes in assumptions) over 15-year periods.

Amortization amounts are calculated based on the discount rate and payroll increase assumption appropriate for the valuation date.

The following table shows the development of the funding contribution as a level percentage of pay, assuming middle of year payment, for FYE June 30, 2020:

	Safety	Miscellaneous	Total
Funding Contribution, FYE June 30, 2020			
Normal Cost, plus interest	\$852,432	\$669,652	\$1,522,084
Amortization of UAAL, plus interest ¹	1,678,220	1,053,830	2,732,049
Funding Contribution	\$2,530,651	\$1,723,482	\$4,254,133
% of Pay			0.30%

The following table shows the development of the liability gain / loss as of June 30, 2018

Liability as of June 30, 2017	\$51,927,906
Service Cost	882,148
Interest on Liability	3,446,096
Plan Change	0
Assumption Changes	11,336,502
Benefit Payments	(3,263,258)
Expected Liability as of June 30, 2018	64,329,394
Actual Liability as of June 30, 2018	68,391,694
Liability (Gain)/Loss	\$4,062,300

Amortization Schedule

The following table shows the amortization of Unfunded Actuarial Accrued Liability as of July 1, 2019. Amortization of bases is first recognized in the fiscal year subsequent to the date established.

Date Established	Type of Base	Original Period	Remaining Period as of June 30, 2019	Original Balance	Balance Remaining as of June 30, 2019	Amortization Recognized in FYE June 30, 2020
6/30/2017	7/1/2017 UAAL ²	20	18	\$ 16,073,266	\$ 15,889,788	\$ 1,195,987
6/30/2018	Liability (Gain)/Loss	15	15	4,062,300	4,335,693	372,102
6/30/2018	Assets (Gain)/Loss	5	5	165,275	176,398	38,011
6/30/2018	Assumptions	15	15	11,336,502	12,099,449	1,038,410
	Total Charges			\$ 31,637,343	\$ 32,501,327	\$ 2,644,510

¹ Amortization allocation by classification is based on proportionate share of AAL.

² Includes Asset (Gain)/Loss as of 6/30/2017

Projected Benefit Payments

The following table shows the estimated projected net County benefit payments based on the current plan provisions, current plan participants, and the valuation assumptions used in this report. The County Contributions would be equivalent to funding the liabilities on a pay-as-you-go basis.

Fiscal Year Ending June 30	Safety		Miscellaneous		Total
	County Contribution	Implicit Subsidy	County Contribution	Implicit Subsidy	
2019	\$904,492	\$752,474	\$1,671,550	\$91,126	\$3,419,642
2020	\$950,774	\$831,695	\$1,702,107	\$90,327	\$3,574,903
2021	\$1,007,112	\$907,126	\$1,732,074	\$77,730	\$3,724,042
2022	\$1,066,870	\$978,871	\$1,763,236	\$85,270	\$3,894,247
2023	\$1,130,147	\$1,014,042	\$1,793,818	\$88,265	\$4,026,271
2024	\$1,197,051	\$1,094,839	\$1,820,748	\$101,356	\$4,213,994
2025	\$1,268,774	\$1,157,409	\$1,846,721	\$100,600	\$4,373,505
2026	\$1,346,500	\$1,169,496	\$1,869,742	\$100,952	\$4,486,690
2027	\$1,426,708	\$1,306,274	\$1,890,354	\$94,481	\$4,717,817
2028	\$1,510,728	\$1,422,390	\$1,909,501	\$117,283	\$4,959,902
2029	\$1,598,444	\$1,510,001	\$1,926,997	\$144,356	\$5,179,798
2030	\$1,686,431	\$1,582,680	\$1,941,065	\$155,973	\$5,366,150
2031	\$1,776,776	\$1,697,923	\$1,952,654	\$193,147	\$5,620,500
2032	\$1,867,474	\$1,629,877	\$1,960,791	\$229,717	\$5,687,858
2033	\$1,956,996	\$1,664,229	\$1,965,557	\$252,176	\$5,838,957
2034	\$2,045,361	\$1,696,631	\$1,966,241	\$307,118	\$6,015,351
2035	\$2,132,379	\$1,838,798	\$1,962,577	\$363,378	\$6,297,132
2036	\$2,219,653	\$1,996,607	\$1,959,350	\$427,236	\$6,602,846
2037	\$2,302,765	\$2,089,340	\$1,959,355	\$503,508	\$6,854,968
2038	\$2,382,246	\$2,188,226	\$1,956,338	\$545,558	\$7,072,368
2039	\$2,457,435	\$2,219,075	\$1,948,964	\$642,098	\$7,267,571
2040	\$2,528,103	\$2,323,338	\$1,937,455	\$716,888	\$7,505,785
2041	\$2,596,938	\$2,344,016	\$1,921,061	\$774,882	\$7,636,897
2042	\$2,664,338	\$2,300,066	\$1,900,066	\$801,913	\$7,666,383
2043	\$2,729,536	\$2,400,019	\$1,874,499	\$741,496	\$7,745,550
2044	\$2,793,752	\$2,455,676	\$1,844,730	\$708,965	\$7,803,123
2045	\$2,854,151	\$2,483,871	\$1,811,461	\$623,813	\$7,773,297
2046	\$2,912,439	\$2,603,292	\$1,775,743	\$499,270	\$7,790,743
2047	\$2,966,406	\$2,697,017	\$1,738,370	\$419,575	\$7,821,368
2048	\$3,015,239	\$2,645,771	\$1,700,087	\$374,439	\$7,735,536

GASB 75 Reporting and Disclosure Information for Fiscal Year Ending June 30, 2019

Calculation Details

The following table illustrates the Net OPEB Liability under GASB 75.

	Fiscal Year Ending 6/30/2018	Fiscal Year Ending 6/30/2019
(1) OPEB Liability		
(a) Retired Participants and Beneficiaries Receiving Payment	\$ 37,354,480	\$ 43,328,382
(b) Active Participants	\$ 14,573,426	\$ 25,063,312
(c) Total	\$ 51,927,906	\$ 68,391,694
(2) Plan Fiduciary Net Position	\$ 36,785,654	\$ 40,110,224
(3) Net OPEB Liability	\$ 15,142,252	\$ 28,281,470
(4) Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	70.84%	58.65%
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 4,263,258	TBD

Expense

The following table illustrates the OPEB expense under GASB 75.

	Fiscal Year Ending 6/30/2018	Fiscal Year Ending 6/30/2019
(1) Service Cost	\$ 700,296	\$ 882,148
(2) Interest Cost	3,011,073	3,446,096
(3) Expected Investment Return	(2,449,510)	(2,508,170)
(4) Employee Contributions	0	0
(5) Administrative Expense	17,481	18,325
(6) Plan Changes	0	0
(7) Amortization of Unrecognized		
(a) Liability (Gain)/Loss	616,648	1,046,521
(b) Asset (Gain)/Loss	(232,754)	(199,699)
(c) Assumption Change (Gain)/Loss	337,943	1,537,573
(8) Total Expense	\$ 2,001,177	\$ 4,222,794

Shown below are details regarding the calculation of Service, Interest Cost and Expected Investment Return components of the Expense.

	Fiscal Year Ending 6/30/2018	Fiscal Year Ending 6/30/2019
(1) Development of Service Cost:		
(a) Normal Cost at Beginning of Measurement Period	\$ 700,296	\$ 882,148
(2) Development of Interest Cost:		
(a) Total OPEB Liability at Beginning of Measurement Period	\$ 42,056,520	\$ 51,927,906
(b) Normal Cost at Beginning of Measurement Period	700,296	882,148
(c) Actual Benefit Payments	(2,841,778)	(3,263,258)
(d) Discount Rate	7.28%	6.73%
(e) Interest Cost	\$ 3,011,073	\$ 3,446,096
(3) Development of Expected Investment Return:		
(a) Plan Fiduciary Net Position at Beginning of Measurement Period	\$ 34,121,863	\$ 36,785,654
(b) Actual Contributions—Employer	1,909,771	4,263,258
(c) Actual Contributions—Employee	0	
(d) Actual Benefit Payments	(2,841,778)	(3,263,258)
(e) Administrative Expenses	(17,481)	(18,325)
(f) Other	0	
(g) Expected Return on Assets	7.28%	6.73%
(h) Expected Return	\$ 2,449,510	\$ 2,508,170

Reconciliation of Net OPEB Liability

Shown below are details regarding the Total OPEB Liability, Plan Fiduciary Net Position, and Net OPEB Liability for the Measurement Period from June 30, 2017 to June 30, 2018:

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (c) = (a) - (b)
Balance Recognized at 6/30/2018 (Based on 6/30/2017 Measurement Date)	\$ 51,927,906	\$ 36,785,654	\$ 15,142,252
Changes Recognized for the Fiscal Year:			
Service Cost	882,148	N/A	882,148
Interest on the Total OPEB Liability	3,446,096	N/A	3,446,096
Changes of Benefit Terms	0	N/A	0
Differences Between Expected and Actual Experience	4,062,300	N/A	4,062,300
Changes of Assumptions	11,336,502	N/A	11,336,502
Benefit Payments	(3,263,258)	(3,263,258)	0
Contributions from the Employer	N/A	4,263,258	(4,263,258)
Contributions from the Employee	N/A	0	0
Net Investment Income	N/A	2,342,895	(2,342,895)
Administrative Expense	N/A	(18,325)	18,325
Net Changes	<u>16,463,788</u>	<u>3,324,570</u>	<u>13,139,218</u>
Balance Recognized at 6/30/2019 (Based on 6/30/2018 Measurement Date)	\$ 68,391,694	\$ 40,110,224	\$ 28,281,470

Liability (Gain)/Loss

The following table illustrates the liability gain/loss under GASB 75.

	Fiscal Year Ending 6/30/2018	Fiscal Year Ending 6/30/2019
(1) OPEB Liability at Beginning of Measurement Period	\$ 42,056,520	\$ 51,927,906
(2) Service Cost	700,296	882,148
(3) Interest on the Total OPEB Liability	3,011,073	3,446,096
(4) Changes of Benefit Terms	0	0
(5) Changes of Assumptions	3,186,806	11,336,502
(6) Benefit Payments	(2,841,778)	(3,263,258)
(7) Expected OPEB Liability at End of Measurement Period	46,112,917	64,329,394
(8) Actual OPEB Liability at End of Measurement Period	<u>51,927,906</u>	<u>68,391,694</u>
(9) OPEB Liability (Gain)/Loss	\$ 5,814,989	\$ 4,062,300
(10) Average Future Working Life Expectancy	9.43	9.45
(11) OPEB Liability (Gain)/Loss Amortization	\$ 616,648	\$ 429,873

Asset (Gain)/Loss

The following table illustrates the asset gain/loss under GASB 75.

	Fiscal Year Ending 6/30/2018	Fiscal Year Ending 6/30/2019
(1) OPEB Asset at Beginning of Measurement Period	\$ 34,121,863	\$ 36,785,654
(2) Contributions—Employer	1,909,771	4,263,258
(3) Contributions—Employee	0	
(4) Expected Investment Income	2,449,510	2,508,170
(5) Benefit Payments	(2,841,778)	(3,263,258)
(6) Administrative Expense	(17,481)	(18,325)
(7) Other	0	
(8) Expected OPEB Asset at End of Measurement Period	35,621,885	40,275,499
(9) Actual OPEB Asset at End of Measurement Period	<u>36,785,654</u>	<u>40,110,224</u>
(10) OPEB Asset (Gain)/Loss	\$ (1,163,768)	\$ 165,275
(11) Amortization Factor	<u>5.00</u>	<u>5.00</u>
(12) OPEB Asset (Gain)/Loss Amortization	\$ (232,754)	\$ 33,055

Deferred Outflows/Inflows

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2019 under GASB 75.

	Deferred Outflows	Deferred Inflows
(1) Difference Between Actual and Expected Experience	\$ 8,214,120	\$ 0
(2) Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	\$ 132,220	\$ 698,260
(3) Assumption Changes	\$ 12,647,792	\$ 0
(4) Sub Total	\$ 20,994,132	\$ 698,260
(5) Contributions Made in Fiscal Year Ending 6/30/2019 After Measurement Date	\$ TBD	\$ N/A
(6) Total	\$ TBD	\$ 698,260

Amortization of Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2019.

Date Established	Type of Base	Period		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
6/30/2018	Liability (Gain)/Loss	9.45	8.45	\$ 4,062,300	\$ 3,632,427	\$ 429,873
6/30/2018	Asset (Gain)/Loss	5.00	4.00	\$ 165,275	\$ 132,220	\$ 33,055
6/30/2018	Assumptions	9.45	8.45	\$ 11,336,502	\$ 10,136,872	\$ 1,199,630
6/30/2017	Liability (Gain)/Loss	9.43	7.43	\$ 5,814,989	\$ 4,581,693	\$ 616,648
6/30/2017	Asset (Gain)/Loss	5.00	3.00	\$ (1,163,768)	\$ (698,260)	\$ (232,754)
6/30/2017	Assumptions	9.43	7.43	\$ 3,186,806	\$ 2,510,920	\$ 337,943
	Total Charges				\$ 20,295,872	\$ 2,384,395

Amounts Recognized in the deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in the OPEB expense as follows:

Year End June 30:

2020	\$ 2,384,395
2021	\$ 2,384,395
2022	\$ 2,384,397
2023	\$ 2,617,149
2024	\$ 2,584,094
Total Thereafter	\$ 7,941,442

Plan Fiduciary Net Position Projection

The following table illustrates the projection of the fiduciary net position for use in the calculation of the discount rate as of June 30, 2019.

(\$ in thousands)

Year Ending June 30 ²	Beginning Fiduciary Net Position (a)	Total Contributions (b)	Benefit Payments (c)	Administrative Expenses (d)	Investment Earnings (e)	Ending Fiduciary Net Position ¹ (f)
2019	\$40,110	\$5,561	\$3,420	\$19	\$2,773	\$45,006
2020	45,006	7,829	3,575	19	3,173	52,414
2021	52,414	7,893	3,724	20	3,669	60,231
2022	60,231	8,090	3,894	21	4,196	68,602
2023	68,602	8,255	4,026	22	4,761	77,570
2024	77,570	8,481	4,214	23	5,366	87,179
2025	87,179	8,632	4,374	24	6,012	97,426
2026	97,426	8,780	4,487	24	6,703	108,398
2027	108,398	9,050	4,718	25	7,443	120,147
2028	120,147	9,330	4,960	26	8,235	132,725
2029	132,725	9,586	5,180	27	9,083	146,187
2030	146,187	9,813	5,366	29	9,990	160,595
2031	160,595	10,109	5,620	30	10,961	176,015
2032	176,015	10,222	5,688	31	12,000	192,519
2033	192,519	10,421	5,839	32	13,113	210,182
2034	210,182	10,648	6,015	33	14,303	229,086
2035	229,086	8,798	6,297	34	15,504	247,057
2036	247,057	9,104	6,603	35	16,714	266,237
2037	266,237	9,359	6,855	36	18,005	286,710
2038	286,710	7,569	7,072	37	19,315	306,485
2039	306,485	7,719	7,268	38	20,644	327,542
2040	327,542	7,915	7,506	38	22,060	349,973
2041	349,973	8,006	7,637	39	23,569	373,872
2042	373,872	7,996	7,666	39	25,176	399,338
2043	399,338	8,036	7,746	40	26,888	426,477
2044	426,477	8,054	7,803	40	28,713	455,400
2045	455,400	7,988	7,773	41	30,659	486,232
2046	486,232	7,970	7,791	41	32,732	519,103
2047	519,103	7,965	7,821	41	34,943	554,149
2048	554,149	7,847	7,736	41	37,301	591,519

¹ (f)=(a) + (b) – (c) – (d) + (e)

² Years later than 2048 were omitted from this table.

Plan Fiduciary Net Position

The last year in which projected benefit payments are due from the Plan is 2115.

The Plan's projected fiduciary net position is not projected to reach \$0.

As such, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "depletion date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.73% per annum was applied to all periods of projected benefit payments to determine the total OPEB liability as of June 30, 2019.

In projecting the Plan's fiduciary net position, the following assumptions were made:

1. Interest rate for discounting was 6.73% per annum.
2. Projected total contributions are employer contributions to the unfunded actuarial accrued liability and normal cost (including administrative expenses). Contributions are assumed to be paid mid-year.
3. Assumed contributions¹ are based on the County of Riverside continuing to follow the current funding policy of normal cost plus 20-year closed period amortization of the 2017 unfunded liability and amortization of subsequent unanticipated changes in unfunded actuarial accrued liability over the 15-year period from date established.
4. Projected benefit payments have been determined in accordance with Paragraphs 30-35 of GASB Statement No. 75, and are based on the closed group of active, retired members and beneficiaries as of June 30, 2019. Benefit payments are assumed to be paid mid-year.
5. Administrative expenses are \$19,000 for 2019 and are projected with 2.50% inflation. Expenses are assumed to be paid mid-year.
6. Projected investment earnings are based on the assumed investment rate of return of 6.73% per annum.

¹ Although the County received a CERBT reimbursement in some prior years, no CERBT reimbursement was taken for FYE 2018, and no CERBT reimbursement is assumed going forward for purposes of developing the Plan Fiduciary Net Position Projection.

Discount Rate Sensitivity

The following table illustrates the impact of discount rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2018:

	1% Decrease (5.73%)	Current Rate (6.73%)	1% Increase (7.73%)
(1) Total OPEB Liability	\$ 58,850,689	\$ 51,927,906	\$ 46,289,958
(2) Plan Fiduciary Net Position	<u>\$ 36,785,654</u>	<u>\$ 36,785,654</u>	<u>\$ 36,785,654</u>
(3) Net OPEB Liability	\$ 22,065,035	\$ 15,142,252	\$ 9,504,304

The following table illustrates the impact of discount rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2019:

	1% Decrease (5.73%)	Current Rate (6.73%)	1% Increase (7.73%)
(1) Total OPEB Liability	\$ 78,363,553	\$ 68,391,694	\$ 60,355,873
(2) Plan Fiduciary Net Position	<u>\$ 40,110,224</u>	<u>\$ 40,110,224</u>	<u>\$ 40,110,224</u>
(3) Net OPEB Liability	\$ 38,253,329	\$ 28,281,470	\$ 20,245,649

Healthcare Cost Trend Sensitivity

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2018:

	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 48,017,792	\$ 51,927,906	\$ 56,854,738
(2) Plan Fiduciary Net Position	<u>\$ 36,785,654</u>	<u>\$ 36,785,654</u>	<u>\$ 36,785,654</u>
(3) Net OPEB Liability	\$ 11,232,138	\$ 15,142,252	\$ 20,069,084

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2019:

	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 61,908,833	\$ 68,391,694	\$ 76,685,021
(2) Plan Fiduciary Net Position	<u>\$ 40,110,224</u>	<u>\$ 40,110,224</u>	<u>\$ 40,110,224</u>
(3) Net OPEB Liability	\$ 21,798,609	\$ 28,281,470	\$ 36,574,797

Disclosure—Changes in the Net OPEB Liability and Related Ratios

Changes in the Net OPEB Liability and Related Ratios¹

	Fiscal Year Ending	
	2018	2019
Total OPEB Liability		
Service Cost	\$700,296	\$882,148
Interest Cost	\$3,011,073	\$3,446,096
Changes of Benefit Terms	\$0	\$0
Differences Between Expected and Actual Experiences	\$5,814,989	\$4,062,300
Changes of Assumptions	\$3,186,806	\$11,336,502
Benefit Payments	\$(2,841,778)	\$(3,263,258)
Net Change in Total OPEB Liability	\$9,871,386	\$16,463,788
Total OPEB Liability (Beginning)	\$42,056,520	\$51,927,906
Total OPEB Liability (Ending)	\$51,927,906	\$68,391,694
Plan Fiduciary Net Position		
Contributions—Employer	\$1,909,771	\$4,263,258
Contributions—Member	\$0	\$0
Net Investment Income	\$3,613,278	\$2,342,895
Benefit Payments	\$(2,841,778)	\$(3,263,258)
Administrative Expense	\$(17,481)	\$(18,325)
Other	\$0	\$0
Net Change in Plan Fiduciary Net Position	\$2,663,790	\$3,324,570
Plan Fiduciary Net Position (Beginning)	\$34,121,863	\$36,785,654
Plan Fiduciary Net Position (Ending)	\$36,785,654	\$40,110,224
Net OPEB Liability (Ending)	\$15,142,252	\$28,281,470
Net Position as a Percentage of OPEB Liability	70.84%	58.65%
Covered-Employee Payroll	\$1,382,304,129	\$1,374,752,875
Net OPEB Liability as a Percentage of Payroll	1.10%	2.06%

¹ GASB 75 was effective first for employer fiscal years beginning after June 15, 2017.

Disclosure—Contribution Schedule

Contributions

	Fiscal Year Ending	
	2018	2019
Actuarially Determined Contribution	\$1,288,000	\$2,141,196 ¹
Contributions Made in Relation to the Actuarially Determined Contribution	4,263,258	TBD
Contribution Deficiency (Excess)	(2,975,258)	TBD
Covered-Employee Payroll	\$1,374,752,875	TBD
Contributions as a Percentage of Payroll	0.31%	TBD

Notes to Schedule:

Valuation Date: Actuarially determined contribution rates are calculated as of June 30, one year prior to the beginning of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial Cost Method Entry Age Normal with amortization of 7/1/2017 unfunded liability over a period ending 6/30/2037 and amortization of subsequent unanticipated changes in unfunded liability over 15-year periods.

Asset Valuation Method 5 Year Asset Smoothing

Salary Increases 2.75%

Investment Rate of Return 6.73%, net of OPEB plan investment expense, including inflation.

Retirement Age Retirement rates developed in the 2017 CalPERS Experience Study

Mortality Most recent CalPERS mortality table developed in the 2017 CalPERS Experience Study, with generational future improvements using scale MP-2018

¹ \$2,141,196 was developed based on the July 1, 2017 valuation

Participant Information

These exhibit summaries contain participant demographic information.

Active Employee Age/Service Distribution

Age	Years of Service								Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	>35	
<25	254	8							262
25-29	1,378	323	31						1,732
30-34	1,336	751	551	10					2,648
35-39	976	650	1134	282	2				3,044
40-44	714	446	886	652	131	1			2,830
45-49	560	404	761	661	360	91	2		2,839
50-54	430	292	555	470	242	190	58		2,237
55-59	326	250	398	431	194	162	90	30	1,881
60-64	129	139	261	247	102	69	22	6	975
>65	53	54	83	69	21	9	10	7	306
Total	6,156	3,317	4,660	2,822	1,052	522	182	43	18,754

Participant Statistics

	Safety Employees	Miscellaneous Employees	Total
<i>Retirees</i>			
Number of retirees	855	1,428	2,283
Average age	62.6	71.5	68.2
Number of retiree spouses	445	336	781
<i>Actives</i>			
Number of actives	3,324	15,430	18,754
Average age	40.2	44.3	43.5
Average past service (years)	11.7	9.8	12.3

Development of GASB 75 Amortization Period for Changes in Liability

Status	July 1, 2017		July 1, 2018	
	2017 Count	Average Future Working Life	2018 Count	Average Future Working Life ¹
Actives	19,171	10.53	18,754	11.83
Retirees	2,194	0.00	2,283	0.00
Total/Weighted Average	21,365	9.45	21,037	10.55

Active Participant Benefit Summary

The table below summarizes the number of participants by bargaining units and the benefits valued. As described in the plan summary and actuarial assumptions sections, certain groups are eligible for PEMHCA benefits not shown in this summary.

Union Code	Description	Bargaining Unit (used to determine contribution)	# Records	2018 Monthly County Contribution	Health Plan	CalPERS Retirement Program
CNF	Confidential	Confidential	256	\$ 256.00	County	Misc
LEM	Law Enforcement Management	LEMU	438	\$ 136.00	CalPERS	Safety
MGT	Management (General)	Management	920	\$ 256.00	County	Misc
MLX	Law Enforcement Exec Staff	LE Exec Staff	15	\$ 256.00	County	Safety
PD7	Public Defender, Prosecution (District Attorney's)	DDAA	380	\$ 256.00	CalPERS	Misc
RSA	RSA Law Enforcement	RSA	1,542	\$ 25.00	RSA	Safety
RSC ²	RSA Law Enforcement	RSC	691	\$ 25.00	RSA	Safety
RSP	RSA Public Safety	RSA Public Safety	638	\$ 136.00	CalPERS	Safety
SE2	SEIU Professional	SEIU	2,991	\$ 25.00	County	Misc
SE8	SEIU Registered Nurses	SEIU	1,151	\$ 25.00	County	Misc
SE9	SEIU Para Professional	SEIU	1,042	\$ 25.00	County	Misc
SES	SEIU Supervisory	SEIU	1,535	\$ 25.00	County	Misc
UNC	Unrepresented Confidential	Confidential	186	\$ 256.00	County	Misc
UNR	Unrepresented Management	Management	4	\$ 256.00	County	Misc
UP4	LIUNA Inspection and Technical	LIUNA	1,293	\$ 25.00	County	Misc
UP5	LIUNA Trades, Crafts and Labor	LIUNA	921	\$ 25.00	County	Misc
UP6	LIUNA Supporting Services	LIUNA	4,751	\$ 25.00	County	Misc
County Total			18,754			

* Law Enforcement Management (LEMU), Prosecution (DDAA), and RSA Public Safety members are eligible to receive the greater of the PEMHCA amount or the bargained amount. Currently, DDAA is above the PEMHCA amount, LEMU and RSA Public Safety are at the PEMHCA amount.

Special District (Waste, Parks, Flood and RCA) employees are not included in this valuation.

¹ Based on demographic assumptions set out in the Actuarial Assumption and Methods section of this report

² Newly negotiated union whose participants were previously included under RSA

Retired Participant Benefit Summary

The table below summarizes the number of current retirees receiving various monthly County contribution amounts:

Age	\$25.00	\$128.00	\$136.00	\$256.00	Total
<40	5		1	1	7
40-44	5		1		6
45-49	9				9
50-54	55		75	7	137
55-59	119		71	31	221
60-64	182	6	96	88	372
65-69	316	22	79	148	565
70-74	282	47	57	75	461
75-79	163	42	40	10	255
80-84	82	16	16	3	117
85-89	57	19	8	2	86
90-95	22	8	2	1	33
>95	10	4			14
Total	1,307	164	446	366	2,283

Summary of Principal Plan Provisions

The following plan provisions are the basis for the calculations in this actuarial valuation.

1. Benefit Eligibility

All employees who retire from active employment within 120 days of separation are eligible for participation. Participants are eligible for service retirement at or after age 50, or disability retirement at an age younger than 50, with at least 5 years of service. Former employees who become eligible for CalPERS pension benefits more than 120 days after separation are not eligible for retiree health benefits.

2. Benefits / Plans Covered

The County contributes a portion of an eligible retiree's medical plan premium under a County sponsored health plan (either at retirement or during a subsequent annual enrollment) for the retiree's lifetime. Contributions are based on the employee's bargaining unit at the time of retirement; as follows:

Bargaining Unit at Retirement	Monthly Contribution				
	2015	2016	2017	2018	2019
Confidential**	\$256.00	\$256.00	\$256.00	\$256.00	\$256.00
LEMU (Management)*	\$128.00	\$128.00	\$128.00	\$133.12	\$136.00
MLX (Executive Staff)**	\$256.00	\$256.00	\$256.00	\$256.00	\$256.00
LIUNA	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
Management**	\$256.00	\$256.00	\$256.00	\$256.00	\$256.00
District Attorneys (DDAA)*	\$256.00	\$256.00	\$256.00	\$256.00	\$256.00
RSA Law Enforcement	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
RSA Public Safety*	\$122.00	\$125.00	\$128.00	\$133.12	\$136.00
SEIU	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
Unrepresented**	\$256.00	\$256.00	\$256.00	\$256.00	\$256.00

* Law Enforcement Management (LEMU), Prosecution (Deputy DAs), and RSA Public Safety members are eligible to receive the greater of the PEMHCA amount or the bargained amount. Currently, Prosecution (Deputy DAs) is above the PEMHCA amount, LEMU and RSA Public Safety are at the PEMHCA amount.

** Confidential, MLX (Executive Staff), Management and Unrepresented retired before 11/1/2005 receive a monthly contribution of \$128 and after 11/1/2005 receive a monthly contribution of \$256.

Future PEMHCA amounts increase at the same rate as Medical CPI. See Appendix A for a projection of the monthly PEMHCA contribution amounts.

RSA – The County contributes \$25.00 per month to the RSA Benefit Trust for RSA Law Enforcement retirees. Although the Trust is responsible for providing a benefit with a much larger premium, the County is responsible for the \$25.00 monthly contribution and this benefit is included in Plan liabilities.

Implicit Subsidy – Under CalPERS plans, retirees can receive coverage at premium rates that are subsidized due to demographic differences between those receiving benefits and the population used to develop premiums (e.g., blended active and retiree premiums.)

3. Survivor Coverage Benefits

Upon the death of the retiree, the eligible surviving spouse receives the same monthly benefit amount for their lifetime.

Actuarial Assumptions and Methods

1. Actuarial Cost Method

The costs shown in the report were developed using the Entry Age Normal cost method.

The Entry Age Normal (EAN) cost method spreads plan costs for each participant from entry date (assuming the plan existed on the employee's hire date) to the expected retirement date. Under the EAN cost method, the plan's normal cost is developed as a level percentage of pay spread over the participants' working lifetime. For this purpose, pay is assumed to increase 3% per annum. The AAL is the cumulative value, on the valuation date, of prior service costs. For retirees, the AAL is the present value of all projected benefits.

The Plan costs are derived by making certain specific assumptions as to the rates of interest, mortality, turnover and other demographic events, which are assumed to hold for many years into the future. Actual experience may differ somewhat from the assumptions and the effect of such differences is spread over all periods. Due to these differences, the costs determined by the valuation must be regarded as estimates of the true Plan costs.

2. Funding Policy

The County's funding policy is to contribute the normal cost plus the amortization of unfunded liability based on the following:

- Amortization of the 2017 unfunded liability over the period ending June 30, 2037,
- 15-year amortization of subsequent unanticipated changes in unfunded liability (i.e., actuarial gains/losses and assumption changes), and
- Level percentage of future payroll amounts

3. Discount Rate

6.73% - as of 7/1/2017

6.73% - as of 7/1/2018

Under GASB 75, the discount rate is based on a single equivalent rate that reflects a blend of:

- Expected return on assets during the period such that assets are projected to be sufficient to pay benefits of current participants; and
- 20-year, municipal bond yields / index for periods beyond the depletion of the assets.

Based on the current funding policy, projected cash flows, and the assumed asset return, the plan assets are not projected to be depleted, and the discount rate can be based on the expected asset return.

4. Expected Return on Assets

6.73% - Based on CalPERS CERBT Asset Allocation Strategy 2 (Effective 7/1/2017, the County changed from Strategy 1 to Strategy 2).

5. Payroll Increases

2.75% - This is the annual rate at which total payroll is expected to increase and is used in the funding method to calculate the funding contribution as a level percent of payroll.

6. Inflation

2.50% - This is the assumed annual rate of inflation for future years.

For demographic assumptions:

- Public Agency Police consists of Law Enforcement Management and Law Enforcement Executive Staff;
- Public Agency County Peace Officer consists of RSA Law Enforcement and RSA Public Safety, and;
- Miscellaneous consists of all other bargaining units.

7. Mortality

Mortality rates are based on the most recent CalPERS mortality table developed in the 2017 CalPERS Experience Study, with generational future improvements from 2008 using scale MP-2018. Sample rates for the 2008 base year mortality are as follows:

Age	Public Agency Police		Public Agency County Peace Officer		Miscellaneous	
	Male	Female	Male	Female	Male	Female
30	0.04%	0.02%	0.04%	0.02%	0.04%	0.02%
40	0.07%	0.04%	0.07%	0.04%	0.07%	0.04%
50	0.14%	0.09%	0.14%	0.09%	0.14%	0.09%
60	0.71%	0.50%	0.71%	0.50%	0.71%	0.50%
70	1.50%	1.07%	1.50%	1.07%	1.50%	1.07%
80	4.64%	3.44%	4.64%	3.44%	4.64%	3.44%
90	14.84%	11.27%	14.84%	11.27%	14.84%	11.27%

8. Termination

Termination rates developed in the 2017 CalPERS Experience Study were used in the valuation. The following sample rates are based on age and service:

Public Agency Police

Attained	Years of Service						
Age	0 – 1	5	10	15	20	25	30
30	10.13%	2.49%	1.79%	1.09%	0.00%	0.00%	0.00%
35	10.13%	2.49%	1.79%	1.09%	0.82%	0.00%	0.00%
40	10.13%	2.49%	1.79%	1.09%	0.82%	0.70%	0.00%
45	10.13%	2.49%	1.79%	1.09%	0.82%	0.70%	0.65%
50	10.13%	0.86%	0.53%	0.27%	0.17%	0.12%	0.09%
55	10.13%	0.86%	0.53%	0.27%	0.17%	0.12%	0.09%

Termination (cont.)

Public Agency County Peace Officer

Attained Age	Years of Service						
	0 – 1	5	10	15	20	25	30
30	23.76%	2.42%	1.06%	0.50%	0.00%	0.00%	0.00%
35	23.76%	2.42%	1.06%	0.50%	0.24%	0.00%	0.00%
40	23.76%	2.42%	1.06%	0.50%	0.24%	0.10%	0.00%
45	23.76%	2.42%	1.06%	0.50%	0.24%	0.10%	0.06%
50	23.76%	2.42%	1.06%	0.50%	0.24%	0.10%	0.06%
55	23.76%	2.42%	1.06%	0.50%	0.24%	0.10%	0.06%

Miscellaneous

Attained Age	Years of Service						
	0 – 1	5	10	15	20	25	30
30	16.06%	6.15%	4.16%	2.62%	0.00%	0.00%	0.00%
35	15.37%	5.67%	3.99%	2.52%	1.84%	0.00%	0.00%
40	14.68%	5.19%	3.75%	2.43%	1.76%	1.07%	0.00%
45	14.00%	4.80%	3.51%	2.16%	1.68%	1.00%	0.26%
50	13.32%	4.41%	2.86%	1.88%	1.30%	0.94%	0.20%
55	12.62%	3.68%	2.22%	1.43%	0.92%	0.53%	0.16%

9. Disability

Disability rates developed in the 2017 CalPERS Experience Study were used in the valuation. Sample rates are as follows:

Age	Public Agency Police		Public Agency County Peace Officer		CalPERS Miscellaneous	
	Male	Female	Male	Female	Male	Female
25	0.18%	0.18%	0.14%	0.14%	0.02%	0.01%
30	0.50%	0.50%	0.26%	0.26%	0.02%	0.02%
35	0.82%	0.82%	0.41%	0.41%	0.04%	0.07%
40	1.14%	1.14%	0.58%	0.58%	0.10%	0.14%
45	1.46%	1.46%	0.80%	0.80%	0.15%	0.19%
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

10. Retirement Age

Retirement rates developed in the 2017 CalPERS Experience Study are used in the valuation. Sample rates are provided below.

- Hire date prior to August 24, 2012:
 - Police 3% @ 50 were used for safety employees (including County Peace Officers)
 - Miscellaneous 3% @ 60 rates were used for all other employees.
- Hire date August 24, 2012 to December 31, 2012:
 - Police 2% @ 50 were used for safety employees (including County Peace Officers)
 - Miscellaneous 2% @ 60 rates were used for all other employees.
- Hire date post December 31, 2012:
 - Police 2.7% @ 57 were used for safety employees (including County Peace Officers)
 - Miscellaneous 2% @ 62 rates were used for all other employees.

Miscellaneous 3% @ 60

Attained	Years of Service						
Age	5	10	15	20	25	30	35
50	1.30%	1.90%	2.60%	4.20%	3.80%	6.40%	10.00%
55	4.00%	5.20%	6.40%	8.50%	9.50%	12.00%	17.20%
60	8.90%	10.60%	12.30%	18.00%	22.60%	31.60%	38.70%
65	20.00%	24.20%	28.30%	33.00%	30.00%	34.20%	37.00%
70	22.00%	25.50%	29.10%	32.60%	35.80%	38.80%	40.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Miscellaneous 2% @ 60

Attained	Years of Service						
Age	5	10	15	20	25	30	35
50	2.00%	2.00%	2.00%	2.00%	2.00%	15.00%	15.00%
55	1.90%	2.60%	3.30%	9.20%	13.60%	14.60%	15.00%
60	7.00%	7.40%	8.90%	11.30%	13.70%	16.10%	24.60%
65	14.00%	17.80%	21.50%	26.40%	32.10%	37.70%	41.20%
70	14.00%	17.80%	21.50%	26.40%	32.10%	37.70%	41.20%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Miscellaneous 2% @ 62

Attained	Years of Service						
Age	5	10	15	20	25	30	35
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
55	1.20%	2.10%	2.90%	3.80%	6.80%	10.30%	16.60%
60	3.50%	5.50%	7.50%	9.50%	11.50%	14.50%	19.30%
65	11.50%	14.70%	18.00%	21.30%	24.50%	31.50%	35.40%
70	12.70%	16.40%	20.00%	23.60%	27.30%	35.00%	39.40%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Police 3% @ 50

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	5.00%	5.00%	5.00%	10.00%	15.50%	40.00%	40.00%
55	7.00%	7.00%	7.00%	12.00%	17.50%	34.00%	34.00%
60	15.00%	15.00%	15.00%	15.00%	18.50%	35.00%	35.00%
65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
70	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Police 2% @ 50

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	5.00%	5.00%	5.00%	5.00%	5.00%	10.00%	11.00%
55	7.20%	7.20%	7.20%	9.60%	14.10%	25.50%	40.80%
60	15.00%	15.00%	15.00%	15.00%	15.00%	22.80%	35.00%
65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
70	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Police 2.7% @ 57

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	5.00%	5.00%	5.00%	5.00%	6.00%	10.20%	0.00%
55	6.84%	6.84%	6.84%	10.66%	13.89%	25.00%	38.76%
60	15.00%	15.00%	15.00%	15.00%	15.14%	24.78%	35.00%
65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
70	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

11. Annual Medical Inflation ("Trend")

County Contribution: PEMHCA amounts have been determined through 2019 (\$136.00). After 2019, the PEMHCA amounts will increase at the same rate as the Medical CPI. For valuation purposes, this is assumed to be 4% for all years. This applies to RSA Public Safety, Deputy District Attorney and Law Enforcement Management who were assumed to participate in CalPERS Health Benefits programs and receive the PEMHCA amounts.

All other County contributions are assumed to remain at their current level.

For purposes of calculating the implicit subsidy, a medical trend rate assumption was used to develop the projected future medical claim amounts. The medical trend rate represents the long-term expected growth of medical benefits paid by the plan, due to non-age-related factors such as general medical inflation, utilization, new technology, and the like. The following table sets forth the trend assumptions used for the valuation:

Year	Medical	
	Pre Medicare	Post Medicare
2017	Actual	Actual
2018	7.90%	8.80%
2019	7.50%	8.30%
2020	7.10%	7.80%
2021	6.70%	7.30%
2022	6.30%	6.70%
2023	5.90%	6.20%
2024	5.40%	5.60%
2025+	5.00%	5.00%

Excise Tax (for implicit subsidy calculations)

For the excise tax on medical benefits under the Affordable Care Act, the overall value of the benefit was compared to the excise tax threshold. The values of the benefits were assumed to increase with the valuation trend and the excise tax thresholds were assumed to increase by 2.5% per year. The excise tax threshold is estimated to be reached in 2023 for Pre Medicare plans and 2046 for Post Medicare plans, and the additional cost of the excise tax each year has been reflected in the liabilities, based on the following additional trend rates:

Pre Medicare

Year	Additional Trend	Year	Additional Trend	Year	Additional Trend
2023	0.2%	2041-2044	0.7%	2079-2098	0.2%
2024	0.3%	2045-2050	0.6%	2099	0.1%
2025-2033	0.2%	2051-2057	0.5%		
2034-2036	0.9%	2058-2066	0.4%		
2037-2040	0.8%	2067-2078	0.3%		

Post Medicare

Year	Additional Trend	Year	Additional Trend	Year	Additional Trend
2046	0.2%	2060-2063	0.8%	2081-2089	0.4%
2047-2052	0.4%	2064-2067	0.7%	2090-2099	0.3%
2053-2058	0.3%	2068-2073	0.6%		
2059	0.9%	2074-2080	0.5%		

12. Monthly Medical Costs (for implicit Subsidy calculations)

The table below shows 2019 premiums as of the valuation date based on the Southern California Region.

Plan	HMO/PPO	Employee Only	Employee & 1 Dep.
Basic			
Anthem Select	HMO	\$625.07	\$1,250.14
Anthem Traditional	HMO	830.89	1,661.78
Blue Shield	HMO	760.04	1,520.08
Exclusive Care	HMO	587.76	1,189.76
Health Net Salud y Más	HMO	427.81	855.62
Health Net SmartCare	HMO	642.71	1,285.42
Kaiser	HMO	628.63	1,257.26
PERS Choice	PPO	721.11	1,442.22
PERS Select	PPO	462.71	925.42
PERSCare	PPO	1,045.55	2,091.10
PORAC	PPO	774.00	1,623.00
Sharp	HMO	593.66	1,187.32
United Healthcare	HMO	646.65	1,293.30
Supplemental/Managed Medicare			
Kaiser	HMO	323.74	647.48
PERS Choice	PPO	360.41	720.82
PERS Select	PPO	360.41	720.82
PERSCare	PPO	394.83	789.66
PORAC	PPO	513.00	1,022.00
United Healthcare	PPO	299.37	598.74

Monthly Medical costs were developed by applying age adjustments to the above premiums to reflect the implicit subsidy. These age adjustments are based on statewide information provided by CalPERS. Single rate age adjustment factors are used for retirees and spouses. A sampling of the factors used is included below:

Aging Factors		
Age	HMO Plans	PPO Plans
20	0.28	0.25
30	0.50	0.44
40	0.66	0.59
50	0.99	0.89
60	1.46	1.30
64	1.69	1.51
65	0.78	0.75
70	0.91	0.86
80	1.16	1.15
90+	1.20	1.23

13. Retiree Contributions

Retirees pay the premiums in excess of the County contributions.

14. Dental Benefits

Retirees are eligible for dental benefits if they pay the entire premium. Since dental claims are not assumed to vary with age, costs are expected to be fully paid by retirees and no County liabilities exist.

15. Participants Valued

Only current active and retired participants are directly valued. No future entrants are considered in this valuation.

Certain employees are eligible for retirement benefits at termination but do not immediately elect coverage. Such former employees may still be eligible to elect retiree coverage at a later date. Although the liabilities for such benefits are not directly valued, the County believes that the likelihood of such former employees returning to elect benefit coverage is considerably small, except for RSA, as discussed below. The plan participation assumptions are adjusted to consider this liability.

For RSA, it is anticipated that a significant number of retirees will defer benefits to later years. The RSA retiree liability was loaded 15% to account for such current "deferred" retirees that are not included in the census data.

16. Plan Participation

Assumed plan participation rates of future retirees is as set out in the following table:

Health Plan / Benefit	Assumed Participation Rate
CalPERS health plans	40%
RSA health plans	40% immediate / 20% defer to age 65
County health plans	
\$25 per month benefit	10%
\$256 per month benefit	20%

These percentages were developed based on a review of the County's recent experience.

17. Spousal Coverage Assumption

50% of future eligible retirees are assumed to cover their spouses. Males are assumed to be three years older than their female spouses. Current spousal coverage is used for current retirees.

18. Participants Excluded

Special District (Waste, Parks, Flood and RCA) employees, along with active Court members, were not included in this valuation.

19. Affordable Care Act

The impact of the Affordable Care Act was addressed in this valuation. In particular, the following items were reviewed:

- Reduced Funding on Medicare Advantage Plans by Federal Government
- Excise Taxes on High Cost Plans

The potential additional costs due to above items are included in the implicit subsidy liabilities of this valuation. The excise tax had the effect of increasing the liability approximately 0.85%.

20. Changes in Valuation Assumptions

The following assumptions were changed from the prior valuation:

- 1) Payroll increase was updated from an assumed annual increase of 3.00% to 2.75%. This reduction reflects CalPERS reduction in the inflation assumption from 2.75% to 2.50%
- 2) Demographic assumptions (i.e., mortality rates, termination rates, retirement rates and disability rates) were updated to reflect the assumptions developed in the 2017 CalPERS Experience Study
- 3) Mortality improvement was updated from scale MP-2017 to scale MP-2018
- 4) The claims table was updated to reflect most recent CalPERS monthly premiums available for 2018. Aging factors are also updated to reflect the most recent CalPERS demographic experience
- 5) Participation rates for CalPERS and RSA (immediate) health plans participants were updated from 20% to 40% to reflect the more recent experience

Appendix A—Comparison of County Contribution to PEMHCA

The following table compares the projected monthly benefit per participant under the current plan to the projected monthly benefit per participant under PEMHCA. The PEMHCA amounts are assumed to increase at the same rate as medical inflation each year after 2019.

Current Benefits			
Year	Low - \$25/month	High - \$256/month	PEMHCA Benefit
2018	\$25.00	\$256.00	\$133.12
2019	\$25.00	\$256.00	\$136.00
2020	\$25.00	\$256.00	\$141.44
2021	\$25.00	\$256.00	\$147.10
2022	\$25.00	\$256.00	\$152.98
2023	\$25.00	\$256.00	\$159.10
2024	\$25.00	\$256.00	\$165.46
2025	\$25.00	\$256.00	\$172.08
2026	\$25.00	\$256.00	\$178.97
2027	\$25.00	\$256.00	\$186.13
2028	\$25.00	\$256.00	\$193.57
2029	\$25.00	\$256.00	\$201.31
2030	\$25.00	\$256.00	\$209.37
2031	\$25.00	\$256.00	\$217.74
2032	\$25.00	\$256.00	\$226.45
2033	\$25.00	\$256.00	\$235.51
2034	\$25.00	\$256.00	\$244.93
2035	\$25.00	\$256.00	\$254.73
2036	\$25.00	\$256.00	\$264.91
2037	\$25.00	\$256.00	\$275.51
2038	\$25.00	\$256.00	\$286.53
2039	\$25.00	\$256.00	\$297.99

Appendix B—GASB 75 Expense Estimate for Fiscal Year Ending June 30, 2020

The following table illustrates the estimated OPEB expense under GASB 75 for the Fiscal Year ending June 30, 2020. The amounts shown are estimates based on the results of the July 1, 2018 actuarial valuation and a 6.73% discount rate.

	Fiscal Year Ending 6/30/2020¹
(1) Service Cost	\$ 1,433,883
(2) Interest Cost	4,586,081
(3) Expected Investment Return	(2,771,469)
(4) Employee Contributions	0
(5) Administrative Expense	19,308
(6) Plan Changes	0
(7) Amortization of Unrecognized	
(a) Liability (Gain)/Loss	1,046,521
(b) Asset (Gain)/Loss	(199,699)
(c) Assumption Change (Gain)/Loss	<u>1,537,573</u>
(8) Total Estimated Expense	\$ 5,652,198
 (9) Total Expense as a Percentage of Payroll ²	 0.42%

The FYE 2020 estimate is higher than the FYE 2019 expense of \$4.2 million, primarily due to FYE 2020 expense being based on higher liability and service cost than the FYE 2019 expense.

¹ Final FYE 2020 expense information will be provided in the actuarial valuation based on a June 30, 2019 measurement date reflecting updated census, assumptions, plan provisions and actual asset values, in addition to any asset, liability, or assumption gains/losses initially recognized over the period June 30, 2018 to June 30, 2019.

² Based on estimated payroll.

Appendix C—Pre-65 / Post-65 Breakdown

Alternate breakdown of AAL is shown below to help understand the source of costs.

	Pre-65	Post-65	Total
All Benefits			
County Contribution - Flat Dollar (County & RSA)			
Retirees	\$1,441,261	\$15,927,178	\$17,368,439
Actives	\$1,891,807	\$3,913,612	\$5,805,419
Subtotal	\$3,333,068	\$19,840,790	\$23,173,858
County Contribution - CalPERS Benefits			
Retirees	\$2,775,770	\$11,850,198	\$14,625,968
Actives	\$2,950,694	\$5,518,653	\$8,469,347
Subtotal	\$5,726,464	\$17,368,851	\$23,095,315
CalPERS - Implicit Subsidy			
Retirees	\$8,408,065	\$2,925,908	\$11,333,973
Actives	\$9,608,460	\$1,180,088	\$10,788,548
Subtotal	\$18,016,525	\$4,105,996	\$22,122,521
Total AAL	\$27,076,057	\$41,315,637	\$68,391,694
Number of Retirees as of 7/1/2018 ¹	752	2,283	2,283
Number of Actives as of 7/1/2018 ¹	18,488	18,754	18,754
AAL Per Retiree	\$16,789	\$13,449	\$18,979
AAL Per Active	\$783	\$566	\$1,336
Normal Cost			
Flat Dollar (County & RSA)	\$122,713	\$258,148	380,861
CalPERS Benefits	\$184,843	\$304,037	488,880
CalPERS - Implicit Subsidy	\$495,479	\$68,663	564,142
Total Normal Cost	\$803,035	\$630,848	\$1,433,883

¹ For purpose of illustrating per participant AAL, counts reflect number of participants eligible for pre-65 and post-65 benefits, respectively.

DRAFT

1/9/2019



Actuarial Valuation Report

County of Riverside

Part-time and Temporary Employees' Retirement Plan

As of July 1, 2018

Executive Summary

Background

The County of Riverside established the Part-Time and Temporary Employees' Retirement Plan to provide retirement benefits to eligible employees as a substitute for benefits under Social Security, as allowed under OBRA '90. The Plan is an IRS Section 401(a) defined benefit plan.

The County's current funding policy is to contribute a level percentage of pay based on the sum of

- a) Normal Cost with interest and administrative expense, plus
- b) Amortization of July 1, 2018 Unfunded Actuarial Accrued Liability (UAAL) over the period ending June 30, 2037, plus
- c) Amortization of subsequent unanticipated UAAL changes (i.e., actuarial gains / losses and changes in assumptions) over 15-year periods, less
- d) Expected Employee Contributions

Amortization amounts are calculated based on the discount rate and payroll increase assumption appropriate for the valuation date.

Summary of Results

Funding Contribution

The funding contribution for Fiscal Year Ending (FYE) 2019 is \$610,522 and was developed based on the prior year valuation. The funding contribution for FYE 2020 is \$474,617 and is developed based on a projection of the normal cost, amortization of the July 1, 2017 initial Unfunded Actuarial Accrued Liability (UAAL) over the period ending June 30, 2037, and amortization of subsequent unanticipated changes in unfunded liability over 15-year periods.

GASB 68

This valuation is based on census data provided as of July 1, 2018 for the purpose of providing GASB 68 financial statement information, including expense, for FYE June 30, 2019. The final FYE June 30, 2019 expense is \$799,306, which is lower than estimated in the prior valuation due to asset gains, assumption changes, and actual versus estimated employee contributions, offset by actuarial liability losses.

The measurement date for results shown in this valuation report is June 30, 2018.

ASOP 51

In September 2017, the Actuarial Standards Board (ASB) introduced Actuarial Standard of Practice (ASOP) No. 51, *Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions*, which will be effective for any actuarial work product with a measurement date on or after November 1, 2018. This ASOP provides guidance to actuaries with regard to the assessment and disclosure of the risk that actual future measurements may differ significantly from expected future measurements. Examples of future measurements include pension liabilities, actuarially determined contributions, and funded status.

Comparison to Prior Valuation

The purpose of the actuarial valuation of the Plan is to:

- Determine the Plan's funded status and annual costs; and
- Provide information for Government Accounting Standards Board financial statement disclosure.

The following table summarizes the current valuation results as of July 1, 2018, compared to prior year results:

	July 1, 2017	July 1, 2018
Active participant count	2,019	1,509
Funding Contribution		
Discount Rate	6.00%	6.00%
Actuarial accrued liability (Projected Unit Credit):	\$45,163,745	\$48,815,097
Smoothed value of plan assets	37,150,211	40,274,623
Unfunded liability	\$8,013,534	\$8,540,474
Funded percentage	82.3%	82.5%
Actuarially Determined Contribution (ADC), FYE 2019 / 2020	\$610,522	\$474,617
Expected Participant Compensation	\$36,719,000	\$31,019,000
Contribution as a Percentage of Compensation	1.66%	1.53%
GASB 68 Expense		
Discount Rate	6.00%	6.00%
Total Pension Liability (Entry Age Normal):	\$42,015,930	\$45,797,809
Plan Fiduciary Net Position	37,553,358	41,575,975
Net Pension Liability	\$4,462,572	\$4,221,834
GASB 68 Annual Pension Expense/(Income), FYE 2019 final / 2020 estimate	\$799,306	\$947,000

Overall, the plan's Net Pension Liability decreased slightly from the prior valuation due to the net result of the following:

- Assets were higher than expected due to favorable investment return on plan assets (9.66% actual compared to 6.0% assumed);
- Demographic experience was different than expected, which resulted in a liability loss;
- Mortality assumptions were updated to reflect the revised mortality table developed in the 2017 CalPERS Experience Study, with generational future improvement scale MP-2018, resulting in an increase in liabilities; and
- Other demographic assumptions were updated to reflect the new assumptions developed in the 2017 CalPERS Experience Study, resulting in a small increase in liabilities.

We understand that the County had a recruitment freeze during the year ending July 1, 2018, which resulted in a significant reduction in the active participant count.

Projected Funding Status

90% Funded Status

The County's goal is to maintain a 90% funded status for the Plan. The valuation projects the Plan to be under 90% funded based on the cost method used for funding, as shown below.

Projected Actuarial Accrued Liability (AAL), 6/30/2019	\$50,673,450
90% of Projected AAL	45,606,105
Projected Smoothed Value of Assets, 6/30/2019	42,131,083
Shortfall for 90% funding, 6/30/2019	3,475,022
Shortfall with interest to middle of year	3,579,273
Amortization already included in ADC, middle of year	533,463
Remaining 90% shortfall to fund	\$3,045,810

The table below summarizes the estimated contribution projected in order to attain 90% at various future dates. The total contributions include the fiscal year ending June 30, 2020 ADC rate of 1.53%.

Target Funding Date	Additional Annual Payment to Fund Shortfall	Additional FYE 2020 Contribution (% of pay)	Total FYE 2020 Contribution to Fund 90% by Target Date
6/30/2020	\$3,046,000	9.82%	11.35%
6/30/2021	1,567,000	5.05%	6.58%
6/30/2022	1,075,000	3.47%	5.00%
6/30/2023	829,000	2.67%	4.20%
6/30/2024	682,000	2.20%	3.73%

80% Funded Status

The County also requested a review of maintaining an 80% funded status for the Plan. The valuation projects the Plan to be above 80% funded as of June 30, 2019, based on the cost method used for funding.

Due to the limited scope of this valuation report, we have not included an analysis of the potential range of such future measurements. However, an assessment and disclosure of risks pertaining to the funding valuation as newly required by the actuarial standards of practice is being provided in a separate report.

* * *

This July 1, 2018 valuation is based on census data provided as of June 30, 2018 for the purpose of providing GASB 68 financial statement information, including final expense for the fiscal year ending June 30, 2019, estimated expense for fiscal year ending June 30, 2020 and the funding contribution amount for the fiscal year ending June 30, 2020.

The following report provides details of the results summarized above and the disclosure information for fiscal year ending 2018.

Table of Contents

Actuarial Valuation Certification	1
Summary of Liabilities	3
Summary of Plan Assets	4
Development of Funding Contribution	5
GASB 68 Reporting and Disclosure Information for Fiscal Year Ending June 30, 2019	7
Participant Information	17
Summary of Principal Plan Provisions	20
Actuarial Assumptions and Methods	21
Appendix A – Estimated Annual Expense for FYE 2020	25

Actuarial Valuation Certification

This report documents the results of the July 1, 2018 actuarial valuation for the County of Riverside Part-time and Temporary Employee's Retirement Plan. The information provided in this report is intended strictly for documenting the development of the Funding Contribution and disclosure items under Governmental Accounting Standards Board (GASB) Statements No. 68.

Determinations for purposes other than the financial accounting requirements may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board. In addition, the valuation results are based on our understanding of the financial accounting and reporting requirements under U.S. Generally Accepted Accounting Principles as set forth in Government Accounting Standards Board Statement 68 (GASB 68) including any guidance or interpretations provided by the Company and/or its audit partners prior to the issuance of this report. The information in this report is not intended to supersede or supplant the advice and interpretations of the County of Riverside's auditors.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to (but not limited to) such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions
- Changes in actuarial methods or in economic or demographic assumptions
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period)
- Changes in plan provisions or applicable law

Due to the limited scope of this valuation report, we have not included an analysis of the potential range of such future measurements. However, an assessment and disclosure of risks pertaining to the funding valuation as required by the actuarial standards of practice is being provided in a separate report.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the County of Riverside as of the valuation date. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results. We have relied on actual and expected contributions as summarized within this report.

Actuarial computations under GASB are for purposes of fulfilling plan and employer accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of these accounting standards. Determinations for purposes other than meeting Employer financial accounting requirements may be different from these results.

This report is intended for the sole use of the County of Riverside. It is intended only to supply information for the County of Riverside to comply with the stated purpose of the report and may not be appropriate for other business purposes. Reliance on information contained in this report by anyone for other than the intended purposes, puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the report's conclusions. Accordingly, no person or entity, including the County of Riverside, should base any representations or

warranties in any business agreement on any statements or conclusions contained in this report without the written consent of Aon.

Funded status measurements shown in this report may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and funded status measurements for the employer and plan disclosure and reporting purposes may not be appropriate for assessing the need for or the amount of future contributions.

In determining the annual expense and Funding Contribution for the County of Riverside Part-time and Temporary Employees' Retirement Plan and information relating to plan disclosure and reporting requirements, Aon may be assisting the appropriate plan fiduciary as it performs tasks that are required for the administration of an employee benefit plan. Aon also may be consulting with the employer/plan sponsor (County of Riverside) as it considers alternative strategies for funding the plan, or as it evaluates information relating to employer reporting requirements. Thus, Aon potentially will be providing assistance to County of Riverside (and/or certain of its employees) acting in a fiduciary capacity (for the benefit of plan participants and beneficiaries) and to County of Riverside (and/or its executives) acting in a settlor capacity (for the benefit of the employer sponsoring the County of Riverside Part-time and Temporary Employees' Retirement Plan).

The undersigned are familiar with the near-term and long-term aspects of pension valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.

To our knowledge, no colleague of Aon providing services to the County of Riverside has any material direct or indirect financial interest in the County of Riverside. Thus, we believe there is no relationship existing that might affect our capacity to prepare and certify this actuarial report for the County of Riverside.

Respectfully submitted,

Bradley J. Au, MAAA, EA
Partner
(213) 996-1729
Brad.Au@aon.com

Steven Kilbride, FIA, FSA, EA
Senior Consultant
(213) 996-1735
Steven.Kilbride1@aon.com

Aon
707 Wilshire Boulevard
Suite 2600
Los Angeles, CA 90017

January 9, 2019

Summary of Liabilities

This exhibit shows the plan liabilities as of July 1, 2018 based on census data provided by the County as of June 30, 2018 and the Summary of Plan Provisions and Summary of Actuarial Assumptions described in this report.

The Actuarial Accrued Liability (AAL) is the portion of the actuarial present value of all future benefits to be paid to current plan participants that is attributable to past service.

GASB 68 prescribes use of the Entry Age Normal (EAN) cost method for development of expense and disclosure information. For funding contributions, the Projected Unit Credit (PUC) cost method is used to maintain a more stable contribution level for this plan that experiences high turnover rates.

	Funding Contributions	GASB 68
Cost Method	PUC	EAN
Discount Rate	6.00%	6.00%
Actuarial Accrued Liability (AAL), as of July 1, 2018		
Actives	\$11,572,736	\$11,923,074
Actives not accruing benefits ¹	12,211,359	8,843,733
Deferred Vested Terminated	16,153,016	16,153,016
Retirees and Beneficiaries	8,877,986	8,877,986
Total	\$48,815,097	\$45,797,809
Normal (Service) Cost, as of July 1, 2018	\$932,616	\$1,082,026

¹ Participants who become full-time employees and transfer to CalPERS are no longer accruing a benefit under the plan.

Summary of Plan Assets

This exhibit develops the asset values used in the valuation.

Statement of Invested Plan Assets as of June 30, 2018

1. Mutual Funds – Equity	\$29,205,039
2. Mutual Funds – Fixed Income	11,895,220
3. Cash and Equivalents (including receivables)	475,716
4. Total Assets held in Trust for Pension Benefits	<u>\$41,575,975</u>

Reconciliation of Plan Assets

1. Market Value of Assets at beginning of Plan Year	\$37,553,358
2. Employer Contributions	815,531
3. Employee Contributions	1,632,926
4. Net Investment Income	3,647,640
5. Benefit Payments	(1,726,399)
6. Administrative Expenses	<u>(347,081)</u>
7. Market Value of Assets at end of Plan Year	\$41,575,975

Rate of Return for 2017/2018 Plan year (net of expenses) 9.66%

Development of (Gain)/Loss

1. Expected Investment Earnings (assumed 6.00%)	\$2,264,287
2. Actual Investment Earnings	3,647,640
3. (Gain)/Loss on Assets (1)-(2)	<u>(\$1,383,353)</u>

Smoothed Value of Assets as of June 30, 2018

1. Market Value of Assets at end of Plan Year	\$41,575,975
2. Unrecognized (Gain)/Loss ¹	<u>(1,301,352)</u>
3. Preliminary Smoothed Value of Assets at end of Plan Year (1)+(2)	\$40,274,623
4. Lower Corridor (80% of Market Value)	\$33,260,780
5. Upper Corridor (120% of Market Value)	\$49,891,170
6. Smoothed Value of Assets	<u>\$40,274,623</u>

¹ Schedule of the Current and Prior Asset (Gains)/Losses as of June 30, 2018

Date Established	Original (Gain)/Loss	Years Remaining as of 06/30/2018	Amount recognized	Total Amount Unrecognized
6/30/2018	(\$1,383,353)	4	(\$276,671)	(\$1,106,682)
6/30/2017	(\$2,327,445)	3	(\$930,978)	(\$1,396,467)
6/30/2016	\$2,040,695	2	\$1,224,417	\$816,278
6/30/2015	\$1,927,595	1	\$1,542,076	\$385,519
Total			<u>(\$1,558,844)</u>	<u>(\$1,301,352)</u>

Development of Funding Contribution

The County's current funding policy is to contribute an amount equal to a level percentage of pay based on the sum of:

- a) Normal Cost with interest and administrative expense, plus
- b) Amortization of July 1, 2018 Unfunded Actuarial Accrued Liability (UAAL) over the period ending June 30, 2037, plus
- c) Amortization of subsequent unanticipated UAAL changes (i.e., actuarial gains / losses and changes in assumptions) over 15-year periods, less
- d) Expected Employee Contributions

The following table shows the development of the funding contribution as a level percentage of pay, assuming middle of year payment, for the FYE June 30, 2020:

	Total
Funding Contribution, FYE June 30, 2020	
Normal Cost, plus interest	\$1,270,788
Amortization of UAAL, plus interest	367,042
Expected Employee Contributions During FYE June 30, 2020	(1,163,213)
Funding Contribution	\$474,617
Funding Contribution as a Percentage of Pay	
Estimated Participant Compensation ¹	\$31,019,000
Normal Cost	4.10%
Amortization of UAAL	1.18%
Employee Contributions	(3.75%)
Funding Contribution, not less than 0	1.53%

We understand the County makes plan contributions based on the percentage of pay determined above. To the extent actual funding differs from dollar **amount** anticipated, the variation will be reflected in future contribution levels through amortization of unexpected changes in the UAAL.

The following table shows the development of the liability gain / loss as of June 30, 2018.

Liability as of June 30, 2017	\$45,163,745
Service Cost	1,093,361
Interest on Liability	2,723,634
Plan Change	0
Assumption Changes	(67,964)
Benefit Payments	(1,726,399)
Expected Liability as of June 30, 2018	47,186,377
Actual Liability as of June 30, 2018	48,815,097
Liability (Gain)/Loss	\$1,628,720

¹ Based on 2.75% payroll increase assumption.

Amortization Schedule

The following table shows the amortization of Unfunded Actuarial Accrued Liability as of July 1, 2019. Amortization of bases is first recognized in the fiscal year subsequent to the year established.

Date Established	Type of Base	Original Period	Remaining Period as of June 30, 2019	Original Balance	Balance Remaining as of June 30, 2019	Amortization Recognized in FYE June 30, 2020
7/1/2017	7/1/2017 UAAL ¹	20	18	\$8,013,534	\$7,450,826	\$532,394
7/1/2018	Liability (Gain)/Loss	15	15	1,628,720	1,726,443	141,842
7/1/2018	Assets (Gain)/Loss	5	5	(1,383,353)	(1,466,354)	(311,814)
7/1/2018	Assumptions	15	15	(67,964)	(72,042)	(5,919)
	Total Charges			\$8,190,937	\$7,638,872	\$356,503

¹ Includes Asset (Gain)/Loss as of 6/30/2017

GASB 68 Reporting and Disclosure Information for Fiscal Year Ending June 30, 2019

Development of GASB 68 Annual Expense

The expense amounts shown below have been prepared for GASB 68 reporting purposes for the fiscal year ending June 30, 2019 based on a Valuation Date of July 1, 2018 and Measurement period July 1, 2017 to July 1, 2018.

The following table illustrates the Net Pension Liability under GASB 68.

	Fiscal Year Ending 6/30/2018	Fiscal Year Ending 6/30/2019
(1) Pension Liability		
(a) Actives	\$ 12,845,364	\$ 11,923,074
(b) Actives not accruing benefits ¹	\$ 8,021,878	\$ 8,843,733
(c) Deferred Vested Terminated	\$ 13,941,572	\$ 16,153,016
(d) Retirees and Beneficiaries	\$ 7,207,116	\$ 8,877,986
(e) Total	\$ 42,015,930	\$ 45,797,809
(2) Plan Fiduciary Net Position	\$ 37,553,358	\$ 41,575,975
(3) Net Pension Liability	\$ 4,462,572	\$ 4,221,834
(4) Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	89.38%	90.78%
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 815,531	TBD

Annual Expense, FYE June 30, 2019

1. Service Cost	\$1,299,918
2. Interest Cost	2,547,913
3. Expected Return on Assets	(2,264,287)
4. Employee Contributions	(1,632,926)
5. Administrative Expense	347,081
6. Plan Changes	0
7. Amortization of Unrecognized	
(a) Liability (Gain)/Loss	810,705
(b) Asset (Gain)/Loss	(490,377)
(c) Assumption Changes	181,279
(d) Total	501,607
8. Annual Expense	\$799,306

¹ Participants who become full-time employees and transfer to CalPERS are no longer accruing a benefit under the plan.

Reconciliation of Net Pension Liability

The following table shows details regarding the Total Pension Liability, Plan Fiduciary Net Position and Net Pension Liability for the measurement period June 30, 2017 to June 30, 2018.

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a) – (b)
Balance Recognized at 6/30/2018			
(Based on 6/30/2017 Measurement Date)	\$42,015,930	\$37,553,358	\$4,462,572
Changes for the year:			
Service Cost	\$1,299,918	N/A	\$1,299,918
Interest Cost	\$2,547,913	N/A	\$2,547,913
Plan Amendment	\$0	N/A	\$0
Differences Between expected and actual experience	\$1,620,937	N/A	\$1,620,937
Changes of Assumptions	\$39,510	N/A	\$39,510
Benefit Payments, including refunds of employee contributions	(\$1,726,399)	(\$1,726,399)	\$0
Contributions – Employer	N/A	\$815,531	(\$815,351)
Contributions – Employee	N/A	\$1,632,926	(\$1,632,926)
Net Investment Income	N/A	\$3,647,640	(\$3,647,640)
Administrative Expenses	N/A	(\$347,081)	\$347,081
Other Changes	\$0	\$0	\$0
Net Changes	\$3,781,879	\$4,022,617	(\$240,738)
Balance Recognized at 6/30/2019			
(Based on 6/30/2018 Measurement Date)	\$45,797,809	\$41,575,975	\$4,221,834

Development of Items Used in Determination of 2019 Expense

Liability (Gain)/Loss

The following table illustrates the liability (gain)/loss under GASB 68.

	Fiscal Year Ending 6/30/2019
(1) Pension Liability at Beginning of Measurement Period	\$ 42,015,930
(2) Service Cost	1,299,918
(3) Interest on the Total Pension Liability	2,547,913
(4) Changes of Benefit Terms	0
(5) Changes of Assumptions	39,510
(6) Benefit Payments	(1,726,399)
(7) Expected Pension Liability at End of Measurement Period	44,176,872
(8) Actual Pension Liability at End of Measurement Period	<u>45,797,809</u>
(9) Pension Liability (Gain)/Loss	\$ 1,620,937
(10) Average Future Working Life Expectancy	8.07
(11) Pension Liability (Gain)/Loss Amortization	\$ 200,860

Asset (Gain)/Loss

The following illustrates the asset (gain)/loss under GASB 68.

	Fiscal Year Ending 6/30/2019
(1) Pension Asset at Beginning of Measurement Period	\$ 37,553,358
(2) Contributions—Employer	815,531
(3) Contributions—Employee	1,632,926
(4) Expected Investment Income	2,264,287
(5) Benefit Payments	(1,726,399)
(6) Administrative Expense	(347,081)
(7) Other	0
(8) Expected Pension Asset at End of Measurement Period	40,192,622
(9) Actual Pension Asset at End of Measurement Period	<u>41,575,975</u>
(10) Pension Asset (Gain)/Loss	\$ (1,383,353)
(11) Amortization Factor	<u>5.00</u>
(12) Pension Asset (Gain)/Loss Amortization	\$ (276,671)

Deferred Outflows/Inflows of Resources

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2019 under GASB 68.

	Deferred Outflows of Resources	Deferred Inflows of Resources
(1) Difference between actual and expected experience	\$4,317,669	\$0
(2) Net difference between expected and actual earnings on pension plan investments	1,201,797	2,518,837
(3) Assumption changes	1,595,430	929,424
(4) Total	\$7,114,896	\$3,448,261

Amortization of Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2019.

Date Established	Type of Base	Period ¹		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
6/30/2018	Liability (Gain)/Loss	8.07	7.07	\$ 1,620,937	\$ 1,420,077	\$ 200,860
6/30/2018	Asset (Gain)/Loss	5.00	4.00	(1,383,353)	(1,106,682)	(276,671)
6/30/2018	Assumptions	8.07	7.07	39,510	34,614	4,896
6/30/2017	Liability (Gain)/Loss	7.97	5.97	1,456,980	1,091,364	182,808
6/30/2017	Asset (Gain)/Loss	5.00	3.00	(2,353,591)	(1,412,155)	(470,718)
6/30/2017	Assumptions	7.97	5.97	(746,218)	(558,961)	(93,628)
6/30/2016	Liability (Gain)/Loss	7.97	4.97	1,524,469	950,641	191,276
6/30/2016	Asset (Gain)/Loss	5.00	2.00	2,040,695	816,278	408,139
6/30/2016	Assumptions	7.97	4.97	(594,082)	(370,463)	(74,540)
6/30/2015	Liability (Gain)/Loss	8.53	4.53	795,023	422,210	93,203
6/30/2015	Asset (Gain)/Loss	5.00	1.00	1,927,595	385,519	385,519
6/30/2015	Assumptions	8.53	4.53	2,939,020	1,560,816	344,551
6/30/2014	Liability (Gain)/Loss	8.04	3.04	1,146,168	433,377	142,558
6/30/2014	Asset (Gain)/Loss	5.00	0.00	(2,683,232)	0	(536,646)
	Total Charges			\$ 5,729,921	\$ 3,666,635	\$ 501,607

¹ Periods prior to 6/30/2017 were based on future working life as of the end of the measurement period.

Amounts reported as Deferred Outflows of Resources and Deferred (Inflows) of Resources related to pensions will be recognized in pension expense as follows:

Year Ending June 30	
2020	\$1,038,253
2021	\$652,734
2022	\$244,595
2023	\$578,459
2024	\$640,178
Thereafter	\$512,421

Plan Fiduciary Net Position Projection

The following table illustrates the projection of the fiduciary net position for use in the calculation of the discount rate as of June 30, 2019.

(\$ in thousands)

Year Ending June 30 ²	Beginning Fiduciary Net Position (a)	Total Contributions (b)	Benefit Payments (c)	Administrative Expenses (d)	Investment Earnings (e)	Ending Fiduciary Net Position ¹ (f)
2019	\$41,576	\$2,200	\$2,328	\$228	\$2,485	\$43,705
2020	43,705	1,845	2,102	208	2,609	45,850
2021	45,850	774	2,099	200	2,706	47,031
2022	47,031	683	2,168	198	2,772	48,121
2023	48,121	642	2,307	197	2,832	49,091
2024	49,091	628	2,454	196	2,886	49,955
2025	49,955	628	2,557	196	2,935	50,764
2026	50,764	1,012	2,669	196	2,991	51,901
2027	51,901	1,031	2,827	196	3,056	52,964
2028	52,964	1,053	2,949	197	3,116	53,987
2029	53,987	1,076	3,099	197	3,174	54,941
2030	54,941	1,100	3,210	197	3,229	55,863
2031	55,863	1,124	3,257	197	3,283	56,817
2032	56,817	1,150	3,292	197	3,340	57,818
2033	57,818	1,176	3,357	197	3,399	58,840
2034	58,840	1,203	3,394	197	3,460	59,912
2035	59,912	1,231	3,507	198	3,522	60,961
2036	60,961	1,043	3,581	197	3,577	61,803
2037	61,803	1,067	3,629	197	3,627	62,671
2038	62,671	197	3,705	197	3,651	62,616
2039	62,616	196	3,718	196	3,647	62,545
2040	62,545	195	3,800	195	3,640	62,386
2041	62,386	193	3,858	193	3,629	62,156
2042	62,156	192	3,961	192	3,612	61,808
2043	61,808	190	4,004	190	3,590	61,394
2044	61,394	187	4,031	187	3,565	60,928
2045	60,928	184	4,032	184	3,537	60,433
2046	60,433	180	4,080	180	3,505	59,858
2047	59,858	176	4,107	176	3,470	59,221
2048	59,221	172	4,167	172	3,430	58,484

¹ (f)=(a) + (b) – (c) – (d) + (e)

² Years later than 2048 were omitted from this table.

Plan Fiduciary Net Position

The last year in which projected benefit payments are due from the Plan is 2113.

The Plan's projected fiduciary net position is not projected to reach \$0.

As such, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "depletion date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.00% per annum was applied to all periods of projected benefit payments to determine the total Pension liability as of June 30, 2019 shown earlier in this report.

Asset Projection Basis

In projecting the Plan's fiduciary net position, the following assumptions were made:

1. Interest rate for discounting was 6.00% per annum.
2. Projected total contributions are employer and employee contributions to the unfunded actuarial accrued liability and normal cost (for the current active population only). Contributions are assumed to be paid mid-year.
3. Projected employee contributions to the plan are 3.75% of compensation.
4. Assumed contributions are based on the County of Riverside continuing to follow the current funding policy.
5. Projected benefit payments have been determined in accordance with Paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members and beneficiaries as of June 30, 2019. Benefit payments are assumed to be paid mid-year.
6. Administrative expenses are assumed to be \$225,000 per year increased with inflation at 2.5% per year and pro-rated based on projected proportion of headcount that relates to current population.

Sensitivity to Discount Rate

The following table illustrates the impact of interest rate sensitivity on the Net Pension Liability for fiscal year ending June 30, 2018:

	1% Decrease (5.0%)	Current Rate (6.0%)	1% Increase (7.0%)
Total Pension Liability	\$48,750,655	\$42,015,930	\$36,366,264
Plan Fiduciary Net Position	(37,553,358)	(37,553,358)	(37,553,358)
Net Pension Liability	\$11,197,297	\$4,462,572	(\$1,187,094)

The following table illustrates the impact of interest rate sensitivity on the Net Pension Liability for fiscal year ending June 30, 2019:

	1% Decrease (5.0%)	Current Rate (6.0%)	1% Increase (7.0%)
Total Pension Liability	\$53,221,303	\$45,797,809	\$39,611,371
Plan Fiduciary Net Position	(41,575,975)	(41,575,975)	(41,575,975)
Net Pension Liability	\$11,645,328	\$4,221,834	(\$1,964,604)

Schedule of Changes in the Net Pension Liability and Related Ratios

The following exhibit is a 10-year history of change in Net Pension Liability.

Year Ending June 30,	2015	2016	2017	2018	2019
Total Pension Liability					
Service Cost	\$1,556,594	\$1,511,755	\$1,717,422	\$1,913,998	\$1,299,918
Interest Cost	\$1,800,053	\$1,983,322	\$2,186,254	\$2,358,408	\$2,547,913
Changes of Benefit Terms	\$0	\$0	\$0	\$0	\$0
Differences Between Expected and Actual Experiences	\$1,146,168	\$795,023	\$1,524,469	\$1,456,980	\$1,620,937
Changes of Assumptions	\$0	\$2,939,020	(\$594,082)	(\$746,218)	\$39,510
Benefit Payments, Including Refunds of Member Contributions	(\$1,761,676)	(\$1,511,284)	(\$1,506,614)	(\$1,757,166)	(\$1,726,399)
Net Change in Total Pension Liability	\$2,741,139	\$5,717,836	\$3,327,449	\$3,226,002	\$3,781,879
Total Pension Liability (Beginning)	\$27,003,504	\$29,744,643	\$35,462,479	\$38,789,928	\$42,015,930
Total Pension Liability (Ending)	\$29,744,643	\$35,462,479	\$38,789,928	\$42,015,930	\$45,797,809
Plan Fiduciary Net Position					
Contributions—Employer	\$955,554	\$606,694	\$667,952	\$1,341,340	\$815,531
Contributions—Member	\$1,394,450	\$1,266,962	\$1,399,254	\$1,674,410	\$1,632,926
Net Investment Income	\$4,437,066	\$131,206	(\$116,966)	\$4,288,900	\$3,647,940
Benefit Payments, Including Refunds of Member Contributions	(\$1,761,676)	(\$1,511,284)	(\$1,506,614)	(\$1,757,166)	(\$1,726,399)
Administrative Expense	(\$227,581)	(\$217,041)	(\$188,657)	(\$127,973)	(\$347,081)
Other	\$0	\$0	\$0	\$0	\$0
Net Change in Plan Fiduciary Net Position	\$4,797,813	\$276,537	\$254,969	\$5,419,511	\$4,022,617
Plan Fiduciary Net Position (Beginning)	\$26,804,528	\$31,602,341	\$31,878,878	\$32,133,847	\$37,553,358
Plan Fiduciary Net Position (Ending)	\$31,602,341	\$31,878,878	\$32,133,847	\$37,553,358	\$41,575,975
Net Pension Liability (Ending)	(\$1,857,698)	\$3,583,601	\$6,656,081	\$4,462,572	\$4,221,834
Net Position as a % of Pension Liability	106.25%	89.89%	82.84%	89.38%	90.78%
Covered-Employee Payroll	\$29,516,733	\$23,120,653	\$33,058,770	\$34,610,720	\$29,381,080
Net Pension Liability as a % of Payroll	(6.29%)	15.50%	20.13%	12.89%	14.37%

Notes to Schedule:

- No changes have been made over the 10-year history since GASB 68 has become effective.

Schedule of Contributions

The follow exhibit is a 10-year history of Schedule of Contributions.

Year Ending June 30,	2015	2016	2017	2018	2019
Actuarially Determined Contributions	\$252,273	\$122,127	\$727,119	\$656,930	\$610,522
Contributions in Relation to the Actuarially Determined Contribution	\$606,694	\$667,952	\$1,341,340	\$815,531	TBD
Contribution Deficiency/(Excess)	(\$354,421)	(\$545,825)	(\$585,457)	(\$158,601)	TBD
Covered-Employee Payroll	\$37,918,375	\$41,747,000	\$44,650,933	\$43,544,693	TBD
Contributions as a Percentage of Covered-Employee Payroll	1.60%	1.60%	3.00%	1.87%	TBD

Schedule of Investment Returns

The follow exhibit is a 10-year history of Investment Returns.

Year Ending June 30,	2015	2016	2017	2018	2019
Annual Money-Weighted Rate of Return, Net of Investment Expense	16.5%	0.41%	(0.36%)	13.12%	9.66%

These schedules are presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, pension plans should present information for those years for which information is available

Participant Information

The below exhibits summarize participant demographic information as of June 30, 2018.

Number of Participants:

Actives	1,509
Full-time Actives (not accruing benefits) ¹	4,690
Deferred Vested	2,792
Retirees	289
Total	9,280

Participant Compensation – Active Participants Currently Accruing Benefits

Compensation (prior year)	\$29,381,080
Number of Active Participants below assumed retirement age	1,509
Average Compensation	\$19,471

Actives

Average Age	39.06
Average Benefit Service (years)	2.87

Full-time Actives

Average Age	42.98
Average Accrued Annual Benefit	\$542

Deferred Vested

Average Age	46.24
Average Accrued Annual Benefit	\$1,171

Retired

Average Age	73.46
Average Annual Benefit	\$3,184

Reconciliation of Participants from Prior Valuation

	Active	Full-time Actives ¹	Terminated Vested	Retirees and Beneficiaries	Total
As of July 1, 2017	2,019	4,679	2,181	250	9,129
Duplicates	0	0	0	0	0
Classification Change	(392)	392	0	0	0
New Entrants	1,079	3	19	1	1,102
Vested Terminations	(760)	(155)	915	0	0
Rehires	16	8	(23)	(1)	0
Retired	(4)	(10)	(26)	40	0
Deaths	0	0	0	(1)	(1)
Lump Sum Cash-outs	(449)	(227)	(274)	0	(950)
Data Correction	0	0	0	0	0
Net Change	(510)	11	611	39	151
As of July 1, 2018	1,509	4,690	2,792	289	9,280

¹ Participants who become full-time employees and transfer to CalPERS are no longer accruing a benefit under the plan.

Active Age Distribution as of July 1, 2018

Age	Number of Participants
15-19	26
20-24	202
25-29	279
30-34	229
35-39	154
40-44	148
45-49	135
50-54	102
55-59	94
60-64	67
65-69	44
70-74	16
75 +	13
Total	1,509

Active Career Earnings Distribution as of July 1, 2018

Career Earnings	Number of Participants
Under \$5,000	394
\$5,000 - \$10,000	181
\$10,000 - \$25,000	407
\$25,000 - \$50,000	132
\$50,000 - \$100,000	161
Over \$100,000	234
Total	1,509

This valuation includes the following active participants by category:

Category	Number of participants
▪ Seasonal	0
▪ Resident/Physician	2
▪ Per Diem	615
▪ Temporary	688
▪ Regular	204
	1,509

Development of GASB 75 Amortization Period for Changes in Liability

Status	July 1, 2017		July 1, 2018	
	Count	Average Future Working Life	Count	Average Future Working Life ¹
1. Actives	2,019	0.68	1,509	0.69
2. Actives not accruing benefits	4,679	15.46	4,690	17.16
3. Deferred Vested Terminated	2,181	0.00	2,792	0.00
4. Retirees	250	0.00	289	0.00
5. Total/Weighted Average	9,129	8.07	9,280	8.78

¹ Based on demographic assumptions set out in the Actuarial Assumption and Methods section of this report

Summary of Principal Plan Provisions

1. **Membership Requirements**

All employees of the County not covered by another retirement plan as provided by Code Section 3121(b)(7)(F).

2. **Career Compensation**

Total amount of compensation, limited annually by the Social Security Wage Base.

3. **Normal or Late Retirement Benefit**

Eligibility: Age 65

Benefit: 2% times Career Compensation, payable as a single life annuity.

4. **Pre-Retirement Death Benefit**

Refund of contributions accumulated with interest at 5% per annum.

5. **Death after Retirement**

None. Benefits are payable for the life of the employee only.

6. **Termination Benefit**

Normal retirement benefit accrued to date of termination.

A lump sum distribution is paid if the actuarial equivalent benefit is less than \$5,000. Actuarial Equivalence for this purpose is based on the greater of the factor produced under the UP1984 unisex mortality table at 6% or the applicable mortality table and interest rate under 417(e).

7. **Vesting**

Benefits are 100% vested immediately.

8. **Member Contributions**

3.75% of compensation per pay period.

Actuarial Assumptions and Methods

1. Actuarial Cost Method

Actuarially Determined Contributions – Projected Unit Credit

GASB 68 – Entry Age Normal

2. Funding Contribution Methodology

Funding contributions are based on the sum of:

- a) Normal Cost with interest and administrative expense, plus
- b) Amortization of July 1, 2018 Unfunded Actuarial Accrued Liability (UAAL) over the period ending June 30, 2037, plus
- c) Amortization of subsequent unanticipated UAAL changes (i.e., actuarial gains / losses and changes in assumptions) over 15-year periods, less
- d) Expected Employee Contributions

3. Interest Rates

Funding Interest Rate – 6.00%

Used as the asset return assumption and based on the long term expected return on plan assets.

GASB 68 Discount Rate – 6.00%

The discount rate is based on a single equivalent rate that reflects a blend of:

- Expected return on assets during the period such that assets are projected to be sufficient to pay benefits of current participants (6.00%); and
- Municipal bond index for periods beyond the depletion of assets (3.87%).

Based on the current funding policy, projected cash flows, and the assumed asset return, the plan assets are not projected to be depleted, and the discount rate can be based on the 6.00% asset return.

Lump Sum Interest Rate – 5.00%

Used to estimate lump sum benefit amounts and based on the long term expected effective rate used for determining lump sums under plan provisions. Generally, this is based on high quality corporate bonds. This rate is independent of the plan's asset allocation and expected return.

4. Salary Increases

2.75% per year

5. Payroll Growth (used for amortization of unfunded liability)

2.75% per year (same as CalPERS assumption)

6. Mortality

Actives (accruing benefits)

RP-2006 combined annuitant/non-annuitant mortality table with generational future improvement from 2006 using scale MP-2018.

Full-time Actives (no longer accruing benefits)

Mortality rates are based on the most recent CalPERS mortality table developed in the 2017 CalPERS Experience Study, with generational future improvements from 2008 using scale MP-2018. Sample rates for the 2008 base year are as follows:

Age	Male	Female
30	0.04%	0.02%
40	0.07%	0.04%
50	0.14%	0.09%
60	0.71%	0.50%
70	1.50%	1.07%
80	4.64%	3.44%
90	14.84%	11.27%

7. Termination Rates

Actives (accruing benefits)

Attained Age	Probability of Termination
Under Age 30	65%
30-49	60%
50-64	50%

Full-time Actives (no longer accruing benefits)

Turnover rates developed in the 2017 CalPERS Experience Study for Miscellaneous were used in the valuation. The following sample rates are based on age and service:

Attained Age	Years of Service						
	0 - 1	5	10	15	20	25	30
30	16.06%	6.15%	4.16%	2.62%	0.00%	0.00%	0.00%
35	15.37%	5.67%	3.99%	2.52%	1.84%	0.00%	0.00%
40	14.68%	5.19%	3.75%	2.43%	1.76%	1.07%	0.00%
45	14.00%	4.80%	3.51%	2.16%	1.68%	1.00%	0.26%
50	13.32%	4.41%	2.86%	1.88%	1.30%	0.94%	0.20%
55	12.62%	3.68%	2.22%	1.43%	0.92%	0.53%	0.16%

8. Retirement Rates

Actives (accruing benefits)

Attained Age	Probability of Retirement
65-66	60%
67-74	50%
75+	100%

Full-time Actives (no longer accruing benefits)

Retirement rates developed in the 2017 CalPERS Experience Study for Miscellaneous were used in the valuation. Applicable retirement rate table is based on employee date of hire, as summarized below:

- Hire date prior to August 24, 2012: Miscellaneous 3% @ 60 rates
- Hire date August 24, 2012 to December 31, 2012: Miscellaneous 2% @ 60 rates
- Hire date post December 31, 2012: Miscellaneous 2% @ 62 rates

Sample rates from the 'Miscellaneous 3% @ 60 table' are as follows:

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	1.30%	1.90%	2.60%	4.20%	3.80%	6.40%	10.00%
55	4.00%	5.20%	6.40%	8.50%	9.50%	12.00%	17.20%
60	8.90%	10.60%	12.30%	18.00%	22.60%	31.60%	38.70%
65	20.00%	24.20%	28.30%	33.00%	30.00%	34.20%	37.00%
70	22.00%	25.50%	29.10%	32.60%	35.80%	38.80%	40.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Sample rates from the 'Miscellaneous 2% @ 60 table' are as follows:

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	2.00%	2.00%	2.00%	2.00%	2.00%	15.00%	15.00%
55	1.90%	2.60%	3.30%	9.20%	13.60%	14.60%	15.00%
60	7.00%	7.40%	8.90%	11.30%	13.70%	16.10%	24.60%
65	14.00%	17.80%	21.50%	26.40%	32.10%	37.70%	41.20%
70	14.00%	17.80%	21.50%	26.40%	32.10%	37.70%	41.20%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Sample rates from the 'Miscellaneous 2% @ 62 table' are as follows:

Attained Age	Years of Service						
	5	10	15	20	25	30	35
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
55	1.20%	2.10%	2.90%	3.80%	6.80%	10.30%	16.60%
60	3.50%	5.50%	7.50%	9.50%	11.50%	14.50%	19.30%
65	11.50%	14.70%	18.00%	21.30%	24.50%	31.50%	35.40%
70	12.70%	16.40%	20.00%	23.60%	27.30%	35.00%	39.40%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

9. Value of Assets

Funding – Effective June 30, 2014, smoothed asset value, with differences between actual and expected earnings recognized over a 5-year period (with the first year of recognition being the period in which the Gain/(Loss) occurred), subject to an 80%-120% corridor around market value.

GASB 68 – Market value

10. Form of Benefit Paid

Lump sums paid immediately at termination for benefits with a present value less than \$5,000. Single life annuities deferred to normal retirement age paid for benefits with a present value greater than \$5,000.

11. Administrative Expenses

Assumed \$225,000 per year

12. Participants Valued

Only current active, full time active, terminated vested, retirees and beneficiaries of the plan as of June 30, 2018 are included in the valuation.

Based on information provided by the County, retiree liabilities are loaded by \$200,000 to reflect benefit payments due to participants who retired after normal retirement date but have yet to receive an enhanced benefit.

13. Changes in Assumptions and Methods Since the Prior Valuation

- 1) Update to salary increases and payroll growth assumptions from 3.00% to 2.75%
- 2) Demographic assumptions (i.e., mortality rates, termination rates, retirement rates and disability rates) were updated to reflect the assumptions developed in the 2017 CalPERS Experience Study
- 3) Update to assumed mortality improvement scale from MP-2017 to MP-2018.

Appendix A – Estimated Annual Expense for FYE 2020

Development of Annual Expense FYE 2019 under GASB 68 (Estimate)

The estimated expense amount shown below has been prepared for GASB 68 for the fiscal year ending June 30, 2020.

The Actuarial Accrued Liability as of July 1, 2018 has been prepared using the Entry Age Normal cost method, as required by GASB 68. The following estimated expense amounts have been prepared based on a Valuation Date of July 1, 2018, Measurement Date of July 1, 2019 and interest rate of 6.00%.

The expense shown below will be updated in next year's report to reflect actual administrative costs, employee contributions, and any gains or losses with respect to assets and liabilities.

Unfunded Actuarial Accrued Liability, as of July 1, 2018

Actuarial Accrued Liability as of 7/1/2018	\$45,797,809
Value of Plan Assets as of 7/1/2018	41,575,975
Unfunded Actuarial Accrued Liability (UAAL)	<u>\$4,221,834</u>

Estimated Annual Expense, FYE June 30, 2020¹⁰

1. Service Cost	\$1,082,000
2. Interest Cost	2,762,000
3. Expected Return on Assets	(2,489,000)
4. Employee Contributions	(1,163,000)
5. Administrative Expense	225,000
6. Plan Changes	0
7. Amortization of Unrecognized	
(a) Liability (Gain)/Loss	811,000
(b) Asset (Gain)/Loss	(490,000)
(c) Assumption Changes	<u>181,000</u>
(d) Total	<u>502,000</u>
8. Annual Expense	<u>\$919,000</u>

¹⁰ Final FYE 2020 expense information will be provided in the actuarial valuation based on a June 30, 2019 measurement date reflecting updated census, assumptions, plan provisions and actual asset values, in addition to any asset, liability, or assumption gains/losses initially recognized over the period June 30, 2018 to June 30, 2019