County Connection

INTER OFFICE MEMO

To: Administration and Finance Committee

Date: December 4, 2018

From: Erick Cheung
Chief Finance Officer

SUBJECT: PERS Actuarial Valuation for June 30, 2017; Rate for FY 2019

SUMMARY OF ISSUES:

The PERS Actuarial Valuation Report (Report) for the period ending June 30, 2017 is used to set the rate for the next fiscal year and provides County Connection's funded status. **The employer rate for FY 2019 will be 8.313% and an unfunded liability payment of $349,903.** County Connection's funded status is currently **91.5% funded,** which is up from 88.9%. CalPERS investment return for 2017 was 11.2% which was over the discount rate of 7.5%.

CalPERS Assumptions & Projections

The updated projections shown below will be used for the budget and 10 year forecast. The revised unfunded liability payments are lower as CalPERS rate of return was 11.2% for FY 2017. As shown in the table, the FY 2017 return lowered unfunded liability payments over the next 7 fiscal years by $1.5 million (assuming assumptions are met in future years).

In the previous year the CalPERS Board lowered the discount rate from 7.5% to 7.0% using a three year phase in period. The discount rate will be lowered for FY 2019 to 7.375%, FY 2020 to 7.25% and FY 2021 to 7.0%.

Below are the CalPERS current projections compared with the prior projections:

	Current				Prior Forecast				Difference			
	Payroll Rate	+	Unfunded Liability Payment		Payroll Rate	+	Unfunded Liability Payment		Payroll Rate	+	Unfunded Liability Payment	
FY 2019 Actual	8.114%		$	210,673	8.114%		$	210,673	n/a		n/a	
FY 2020	8.313%		$	349,903	8.500%		$	412,000	-2.200%		$	(62,097)
FY 2021	8.900%		$	548,000	9.400%		$	679,000	-5.319%		$	(131,000)
FY 2022	8.900%		$	762,000	9.400%		$	973,000	-5.319%		$	(211,000)
FY 2023	8.900%		$	928,000	9.400%		$	1,226,000	-5.319%		$	(298,000)
FY 2024	8.900%		$	980,000	9.400%		$	1,373,000	-5.319%		$	(393,000)
FY 2025	8.900%		$	1,072,000	9.400%		$	1,489,000	-5.319%		$	(417,000)
Unfunded Liab Payment Total			$	4,850,576			$	6,362,673			$	(1,512,097)

Estimates of future employer rates depend upon a variety of factors:

- Future investment returns of 7.25%.
- Payroll growth of 2.875%.
- Inflation growth of 2.625%.
- Demographic assumptions including the percentage of employees that will terminate employment, retire, or pass on in each future year.

Several pages of the actuarial report are attached.

Plan's Funded Status, Based on Market Value of Assets (Page 5 Actuarial Report)

As stated earlier, the funded status is 91.5% with the unfunded liability totaling $7.8 million. The prior year funded status was 88.9%, with the unfunded liability of $9.6 million. The reason for the decrease in the unfunded accrued liability (UAL) of $1.8 million was due to better than expected investment return as mentioned above.

Investment Rate of Return

It is CalPERS' policy to use a constant investment return rate for the actuarial report rather than the actual rate of return. This is called *asset smoothing*- the delayed recognition of part of the investment gains or losses dampens the effect of short-term market value fluctuations in setting employers' rates. The CalPERS Board did approve recommendation to change the amortization and rate smoothing policies. CalPERS employs a policy that amortizes all gains and losses over a fixed 30-year period. The increase or decrease in the rate is then spread directly over a 5 year period. This method is referred to as "direct rate smoothing." CalPERS no longer uses an actuarial value of assets and only uses the market value of assets.

The CalPERS history of investment returns in shown on Page 12 of the actuarial report.

CalPERS Update

In December 2017, the CalPERS Board adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. *These changes will apply only to new UAL bases established on or after June 30, 2019*.

Other Information:

- There are 199 retirees receiving benefits.
- The average annual benefit is $16,763.
- The average age of retirees is 70.08.
- There are 246 active members.
- The average annual payroll of the active members is $58,053.
- The covered annual payroll is $14,280,946.
- The average age for active members is 51.08.
- Pages C-1 & C-2 include a breakdown of the active members by age and salaries & years of service. As of June 30, 2017, 26% or 63 employees were over 60 years of age.

FINANCIAL IMPLICATIONS: These rates will be used for the revised forecast.

ACTION REQUESTED: None; information only.

ATTACHMENTS: Selected pages of the PERS valuation report.

Required Contributions

Required Employer Contribution		**Fiscal Year 2019-20**
Employer Normal Cost Rate		**8.313%**
Plus, Either		
1) Monthly Employer Dollar UAL Payment	**$**	**29,159**
Or		
2) Annual UAL Prepayment Option	**$**	**337,870**
Required PEPRA Member Contribution Rate		**7.25%**

The total minimum required employer contribution is the ***sum*** *of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll)* ***plus*** *the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).*

Only the UAL portion of the employer contribution can be prepaid ***(which must be received in full no later than July 31)****. Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.*

In accordance with Sections 20537 and 20572 of the Public Employees' Retirement Law, if a contracting agency fails to remit the required contributions when due, interest and penalties may apply.

For additional detail regarding the determination of the required contribution for PEPRA members, see Appendix D. Required member contributions for Classic members can be found in Appendix B.

		Fiscal Year 2018-19		**Fiscal Year 2019-20**
Normal Cost Contribution as a Percentage of Payroll				
Total Normal Cost		15.064%		15.256%
Employee Contribution[1]		6.950%		6.943%
Employer Normal Cost[2]		8.114%		8.313%
Projected Annual Payroll for Contribution Year	$	15,687,026	$	15,548,429
Estimated Employer Contributions Based On Projected Payroll				
Total Normal Cost	$	2,363,094	$	2,372,068
Employee Contribution[1]		1,090,248		1,079,527
Employer Normal Cost[2]		1,272,846		1,292,541
Unfunded Liability Contribution		210,673		349,903
% of Projected Payroll (illustrative only)		1.343%		2.250%
Estimated Total Employer Contribution	$	1,483,519	$	1,642,444
% of Projected Payroll (illustrative only)		9.457%		10.563%

[1] For classic members, this is the percentage specified in the Public Employees Retirement Law, net of any reduction from the use of a modified formula or other factors. For PEPRA members, the member contribution rate is based on 50 percent of the normal cost. A development of PEPRA member contribution rates can be found in Appendix D. Employee cost sharing is not shown in this report.

[2] The Employer Normal Cost is a blended rate for all benefit groups in the plan. A breakout of normal cost by benefit group is shown in Appendix D.

Plan's Funded Status

		June 30, 2016		June 30, 2017
1. Present Value of Projected Benefits	$	102,228,467	$	106,730,707
2. Entry Age Normal Accrued Liability		86,472,939		91,813,858
3. Market Value of Assets (MVA)	$	76,862,633	$	84,006,011
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	$	9,610,306	$	7,807,847
5. Funded Ratio [(3) / (2)]		88.9%		91.5%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Actuarial Methods and Assumptions." The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. The projected normal cost percentages in the projections below do not reflect that the normal cost will decline over time as new employees are hired into PEPRA or other lower cost benefit tiers.

	Required Contribution	**Projected Future Employer Contributions (Assumes 7.25% Return for Fiscal Year 2017-18)**				
Fiscal Year	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Normal Cost %	8.313%	8.9%	8.9%	8.9%	8.9%	8.9%
UAL Payment	349,903	548,000	762,000	928,000	980,000	1,072,000
*Total as a % of Payroll**	*10.6%*	*12.4%*	*13.6%*	*14.5%*	*14.6%*	*15.0%*
Projected Payroll	*15,548,429*	*15,937,211*	*16,375,484*	*16,825,809*	*17,288,519*	*17,763,953*

*Illustrative only and based on the projected payroll shown.

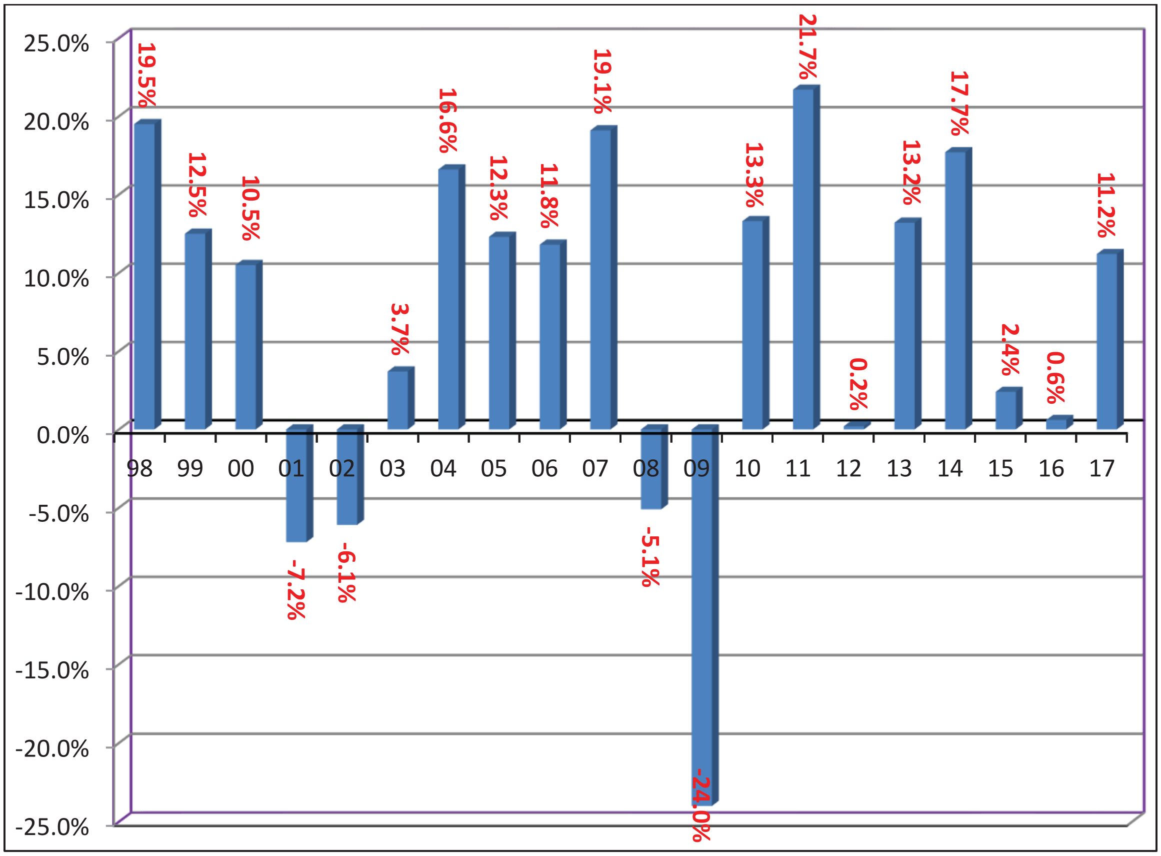
Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A. This method phases in the impact of changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

Due to the adopted change in the discount rate for the next valuation in combination with the 5-year phase-in ramp, the increases in the required contributions are expected to continue for six years from Fiscal Year 2019-20 through Fiscal Year 2024-25.

For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

CalPERS History of Investment Returns

The following is a chart with the 20-year historical annual returns of the Public Employees Retirement Fund for each fiscal year ending on June 30. Beginning in 2002, the figures are reported as gross of fees.



The table below shows historical geometric mean annual returns of the Public Employees Retirement Fund for various time periods ending on June 30, 2017 (figures are reported as gross of fees). The geometric mean rate of return is the average rate per period compounded over multiple periods. It should be recognized that in any given year the rate of return is volatile. The portfolio has an expected volatility of 11.4 percent per year based on the most recent Asset Liability Modelling study. The volatility is a measure of the risk of the portfolio expressed in the standard deviation of the fund's total return distribution, expressed as a percentage. Consequently, when looking at investment returns, it is more instructive to look at returns over longer time horizons.

History of CalPERS Geometric Mean Rates of Return and Volatilities					
	1 year	**5 year**	**10 year**	**20 year**	**30 year**
Geometric Return	11.2%	8.8%	4.3%	6.6%	8.2%
Volatility	–	7.3%	13.4%	11.5%	10.1%

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2017. The plan liability on a termination basis is calculated differently from the plan's ongoing funding liability. For this hypothetical termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees.

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

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during an approximate 2-year period centered around the valuation date.

Market Value of Assets (MVA)	Hypothetical Termination Liability[1,2] @ 1.75%	Funded Status	Unfunded Termination Liability @ 1.75%	Hypothetical Termination Liability[1,2] @ 3.00%	Funded Status	Unfunded Termination Liability @ 3.00%
$84,006,011	$173,538,654	48.4%	$89,532,643	$155,699,787	54.0%	$71,693,776

1 The hypothetical liabilities calculated above include a 5 percent contingency load in accordance with Board policy. Other actuarial assumptions can be found in Appendix A.

2 The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 2.61 percent on June 30, 2017, and was 2.83 percent on January 31, 2018.

In order to terminate the plan, you must first contact our Retirement Services Contract Unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow the plan actuary to give you a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. CalPERS advises you to consult with the plan actuary before beginning this process.

Summary of Valuation Data

		June 30, 2016		June 30, 2017
1. **Active Members**				
a) Counts		254		246
b) Average Attained Age		51.06		51.08
c) Average Entry Age to Rate Plan		38.32		37.93
d) Average Years of Service		12.74		13.15
e) Average Annual Covered Pay	$	56,519	$	58,053
f) Annual Covered Payroll		14,355,851		14,280,946
g) Projected Annual Payroll for Contribution Year		15,687,026		15,548,429
h) Present Value of Future Payroll		109,233,432		102,031,128
2. **Transferred Members**				
a) Counts		53		50
b) Average Attained Age		47.41		47.07
c) Average Years of Service		1.54		1.52
d) Average Annual Covered Pay	$	58,699	$	62,611
3. **Terminated Members**				
a) Counts		125		134
b) Average Attained Age		50.80		52.04
c) Average Years of Service		3.23		3.07
d) Average Annual Covered Pay	$	38,242	$	39,052
4. **Retired Members and Beneficiaries**				
a) Counts		187		199
b) Average Attained Age		69.66		70.08
c) Average Annual Benefits	$	16,321	$	16,763
5. **Active to Retired Ratio** [(1a) / (4a)]		1.36		1.24

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

	Years of Service at Valuation Date						
Attained Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-25**	**25+**	**Total**
15-24	2	0	0	0	0	0	2
25-29	8	0	0	0	0	0	8
30-34	8	3	2	0	0	0	13
35-39	10	4	5	1	0	0	20
40-44	17	4	8	7	1	0	37
45-49	3	6	7	5	2	0	23
50-54	11	3	3	5	8	7	37
55-59	10	5	5	8	4	11	43
60-64	10	2	3	9	7	10	41
65 and over	0	1	2	8	5	6	22
All Ages	**79**	**28**	**35**	**43**	**27**	**34**	**246**

Distribution of Average Annual Salaries by Age and Service

	Years of Service at Valuation Date						
Attained Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-25**	**25+**	**Average**
15-24	$41,364	$0	$0	$0	$0	$0	$41,364
25-29	46,068	0	0	0	0	0	46,068
30-34	52,850	60,000	60,399	0	0	0	55,661
35-39	60,316	50,920	61,478	71,811	0	0	59,302
40-44	56,695	62,735	65,073	57,288	61,285	0	59,396
45-49	60,691	51,559	47,359	63,468	52,873	0	54,175
50-54	53,935	52,873	49,524	52,873	73,844	79,486	62,486
55-59	45,738	51,595	61,308	52,873	64,376	59,603	54,837
60-64	48,761	107,806	56,800	55,243	66,405	77,804	63,748
65 and over	0	43,303	58,391	57,011	57,165	48,449	54,213
All Ages	**$52,676**	**$57,839**	**$57,788**	**$56,530**	**$65,405**	**$67,081**	**$58,053**