Summary of Pension Basics
June 12, 2019
[Used Valuation Year Ending June 30, 2017 for Illustrative Purposes]

Purpose of Summary: The largest single obligation the City of Newport Beach has is to its current and former employees for pensions. While the basic concept of unfunded accrued pension liabilities is easy to grasp, the working details of pension liabilities is more complex. This Summary was written by a member of the Finance Committee primarily to provide a starting point for new members of the Finance Committee to gain an understanding of this most important obligation of the City. Accordingly, generally speaking, exceptions and nuances to some of the basic concepts have not been included in an effort to make this Summary easier to follow. The most recent CalPERS Annual Actuarial Valuation Report ("Valuation Report") as of the time of this writing was issued in July 2018 for the fiscal year ended June 30, 2017. So, information from the June 30, 2017 Valuation Report were used in this Summary. The numbers used in this Summary are also set forth in tabular form in the schedules attached to this Summary.

Background: Upon an employee's initial enrollment into the City's pension plans, the City provides CalPERS (as the benefits administrator of the plans) with certain demographic information about that participating employee such as his/her age, gender, occupation, salary and other pertinent details so CalPERS actuaries may determine a participant's expected benefit over his/her life expectancy. Each pay period thereafter the City provides updated salary information and hours worked necessary for CalPERS to determine the retirement credit due for the service of each such employee. CalPERS maintains a database of both active and former employees to actuarially calculate the present value of the future pension obligations of the City to those current and former employees. The calculation is complicated and makes historically based "educated" assumptions about the expected length of employment, salary increases, age at retirement, life expectancy and the like (collectively, the "Employee Actuarial Assumptions"). The Employee Actuarial Assumptions are updated yearly as the data justifies.

The difference between the present value of future obligations of the City to fund pensions and the amount of assets the City has on deposit with CalPERS is referred to as the "unfunded accrued liability" ("UAL") of the City in its pension plans. UAL amounts are treated as if they were a loan obligation of the City and therefore the City is charged "interest" on the UAL amount. The rate charged is the assumed rate of return as described below.

Each year CalPERS also computes the amount the City must contribute to its plans to fund the assumed pension obligations for the fiscal year in question. This annual contribution has two components. One of the components is called the "Normal Cost." The Normal Cost is calculated by CalPERS and is expressed as a percentage of expected payroll for active employees for a given fiscal year. The Normal Cost payments plus the assumed investment return expected to be earned on the aggregate Normal Cost payments made throughout the life of each plan beneficiary is expected to amount to a future value of projected benefits that upon retirement will fully fund a defined installment benefit for the remainder of the beneficiary's life.

The second component is an Unfunded Liability Contribution. The Unfunded Liability Contribution is a fixed payment to amortize (usually over 20 years) the historical aggregate of shortfalls in funds of the City on deposit with CalPERS. These shortfalls are due primarily to a failure of the City fund balance to achieve the expected rate of return in a given year, but can also include shortfalls in the funds of the City with CalPERS due to changes in the rate of return that is assumed will be earned on City assets with CalPERS as

well as changes to Employee Actuarial Assumptions and any other assumptions made by CalPERS. The shortfalls are referred to as "experience losses." Although rarer, if the assumptions for a given year exceed expectation, it is called an "experience gain."

The City technically has two different pension plans, one is called the Safety Plan which is for Police and Fire and Lifeguard personnel while the remainder of the City's employees are covered under a plan called the Miscellaneous Plan. The Normal Cost payroll rate is considerably higher for the Safety Plan than the Miscellaneous Plan (e.g. projected 2019/2020 Normal Cost at 28.1% of payroll for Safety v. 16.9% of payroll for Miscellaneous) because safety personnel may retire earlier with a larger percentage of their last salary as the basis for their pension benefit than other employees of the City.

Valuation Reports from CalPERS: Each fiscal year CalPERS provides the City with a Valuation Report for each of the City's two plans. The Valuation Reports are detailed and time consuming to prepare. The Valuation Reports for each Fiscal Year are sent to the City approximately 12-15 months after the end of a Fiscal Year. The Valuation Reports provide a summary of activity in the City plans and commentary on the assumptions made. Importantly, the Valuation Reports set the Normal Cost rate and the required UAL contribution for the ensuing Fiscal Year for each plan.

The timeline for the City's receipt of its Valuation Reports and the consequences of the timing works as follows. For the Fiscal Year ended June 30, 2019, the City will receive the Valuation Reports for its plans between July 2020 and September 2020. The Valuation Reports will set the contribution requirements for both Normal Costs and for Unfunded Accrued Liabilities for the Fiscal Year commencing July 1, 2021. It is only upon receipt of the Valuation Reports for a Fiscal Year ended June 30, 2019 that the City would be informed of the exact amount of the changes to UAL as of the Fiscal Year ended June 30, 2019. This information is located in the Funding Status section of the Valuation Reports.

So, for example, if there were a shortfall for the Fiscal Year ended June 30, 2019, the City would find out the specific amount when the Valuation Reports are issued in July-September 2020. The UAL payments required for that shortfall would be scheduled to start the following Fiscal Year, that is July, 2021. However, the addition to a shortfall for a fiscal year begins to accrue interest as of the first day after the end of the fiscal year in which the shortfall occurs. So, if there were a shortfall for the Fiscal Year ended June 30, 2019, interest at the discount rate would commence to accrue as of July 1, 2019, two years before payments would be scheduled to begin in July 2021. The payment amount to be amortized would be the shortfall plus 2 years of interest that had accrued on the new shortfall.

Fiscal 2019/2020 Estimated Numbers: The following information is easiest to follow by looking at Schedule 1 in the attachment to this Summary. The initial fiscal year 2019-2020 budget estimate for aggregate contributions to be made to the City's plans is expected to be approximately $52.4M. However, under the various bargaining unit MOU's, each employee also is obligated to contribute towards his/her pension. The employees would pay approximately $10,6M of the pension costs, leaving the City to pay approximately $41.4M out of the General Fund. Of the City payment of $41.4M, $6.4M will be for net Normal Costs for the year (the City's share of Normal Costs after the employees' contributions), with the remaining $35M going towards paydown of the City's UAL accrued through June 30, 2017. Approximately $26.5M of that UAL paydown amount is required by CalPERS (called the "Default Amount") and the remaining $8.5M UAL paydown is an additional discretionary payment (ADP). Payment of ADP's enables the City to pay down UAL faster than CalPERS requires. It should be noted that ADP's are not mandatory payments so the City is able to cease paying these amounts in whole or in part at any time.

The amount of the General Fund dedicated to payment of pensions costs has been on the rise for years. The General Fund revenue for fiscal year 2019-2020 is expected to be approximately $228M. So, the

yearly pension payment for fiscal 2019-2020 payable out of the General Fund is expected to be approximately 18.16% of General Fund revenue ($41.4/$228M). The amount of General Fund revenues attributable to various taxes ($173.7M) plus income generated by the City's owned properties (primarily rents and royalties) and interest income (collectively, $11.1M) equals $184.8M.

The Past: For historical perspective, as of June 30, 2007, the UAL of the City was approximately $2M. As of June 30, 2017, the UAL of the City was $319.7M. What happened over the course of a 10-year period to cause UAL to rise exponentially?! The answer lies in the reasons UALs occur. The three main reasons causing UALs are: (i) The failure to achieve the return on investments that is assumed will be earned, (ii) Changes in actuarial and other assumptions including the Employee Actuarial Assumptions that increase the accrued pension liabilities of the City and (iii) Lowering the rate of return that is assume will be earned on investments (aka, the discount rate).

As is typical of all CalPERS member agencies, the money deposited with CalPERS is also invested by CalPERS. In establishing the amount required to be contributed to towards pensions each year by each agency, it is assumed by CalPERS that the money invested on behalf of the City's plans will generate a certain rate of return. The more money that is available to cover pension obligations that is generated by investment returns, the less money a member agency will need to contribute to cover pension obligations. So, the amount of money necessary to fully fund pension obligations will come in part from money each agency earns on funds invested on its behalf by CalPERS. That assumed rate of return had been 7.5% for many years, although CalPERS recently lowered the assumed rate of return over three years to 7% as discussed below. If the amount earned on CalPERS investments falls short of the assumed rate of return, then the agency has to cover the shortfall. That earnings shortfall has been a big part of the increase of the City's UAL over the past 10 years (approximately $180M of the $319.7M shortfall).

In order to ensure the continuing validity of its calculations of each agency's obligations to its employees, CalPERS also formally reviews its actuarial assumptions from time to time. If it finds, for instance, that life expectancies of the current or expected beneficiaries are lengthening, or salaries have increased more than expected, or for other reasons, then CalPERS would update its calculations of the obligations of an agency and could determine that the amount an agency set aside in the past is no longer sufficient to pay the obligations of the agency. CalPERS revised its actuarial assumptions a few years ago and those revisions increased UAL of the City by approximately $37.3 million.

More recently, CalPERS was under pressure to recognize that its assumed annual rate of return, called the discount rate, of 7.5% was not realistically achievable over time. Starting with fiscal year 2015-2016, the CalPERS Board decided to lower the discount rate over a three-year period from 7.5% to 7.375%, then to 7.25% and finally to 7%. So, agency funds invested by CalPERS that had been assumed would return 7.5% per annum had to instead be assumed would earn less. Since money held by CalPERS comes from only two sources, employer/employee payments to CalPERS and earnings on funds held by CalPERS, the change of the assumed rate of return meant more money needed to come from agency payments to CalPERS since less is now expected to come from earnings on CalPERS investments. For Newport Beach, the reduction in the discount rate from 7.5% to 7% over the past 3 years caused UAL to increase by $65.6M.

Staff has informed the Finance Committee that historically investment earnings have accounted for roughly 67% of the ultimate benefit due each employee. If investment earnings do not meet assumed rates, the employer is obligated for the shortfall. Likewise, if the employees are living longer than initially actuarially expected, or if the assumed future investment earnings rate is reduced, the employer is also obligated to contribute more so the total amount set aside for each beneficiary funds the required benefit. In short, each net downside deviation from expected results over upside deviations creates a new layer

of loss. The sum of all net loss layers equals the overall UAL. CalPERS expects the employer to repay each loss not offset by a gain over a set period of time beginning with the year in which the increase in UAL occurs. That is because each layer of loss represents funds that are not with CalPERS that were supposed to have been, and further were supposed to be earning the assumed rate of return while with CalPERS. See Schedule 2 attached which sets forth the City's Funding Status.

The Future: The reasons for the dramatic increase in UAL for the City of Newport Beach has affected all CalPERS member agencies. All agencies have been impacted by lower than assumed investment returns, actuarial changes and changes in the discount rate.

It should be noted however that older agencies with many retired employees and/or a larger staff have more exposure than newer agencies with smaller staffs (and more functions contracted out). In the case of the City, the present value of the future projected benefit obligations to current and former employees as of June 30, 2017 was $939.5M. As of June 30, 2017, the value of City assets held by CalPERS was $619.8M, so the amount that the City should have also had on deposit with CalPERS but wasn't is the UAL of $319.7M. Again, to the extent that money invested by CalPERS does not earn at the discount rate, the City has to make up the difference since the amount of the City's yearly contributions assumes CalPERS will earn the discount rate on money entrusted to it. Because of the size of the City's plan assets, shortfalls that might not seem dramatic as a percentage end up being a large absolute dollar amount. For example, if the City were to earn 3% on its $619.8M invested by CalPERS instead of 7%, that would create a new UAL of $24.8M ($619.8M x 4%) in just one year. The interest obligation on the $24.8M shortfall would commence to accrue at the beginning of the fiscal year after the fiscal year in which the investment return came up short.

As for the UAL amounts which of course are not being invested by CalPERS (i.e. they have not been funded), totaling $319.7M as of June 30, 2017, those amounts are also assumed to be earning at the discount rate, 7% per annum. Because those funds are not with CalPERS, the 7% per annum return has to come from somewhere else, and unfortunately, that somewhere else is from the City. So, if the City did not owe any UAL, it obviously would not have to pay 7% since there would be no sum that was supposed to be with CalPERS that was not. Therefore, it is generally in the best interest of the City to not have any UAL.

One twist to note with UAL amounts is that an agency is actually "better off" with UAL in years in which CalPERS investments lose money. As an example, say the City repays all of its $319.7 UAL (which of course would happen over time, but let's assume it happened all at one time). CalPERS would invest that repaid money and that money would be assumed to earn a rate of return of 7% per annum in determining the City's yearly contribution. However, if CalPERS were to have a negative return for a fiscal year on that sum (i.e. a loss), then the City would actually lose more than if that amount remained as a UAL. That is because a UAL has to be debt served at the discount rate, which is 7% on $319.7M. But if the UAL were paid off, then CalPERS would invest that same sum. If CalPERS lost 5% of the money invested, the new UAL from that loss would be 7% on $319.7 that was not earned, plus 5% on that amount that was an investment loss.

One last concept that will be mentioned only briefly is an accounting election called a "Fresh Start" or "Partial Fresh Start." This election has its own set of rules. The most recent Partial Fresh Start was elected to reduce loss layers from investment losses, actuarial changes and discount rate reductions by investment gains, all of which arose between 2013 and 2019. The exact workings of Fresh Starts will be left to Staff to explain to Finance Committee members when the next opportunity for a Fresh Start arises.

The Finance Committee believes as a general rule that it is better to pay down UAL than to have UAL. In Q2, 2019, the Council adopted a payment schedule to address the City's UAL accrued as of June 30, 2017 with a goal of repaying the UAL accrued through June 30, 2017 within 15 years. But the Council has retained flexibility in the payment schedule in that a significant part of the payments are ADPs which are not obligatory. It should be further noted, unfortunately, if net investment returns after June 30, 2017 fall short of the assumed rate of return of 7% per annum, or for instance life expectancies are increased again or if CalPERS lowers the discount rate further (as some believe it should), a new UAL will arise and will have to be debt served at 7% per annum (or a new discount rate) until such new UAL is paid off.

Conclusion: This Summary has been prepared as an introduction to the topic of unfunded pension liabilities. It is not intended as a comprehensive study of the topic. Rather it is intended to be used to provide new members of the Finance Committee with a starting point in understanding a complicated issue by providing some background and examples related to the topic. Staff has considerably more expertise on the topic and of course is happy to explain the details as members of the Finance Committee may desire.

Summary of Pension Basics Schedule 1

	Normal Cost Rate		Expected Normal Cost		Change	
	2018/19	2019/20	2018/19	2019/20	Dollars	Percent
Misc	16.2%	16.9%	7,205,087	7,685,811	480,724	6.7%
Safety	27.4%	28.1%	9,082,071	10,213,403	1,131,332	12.5%
Total Expected Normal Cost			16,287,158	17,899,213	1,612,055	9.9%

	Amortization of UAL		Change	
	2018/19	2019/20	Dollars	Percent
Minimum Payment of on UAL	25,698,507	26,196,003	497,496	1.9%
Additional Discretionary Payment (ADP)	8,801,493	8,803,997	2,504	0.0%
Total Planned UAL Payment	34,500,000	35,000,000	500,000	1.4%

	Total Expected Pension Cost		Change	
	2018/19	2019/20	Dollars	Percent
Total Expected PERS Contribution	50,787,158	52,899,213	2,112,055	4.2%
Less: Expected Employee Contributions	10,324,540	10,604,998	280,458	2.7%
Net Employer Cost "Projected"	40,462,618	42,294,215	1,831,597	4.5%

Summary of Pension Basics Schedule 2

	2017			2016
	Miscellaneous	Safety	Total	Total
Accrued Liability	396,834,941	542,668,920	939,503,861	887,481,877
Less: Market Value of Assets	278,869,980	340,964,919	619,834,899	566,016,065
Unfunded Accrued Liability (UAL)	117,964,961	201,704,001	319,668,962	321,465,812
Funded Status	70.3%	62.8%	66.0%	63.8%
ADP Breakdown	36.9%	63.1%	100.0%	