



**CITY OF NEWPORT BEACH
FINANCE COMMITTEE
STAFF REPORT**

Agenda Item No. 5A
November 14, 2019

TO: HONORABLE CHAIR AND MEMBERS OF THE COMMITTEE

FROM: Finance Department
Dan Matusiewicz, Finance Director
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**SUBJECT: PRELIMINARY PENSION FUNDING RECOMMENDATION – FISCAL
YEAR 2020-21**

SUMMARY:

Each year, staff analyzes the most recent California Public Employees' Retirement System (CalPERS) pension actuarial valuations and evaluates opportunities to more efficiently amortize the City's unfunded accrued liability (UAL) compared to the default minimum contribution schedules proposed by CalPERS.

Staff has evaluated the merits of pursuing the default payment option, three additional direct payment options to CalPERS. Staff recommends a prefunding option that assumes five years of \$5 million of additional discretionary payments above the current \$35 million self-imposed threshold, followed by \$2 million additional for the remaining 15-year term. This provides a \$77 million buffer against future investment losses.

See the proposed payment option comparisons in Attachments A-1 and A-2

RECOMMENDED ACTION:

Provide feedback regarding staff recommendations.

DISCUSSION:

PENSION PLAN HEALTH STATUS

The City's pension obligations are and will continue to be one of the City's largest financial concerns for decades to come so it is important that it receives appropriate and regular attention. With its current participants and benefit levels, the City's accrued pension liability (AL) now exceeds \$1 billion dollars and has been growing at an annual rate of 6.6% for the last eleven years. Meanwhile, General Fund revenue has only grown 3.4% annually for the same eleven-year period (2007-2018). The City's AL now represents 467% of annual General Fund revenues as compared to the County wide average of

about 515% as of June 30, 2018. This gap will likely continue to widen over the next two decades. As these growing leverage ratios continue to expand, investment losses can have devastating impacts on local agency budgets.

The City’s current Unfunded Accrued Pension Liability (UAL) grew by \$13.5 million or 4.2% to \$333 million as of June 30, 2018. This number is significant but is largely what staff expected and is already factored into the current budget and long-range pension funding plan. Plan assets and liabilities are displayed in the table below.

3 YEAR UAL TREND

	2016	2017	2018	Change	
	Total	Total	Total	Dollars	Percent
Accrued Liability (AL)	887,481,877	939,503,861	1,006,978,316	67,474,455	7.2%
Less: Market Value of Assets (MVA)	566,016,065	619,834,899	673,843,069	54,008,170	8.7%
Unfunded Accrued Liability (UAL)	321,465,812	319,668,962	333,135,247	13,466,285	4.2%
Funded Status	63.8%	66.0%	66.9%		

Staff estimated the liability would grow to \$325 million due to a .25% reduction in the discount rate which is now at 7%. The \$8 million difference between estimated UAL and actual UAL at June 30, 2018 is due to other changes in actuarial methods and demographic experience that staff had not anticipated. Some good news is that as the UAL is rolled forward from June 30, 2018 to June 30, 2020 for the development of the minimum required contribution for FY 2020-21, the City’s UAL drops back down to \$318 million reflecting the additional discretionary payments (ADP) paid during FY 2018-19. Prior to the end of the current fiscal year, we anticipate the UAL will continue to drift downward to \$311 million to reflect ADPs being paid in FY 2019-20 that are not included in the 2018 actuarial valuation yet.

In relation to the other CalPERS agencies in Orange County:

- The City’s 2018 UAL of \$333 million grew by the lowest rate in the County (4%) as compared to the County average of 10%.
- The City is only one of two local agencies in the County where the funded status actually increased from 2017 to 2018. This means that the City’s assets grew at a faster rate than the accrued pension liability.
- The City is only one of four cities in the County whose UAL is projected to decrease through 2020.
- The City developed the most efficient payment plan in the County. Where most agencies’ interest payments represent 46% of total planned payments, the City’s interest payments are down to 38% of total scheduled payments.

The Comparison of Pension Progress Table is included as Attachment A.

The City’s funded status is still improving, despite the scheduled .25% reduction in the discount rate. The overall plan funded status of 67% is still relatively low but is forecasted to improve dramatically over the next decade barring adverse investment results or further changes in actuarial assumptions. The City Council has been proactive and aggressive

in addressing the ongoing pension crisis. By proactively managing the repayment of the unfunded pension liability and influencing CalPERS policies, the City is well positioned to weather the pension challenges known today.

The most recent actuarial report presents the results of the June 30, 2018, CalPERS valuation of both the Miscellaneous and the Public Safety Plans for the City of Newport Beach and sets the required contribution amounts and rates for FY 2019-20. After adding in ADPs and deducting negotiated employee contributions, FY 2020-21 pension costs are estimated as follows:

	Normal Cost Rate		Expected Normal Cost		Change	
	2019-20	2020-21	2019-20	2020-21	Dollars	Percent
Misc	16.9%	17.7%	7,712,921	7,747,118	34,197	0.4%
Safety	28.1%	29.2%	9,694,973	10,160,422	465,449	4.8%
Total Normal Expected Cost			17,407,894	17,907,540	499,646	2.9%

	Amortization of UAL		Change	
	2019-20	2020-21	Dollars	Percent
Minimum Unfunded Liability Contribution	26,196,003	29,753,088	3,557,085	13.6%
Additional Discretionary Payment (ADP)	8,803,997	5,246,912	(3,557,085)	-40.4%
Total Planned UAL Payment		35,000,000	35,000,000	- 0.0%

	Total Expected Pension Cost		Change	
	2019-20	2020-21	Dollars	Percent
Total Expected PERS Contribution	52,407,894	52,907,540	499,646	1.0%
Less: Expected Employee Contributions	10,632,010	11,258,628	626,618	5.9%
Net Employer Cost "Projected"	\$ 41,775,884	\$ 41,648,912	\$ (126,972)	-0.3%

The current strategy is to make level dollar payments of \$35 million a year towards the \$311 projected UAL until it is paid off in fourteen years.

WHAT SHOULD WE EXPECT IN THE 2019 ACTUARIAL VALUATION?

In the 2019 actuarial valuation we should expect continued improvement in the funded status and nothing dramatically adverse that might necessitate a change in our strategy or required payment. The Public Employers Retirement Fund (PERF) earned 6.7%, an experience loss of .3% or \$2.2 million for the City. However, the price inflation assumption of 2.5% is higher than the actual inflation rate of 1.65% - a favorable liability experience gain of .85%. While we are reluctant to estimate a value of this gain, it is likely the two experiences will offset each other barring other unfavorable changes in demographic experiences. Staff does not recommend a strategy adjustment as a result of FY 2018-19 experience at this time.

CAPITAL MARKET ASSUMPTIONS DO NOT BODE WELL IN THE NEAR-TERM

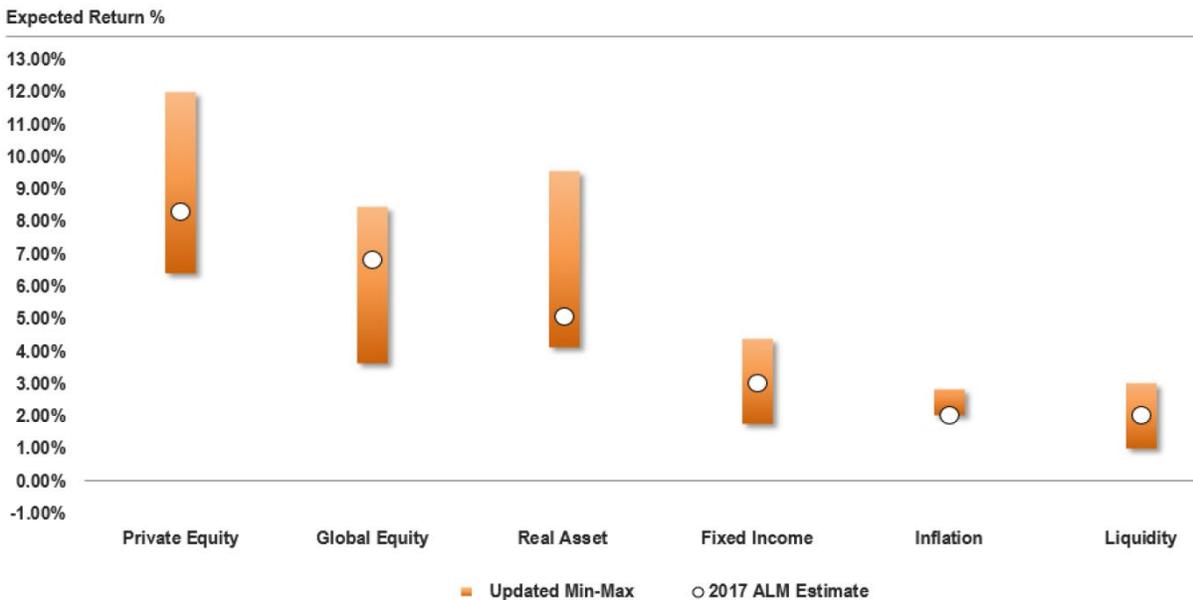
While economist are not predicting a recession in the next year, favorable investment results do not appear likely in the near term. At this year's Economic Forum, UCI's

Associate Professor of Finance, Dr. Christopher Schwarz summed up his remarks this way:

- Expect slower [GDP] growth in 2020 and beyond (1.5% is the new normal)
- The Federal Reserve will be the economy’s friend (implying lower interest rates)
- Asset prices are high = correlated low returns going forward

Consistent with his remarks and as illustrated in the chart below, only one asset class (Private Equity) is predicted to exceed the target investment return of 7%. With CalPERS’ target asset allocation of 50% to Global Equity, 28% to Fixed Income, 13% to Real Assets, 8% to Private Equity and 1% to Liquidity, it is hard to imagine a path forward that would produce an investment return that meets the 7% target return.

Expected CalPERS Investment Return by Asset Class



Persistent returns below 7% will require the City to consider additional capital infusions if the City is to meet its goal of paying down the UAL in 14 years.

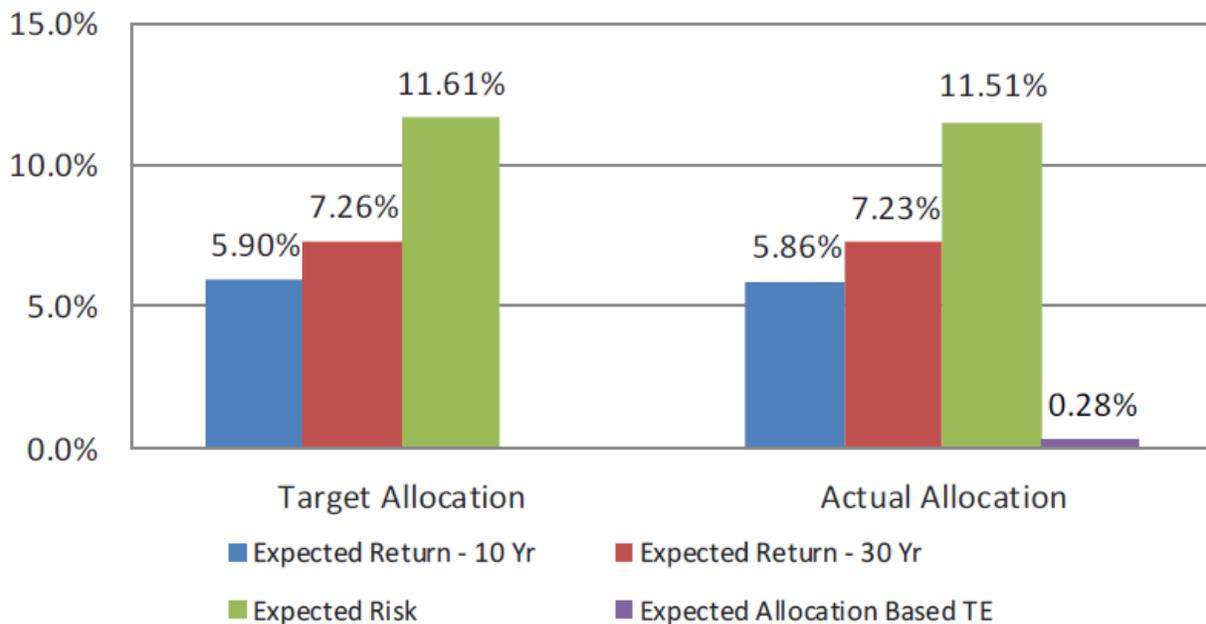
PREPARING FOR VOLATILE MARKETS AND SLOW GROWTH

Since nearly 60% of the pension benefits are provided by investment results, City pension plans are extremely sensitive to investment earnings. With over \$700 million in plan assets, a 1% investment experience loss equates to approximately \$7 million loss for the City. Due to these low capital market assumptions (CMA’s) and CalPERS’ current asset allocation, 68% of all investment results can vary 11.51% from the mean expected return of 7% in any one year resulting in an experience loss of approximately \$83 million. In a more extreme year, one can expect 95% of investment results to vary as much as 23% (a \$165 million loss) for the City’s pension plans.

While expected year-to-year volatility can be rather frightening, good and bad years are expected to even out over time. CalPERS Chief Investment Officer, Dr. Ben Meng encourages employers to “Stay calm and carry on.” While this is sound advice, I believe it is also prudent to take measured steps to prepare for lower than expected returns and insulate the City’s budget where possible.

The chart below illustrates the PERF portfolio’s expected risk reward assumptions over the near and long-term. Good and bad years are averaged out for a net positive return of 5.86% in the near/intermediate term and improve to 7.23% over a 30-year horizon. However, 5.86% is still well short of the expected return of 7%. While CalPERS is a long-term investor with a very long investment horizon, 5-10 years is a long time with respect to municipal budgeting. With the prospect of adding to the 2008 losses, that most local agencies are still struggling to pay off, it is likely that pension costs will continue to have adverse effects on local agency budgets for decades to come.

CalPERS Expected Risk and Return Estimates

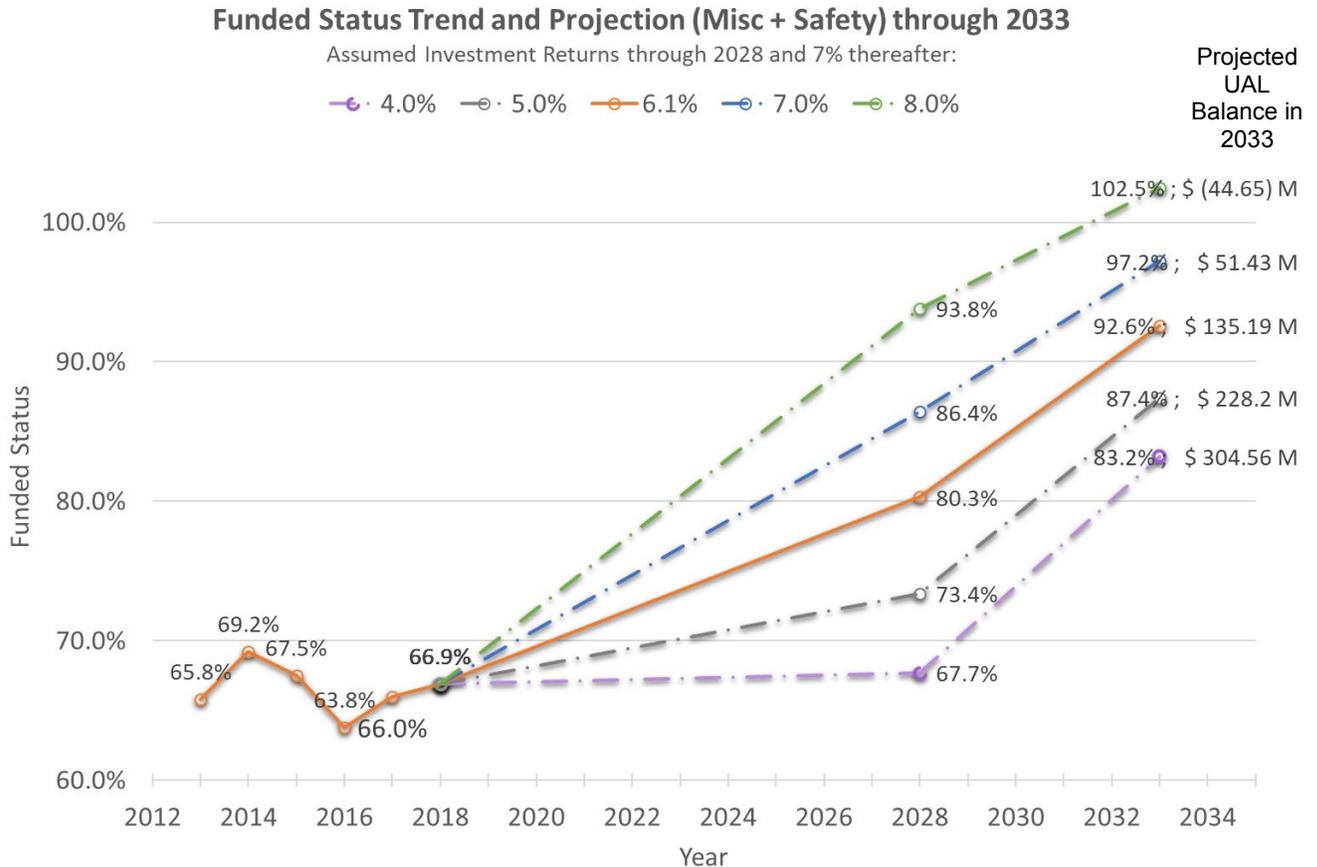


Source: Wilshire Consulting

While the chart above suggests an expected return of 5.86% for ten years, market projections beyond 5 years may likely rely on more art than science. However, the City should consider the impact that a low market growth investment environment would have on the City budget.

With the assistance of a CalPERS actuary, staff stress-tested our plans illustrating the impact of various geometric returns including 4%, 5%, 6.1%, 7% and 8% for a ten-year period of time and then assumed 7% for 5 years thereafter. We used 6.1% as our baseline projection because it was the last official CalPERS projection that resulted from their 2017 Capital Market study.

The good news is that in all scenarios, the funded status of the plans improved even when investment returns below the 7% target are assumed. The bad news is that after 15 years, the UAL accumulates to sizable balances that are likely unacceptable to the community. The chart below illustrates the trajectory of the plan funded status at the 10 and 15 year milestones. The reason the funding status is improving relatively sharply even in the low investment return scenarios is that the 2013 Fresh Start base starts to rapidly pull down principal as this base matures off our UAL amortization schedule.



The next question is how should the City best insulate itself from expected investment returns below the target rate of 7% or whether it should take no action at all and pay-as-you-go as losses occur. Because of the high cost of waiting due to interest accruing at 7%, staff recommends the City start prefunding expected losses based on the answer to four variables:

1. What rate of average shortfall should the City prepare for (e.g., 1, 2 or 3%)?
2. How long will the shortfall persist (e.g., 1-10 years)?
3. Over what period of time would the City like to prefund expected losses (10, 15 or 20 Years)?
4. How much is the City willing to contribute above the current contribution level?

To help facilitate a response to these questions, staff prepared a table included as Attachment B that provides decision makers some guidance as to the scale of the loss

and the annual prefunding amounts that would be necessary if the City chooses to get ahead of expected losses.

The excerpt of Attachment B below helps decision makers understand the magnitude of persistent investment shortfalls and amounts needed to prefund potential shortfalls over various time horizons.

Yrs	Projected Plan Assets	Expected Shortfall	Cumulative Shortfall + Interest	Repayment Term		
		1.0%		Aggressive	Less Aggressive	Min
				10	15	20
1	718,990,555	7,189,906	7,189,906	545,483	308,898	195,454
2	762,129,988	7,621,300	15,314,499	1,161,880	657,953	416,318
3	807,857,787	8,078,578	24,465,092	1,856,117	1,051,088	665,073
4	856,329,254	8,563,293	34,740,941	2,635,724	1,492,567	944,417
5	907,709,010	9,077,090	46,249,896	3,508,885	1,987,023	1,257,283
6	962,171,550	9,621,716	59,109,105	4,484,487	2,539,491	1,606,855
7	1,019,901,843	10,199,018	73,445,761	5,572,180	3,155,433	1,996,590
8	1,081,095,954	10,810,960	89,397,923	6,782,438	3,840,782	2,430,243
9	1,145,961,711	11,459,617	107,115,395	8,126,626	4,601,973	2,911,885
10	1,214,719,414	12,147,194	126,760,667	9,617,073	5,445,989	3,445,933

As an example, if the PERF on average falls short of their target by 1% for five years, the cumulative loss with interest accruing at 7% amounts to \$46 million. This anticipated loss can be prefunded by 10 annual payments of \$3.5 million assuming the PERF earns 6%. Similarly if the 1% average shortfall persists for 10 years, the cumulative loss plus interest accumulates to \$126 million at 7%. This loss can be prefunded by 10 annual payments of \$9.6 million and so forth.

FUNDING OPTIONS

Staff further prepared amortization schedules with and without the optional prefunding of expected investment losses. Amortization schedules without prefunding expected investment losses can be found in Attachment C.

Standard Funding Options (SFO)

SFO 1 - Assumes the default repayment schedule with no further ADPs.

SFO 2 - Assumes ADPs that bring the UAL payment up to but not exceed \$35 million.

SFO 3 - Assumes the City will be amenable to a one-time contribution of \$5 million over the \$35 million threshold in FY 2020-21. As a source of proceeds, staff proposes using 50% of FY 2018-19 annual surplus as was contemplated by Council Policy F-5, General Fund Surplus Utilization.

Anticipatory Prefunding Options to Mitigate Persistent Investment Shortfalls

“A good hockey player plays where the puck is. A great hockey player plays where the puck is going to be.” Wayne Gretzky

Staff also prepared three additional amortization schedules assuming some level of prefunding of future expected investment experience losses. While the anticipated losses

are not built into the UAL balance. Anticipatory prefunding can help the City in two ways. It could act as a buffer against adverse investment results especially if they are persistent. It could also act as a baby step toward realigning our budget toward further reductions to the assumed discount rate which I believe to be inevitable. Based on my discussions with CalPERS leadership over the years, I know it is their strong preference to lower the discount rate which paves the way to reduce volatility risk in the investment portfolio. Their dilemma is that many local agencies are still struggling to pay off the 2008 investment losses. These losses are still escalating pension costs for many local agency budgets through 2025 that have not taken aggressive actions as this Council has. Below you will find three options that could help the City insulate itself against persistent investment earnings shortfalls, a catastrophic investment loss or that baby step toward lower discount rates expected in the future.

APO 1 - Assumes discretionary prefunding of an additional \$2 million per year above the \$35 million threshold. This would provide for five years of 1% investment shortfalls repaid over 15 years or until the UAL is paid off. This option provides a \$46 million buffer against future losses.

APO 2 - Assumes five years of \$5 million of additional discretionary payments above the \$35 million threshold, followed by \$2 million additional for the remaining term. This provides a \$77 million buffer against future investment losses.

APO 3 - Option 3 is the most aggressive and assumes \$5 million of additional discretionary payments above the \$35 million threshold until the UAL is paid off (over the next 15 years). This provides for a \$116 million buffer against future persistent or catastrophic investment losses.

Below is a sample illustration how prefunding dollars could accumulate and compound over time:

Investment Loss Risk Mitigation			
Prefunding Options			
	Option 1	Option 2	Option 3
1	2,000,000	5,000,000	5,000,000
2	2,000,000	5,000,000	5,000,000
3	2,000,000	5,000,000	5,000,000
4	2,000,000	5,000,000	5,000,000
5	2,000,000	5,000,000	5,000,000
6	2,000,000	2,000,000	5,000,000
7	2,000,000	2,000,000	5,000,000
8	2,000,000	2,000,000	5,000,000
9	2,000,000	2,000,000	5,000,000
10	2,000,000	2,000,000	5,000,000
11	2,000,000	2,000,000	5,000,000
12	2,000,000	2,000,000	5,000,000
13	2,000,000	2,000,000	5,000,000
14	2,000,000	2,000,000	5,000,000
15	2,000,000	2,000,000	5,000,000
Sum of Payments	30,000,000	45,000,000	75,000,000
With 6% Interest	46,551,940	76,837,465	116,379,849

STAFF RECOMMENDATION:

Due to the leverage risk associated with the accrued liability dwarfing annual General Fund revenues by nearly 500% and the dismal CMA outlook in the near term, staff recommends Prefunding Option 2. Staff proposes to monitor the results of the next CMA study due to start in June of 2020 and reevaluate progress and options each year. The City has routinely produced significant annual surpluses. However, if resources are not available, the City is not obligated in any way to continue prefunding but staff would also recommend the Council consider drawing down the contingency reserve as necessary to continue to the prefunding effort.

If investment shortfalls do evolve as forecasted the City will be better prepared for future pension cost increases. If investment shortfalls do not come to pass, the pension plan will simply become better funded sooner rather than later and save millions in interest in the process.

If the discount rate is lowered in the future, which is a distinct possibility, the City will be better prepared to absorb those costs. The downside is that further pension contributions could further constrain the City's ability to undertake community projects or programs.

Prepared and Submitted by:

/s/ Dan Matusiewicz

Dan Matusiewicz
Finance Director

Attachments:

- Attachment A: Comparison of Pension Funding Progress Table
- Attachment A-1: Standard Funding Options Summary
- Attachment A-2: Anticipatory Prefunding Options Summary
- Attachment B: Investment Loss Prefunding Table
- Attachment C: 2020-21 Standard Funding Options 1-3
- Attachment D: Anticipatory Prefunding Options 1-3

ATTACHMENT A
COMPARISON OF PENSION FUNDING PROGRESS TABLE

**ATTACHMENT A
COMPARISON OF PENSION FUNDING PROGRESS TABLE**

Agency	2017 Valuation		2018 Valuation					2020 Rollforward				Annualized growth 2007 -2018		Change in UAL 2017 to 2018		
	UAL	FS	AL	MVA	UAL	FS		UAL	Total Pmts	Interest as % of Total Pmts	Pmt Efficiency	AL	GF Rev	Total Increase	% Change	
City of Anaheim Total	741,068,980	70.8%	2,715,845,662	1,898,638,863	817,206,799	69.9%	↓	833,036,314	↑	1,542,601,086	46%	185%	5.8%	2.9%	76,137,819	10%
City of Brea Total	121,252,581	68.5%	415,311,268	278,113,460	137,197,808	67.0%	↓	140,810,148	↑	271,703,204	48%	193%	6.4%	1.6%	15,945,227	13%
City of Buena Park Total	39,221,940	71.1%	145,043,589	101,163,530	43,880,059	69.7%	↓	44,659,783	↑	81,487,121	45%	182%	5.6%	1.4%	4,658,119	12%
City of Costa Mesa Total	212,923,672	62.1%	598,694,764	368,109,393	230,585,371	61.5%	↓	234,013,094	↑	449,689,723	48%	192%	6.4%	1.6%	17,661,699	8%
City of Cypress* Total	18,663,147	76.1%	83,901,710	62,275,214	21,626,496	74.2%	↓	22,166,992	↑	41,210,977	46%	186%	6.2%	0.0%	2,963,349	16%
City of Fullerton Total	234,893,103	69.1%	804,066,374	547,784,717	256,281,657	68.1%	↓	263,656,687	↑	511,514,778	48%	194%	5.3%	2.7%	21,388,554	9%
City of Garden Grove Total	268,412,094	66.9%	872,909,063	573,678,566	299,230,497	65.7%	↓	305,876,304	↑	589,968,753	48%	193%	6.3%	3.2%	30,818,403	11%
City of Huntington Beach Total	403,394,647	68.2%	1,350,128,586	913,955,432	436,173,154	67.7%	↓	443,118,659	↑	834,903,132	47%	188%	6.1%	0.7%	32,778,507	8%
City of Irvine Total	154,634,662	76.1%	713,566,211	546,278,834	167,287,377	76.6%	↑	150,127,167	↓	261,916,655	43%	174%	9.5%	0.3%	12,652,715	8%
City of La Habra Total	26,498,700	75.9%	118,389,059	88,810,023	29,579,036	75.0%	↓	30,486,598	↓	56,219,402	46%	184%	6.8%	2.0%	3,080,336	12%
City of Laguna Beach Total	27,243,435	75.3%	119,568,104	89,685,511	29,882,593	75.0%	↓	29,748,805	↓	52,202,974	43%	175%	8.4%	3.3%	2,639,158	10%
City of Mission Viejo Total	19,596,811	76.3%	90,898,921	68,702,880	22,196,041	75.6%	↓	22,444,284	↑	38,486,689	42%	171%	10.8%	0.8%	2,599,230	13%
City of Newport Beach Total	319,668,962	66.0%	1,006,978,316	673,843,069	333,135,247	66.9%	↑	318,291,681	↓	514,736,400	38%	162%	6.6%	3.4%	13,466,285	4%
City of Orange Total	256,020,262	69.9%	908,632,171	628,054,657	280,577,514	69.1%	↓	287,538,115	↑	550,128,578	48%	191%	5.9%	1.8%	24,557,252	10%
City of Santa Ana Total	613,781,439	68.6%	2,079,148,456	1,398,052,116	681,096,340	67.2%	↓	695,805,669	↑	1,316,070,957	47%	189%	5.6%	1.2%	67,314,901	11%
City of Tustin Total	26,806,151	76.2%	121,641,805	91,823,298	29,818,507	75.5%	↓	29,293,129	↓	53,812,744	46%	184%	7.8%	22.8%	3,012,356	11%
City of Westminster Total	39,342,203	69.2%	136,149,175	92,765,036	43,384,139	68.1%	↓	44,136,236	↑	81,752,230	46%	185%	6.2%	3.1%	4,041,936	10%
City of Yorba Linda Total	21,183,584	69.7%	75,618,252	52,390,304	23,227,948	69.3%	↓	23,369,131	↑	44,171,593	47%	189%	6.9%	1.5%	2,044,364	10%
Irvine Ranch Water District Total	62,900,429	75.8%	283,187,278	211,486,895	71,700,383	74.7%	↓	72,558,982	↑	123,033,441	41%	170%	8.9%	6.3%	8,799,954	14%
Santa Margarita Water District Total	29,770,735	68.5%	103,849,532	70,159,847	33,689,685	67.6%	↓	34,337,181	↑	63,789,095	46%	186%	9.8%	4.3%	3,918,950	13%
Grand Total	3,637,277,537	69.4%	12,743,528,296	8,755,771,645	3,987,756,651	68.7%	↓	4,025,474,959	↑	7,479,399,532	46%	186%	6.3%	2.6%	350,479,114	10%

ATTACHMENT A-1
STANDARD FUNDING OPTIONS SUMMARY

ATTACHMENT A-1
STANDARD FUNDING OPTIONS SUMMARY

			STANDARD FUNDING OPTIONS (SFO)		
			SFO 1	SFO 2	SFO 3
Year	Val Year	Pmt Yr	Default	Current	\$5 Mill One-time Surplus
1	2018	2021	\$ 29,190,322	\$ 35,000,000	\$ 40,000,000
2	2019	2022	\$ 29,993,056	\$ 35,000,000	\$ 35,000,000
3	2020	2023	\$ 30,817,865	\$ 35,000,000	\$ 35,000,000
4	2021	2024	\$ 31,665,356	\$ 35,000,000	\$ 35,000,000
5	2022	2025	\$ 32,536,153	\$ 35,000,000	\$ 35,000,000
6	2023	2026	\$ 33,430,898	\$ 35,000,000	\$ 35,000,000
7	2024	2027	\$ 34,350,247	\$ 35,000,000	\$ 35,000,000
8	2025	2028	\$ 35,294,879	\$ 35,000,000	\$ 35,000,000
9	2026	2029	\$ 36,265,488	\$ 35,000,000	\$ 35,000,000
10	2027	2030	\$ 37,262,789	\$ 35,000,000	\$ 35,000,000
11	2028	2031	\$ 38,287,516	\$ 35,000,000	\$ 35,000,000
12	2029	2032	\$ 39,340,423	\$ 35,000,000	\$ 35,000,000
13	2030	2033	\$ 40,422,284	\$ 35,000,000	\$ 35,000,000
14	2031	2034	\$ 41,533,897	\$ 20,194,897	\$ 8,145,672
15	2032	2035	\$ 1,493,823	\$ -	\$ -
16	2033	2036	\$ 1,534,903	\$ -	\$ -
17	2034	2037	\$ 1,577,113	\$ -	\$ -
18	2035	2038	\$ 1,620,484	\$ -	\$ -
19	2036	2039	\$ 1,665,047	\$ -	\$ -
20	2037	2040	\$ 1,710,836	\$ -	\$ -
Totals			\$ 499,993,381	\$ 475,194,897	\$ 468,145,672
Savings over default				\$ 24,798,485	\$ 31,847,710
NPV@3%			\$ 408,169,030	\$ 397,141,882	\$ 393,936,946
Efficiency			161%	153%	151%
Interest % of Total			38%	35%	34%

ATTACHMENT A-2
ANTICIPATORY PREFUNDING OPTIONS SUMMARY

**ATTACHMENT A-2
ANTICIPATORY PREFUNDING OPTIONS SUMMARY**

			ANTICIPATORY PREFUNDING OPTIONS (APO)		
			APO 1	APO 2	APO 3
Year	Val Year	Pmt Yr	\$2 Mill Extra/Yr	\$5 Mill for 5 Yrs, \$2 Mill Extra Thereafter	\$5 Mill Extra/Yr Ongoing
1	2018	2021	\$ 37,000,000	\$ 40,000,000	\$ 40,000,000
2	2019	2022	\$ 37,000,000	\$ 40,000,000	\$ 40,000,000
3	2020	2023	\$ 37,000,000	\$ 40,000,000	\$ 40,000,000
4	2021	2024	\$ 37,000,000	\$ 40,000,000	\$ 40,000,000
5	2022	2025	\$ 37,000,000	\$ 40,000,000	\$ 40,000,000
6	2023	2026	\$ 37,000,000	\$ 37,000,000	\$ 40,000,000
7	2024	2027	\$ 37,000,000	\$ 37,000,000	\$ 40,000,000
8	2025	2028	\$ 37,000,000	\$ 37,000,000	\$ 40,000,000
9	2026	2029	\$ 37,000,000	\$ 37,000,000	\$ 40,000,000
10	2027	2030	\$ 37,000,000	\$ 37,000,000	\$ 40,000,000
11	2028	2031	\$ 37,000,000	\$ 37,000,000	\$ 40,000,000
12	2029	2032	\$ 37,000,000	\$ 8,280,924	\$ 314,676
13	2030	2033	\$ 7,954,194	\$ 8,508,650	\$ 323,330
14	2031	2034	\$ 8,172,934	\$ 8,742,638	\$ 332,221
15	2032	2035			
16	2033	2036			
17	2034	2037			
18	2035	2038			
19	2036	2039			
20	2037	2040			
Totals			\$ 460,127,127	\$ 447,532,212	\$ 440,970,228
NPV@3%			\$ 390,491,374	\$ 384,672,223	\$ 381,888,446

ATTACHMENT B
INVESTMENT LOSS PREFUNDING TABLE

ATTACHMENT B INVESTMENT LOSS PREFUNDING TABLE

		Expected Shortfall	
Yrs	Projected Plan Assets	1.0%	Cumulative Shortfall + Interest
CMA Outlook Term	1	718,990,555	7,189,906
	2	762,129,988	7,621,300
	3	807,857,787	8,078,578
	4	856,329,254	8,563,293
	5	907,709,010	9,077,090
	6	962,171,550	9,621,716
	7	1,019,901,843	10,199,018
	8	1,081,095,954	10,810,960
	9	1,145,961,711	11,459,617
	10	1,214,719,414	12,147,194

Repayment Term			
Ultra Aggressive	Aggressive	Less Aggressive	Min
5	10	15	20
1,275,463	545,483	308,898	195,454
2,716,737	1,161,880	657,953	416,318
4,340,019	1,856,117	1,051,088	665,073
6,162,918	2,635,724	1,492,567	944,417
8,204,565	3,508,885	1,987,023	1,257,283
10,485,742	4,484,487	2,539,491	1,606,855
13,029,014	5,572,180	3,155,433	1,996,590
15,858,870	6,782,438	3,840,782	2,430,243
19,001,886	8,126,626	4,601,973	2,911,885
22,486,886	9,617,073	5,445,989	3,445,933

		Expected Shortfall	
Yrs	Projected Plan Assets	2.0%	Cumulative Shortfall + Interest
CMA Outlook Term	1	718,990,555	14,379,811
	2	762,129,988	15,242,600
	3	807,857,787	16,157,156
	4	856,329,254	17,126,585
	5	907,709,010	18,154,180
	6	962,171,550	19,243,431
	7	1,019,901,843	20,398,037
	8	1,081,095,954	21,621,919
	9	1,145,961,711	22,919,234
	10	1,214,719,414	24,294,388

Repayment Term			
Ultra Aggressive	Aggressive	Less Aggressive	Min
5	10	15	20
2,602,383	1,143,261	666,393	434,883
5,543,077	2,435,145	1,419,418	926,300
8,855,130	3,890,173	2,267,537	1,479,775
12,574,469	5,524,127	3,219,949	2,101,312
16,740,131	7,354,157	4,286,652	2,797,433
21,394,517	9,398,888	5,478,502	3,575,225
26,583,663	11,678,548	6,807,289	4,442,380
32,357,542	14,215,088	8,285,809	5,407,249
38,770,374	17,032,328	9,927,945	6,478,893
45,880,972	20,156,106	11,748,759	7,667,141

		Expected Shortfall	
Yrs	Projected Plan Assets	3.0%	Cumulative Shortfall + Interest
CMA Outlook Term	1	718,990,555	21,569,717
	2	762,129,988	22,863,900
	3	807,857,787	24,235,734
	4	856,329,254	25,689,878
	5	907,709,010	27,231,270
	6	962,171,550	28,865,147
	7	1,019,901,843	30,597,055
	8	1,081,095,954	32,432,879
	9	1,145,961,711	34,378,851
	10	1,214,719,414	36,441,582

Repayment Term			
Ultra Aggressive	Aggressive	Less Aggressive	Min
5	10	15	20
3,982,355	1,796,562	1,077,215	724,349
8,482,415	3,826,677	2,294,469	1,542,863
13,550,758	6,113,162	3,665,441	2,464,742
19,242,359	8,680,817	5,205,002	3,499,985
25,616,955	11,556,593	6,929,312	4,659,457
32,739,430	14,769,759	8,855,921	5,954,962
40,680,236	18,352,100	11,003,886	7,399,312
49,515,842	22,338,112	13,393,892	9,006,416
59,329,219	26,765,227	16,048,382	10,791,367
70,210,368	31,674,047	18,991,702	12,770,535

ATTACHMENT C
2020-21 STANDARD FUNDING OPTIONS 1-3

ATTACHMENT C (SFO 1)

2020-21 Standard Funding Option 1 - "Default"

			Original 2013 Fresh Start			Partial Fresh Start - All Other Bases			Default Option Total	
			Level % of Pay no Ramp Up/Down			Level % of Pay no Ramp Up/Down				
			14			20				
Yr	Val Yr	Pmt Yr	Balance	Required Pmt.	ADP	Balance	Payment	ADP	Balance	Min Payment
			\$ -	\$ -		\$ -	\$ -			
			\$ -	\$ -		\$ 21,419,930	\$ -	\$ 8,803,997		
1	2018	2021	\$ 296,871,751	\$ 28,168,551		\$ 13,812,400	\$ 1,021,771		\$ 310,684,151	\$ 29,190,322
2	2019	2022	\$ 288,514,998	\$ 28,943,186		\$ 13,722,340	\$ 1,049,870		\$ 302,237,337	\$ 29,993,056
3	2020	2023	\$ 278,771,983	\$ 29,739,124		\$ 13,596,910	\$ 1,078,741		\$ 292,368,893	\$ 30,817,865
4	2021	2024	\$ 267,523,633	\$ 30,556,950		\$ 13,432,835	\$ 1,108,407		\$ 280,956,468	\$ 31,665,356
5	2022	2025	\$ 254,641,933	\$ 31,397,266		\$ 13,226,589	\$ 1,138,888		\$ 267,868,522	\$ 32,536,153
6	2023	2026	\$ 239,989,284	\$ 32,260,691		\$ 12,974,375	\$ 1,170,207		\$ 252,963,659	\$ 33,430,898
7	2024	2027	\$ 223,417,816	\$ 33,147,860		\$ 12,672,110	\$ 1,202,388		\$ 236,089,926	\$ 34,350,247
8	2025	2028	\$ 204,768,651	\$ 34,059,426		\$ 12,315,398	\$ 1,235,453		\$ 217,084,049	\$ 35,294,879
9	2026	2029	\$ 183,871,112	\$ 34,996,060		\$ 11,899,513	\$ 1,269,428		\$ 195,770,625	\$ 36,265,488
10	2027	2030	\$ 160,541,884	\$ 35,958,452		\$ 11,419,372	\$ 1,304,338		\$ 171,961,256	\$ 37,262,789
11	2028	2031	\$ 134,584,105	\$ 36,947,309		\$ 10,869,510	\$ 1,340,207		\$ 145,453,615	\$ 38,287,516
12	2029	2032	\$ 105,786,398	\$ 37,963,360		\$ 10,244,055	\$ 1,377,063		\$ 116,030,454	\$ 39,340,423
13	2030	2033	\$ 73,921,841	\$ 39,007,352		\$ 9,536,694	\$ 1,414,932		\$ 83,458,536	\$ 40,422,284
14	2031	2034	\$ 38,746,851	\$ 40,080,055		\$ 8,740,646	\$ 1,453,843		\$ 47,487,497	\$ 41,533,897
15	2032	2035				\$ 7,848,625	\$ 1,493,823		\$ 7,848,625	\$ 1,493,823
16	2033	2036				\$ 6,852,806	\$ 1,534,903		\$ 6,852,806	\$ 1,534,903
17	2034	2037				\$ 5,744,786	\$ 1,577,113		\$ 5,744,786	\$ 1,577,113
18	2035	2038				\$ 4,515,542	\$ 1,620,484		\$ 4,515,542	\$ 1,620,484
19	2036	2039				\$ 3,155,388	\$ 1,665,047		\$ 3,155,388	\$ 1,665,047
20	2037	2040				\$ 1,653,928	\$ 1,710,836		\$ 1,653,928	\$ 1,710,836
21	2038	2041							\$ -	\$ -
22	2039	2042							\$ -	\$ -
23	2040	2043							\$ -	\$ -
24	2041	2044							\$ -	\$ -
25	2042	2045							\$ -	\$ -
26	2043	2046							\$ -	\$ -
27	2044	2047							\$ -	\$ -
28	2045	2048							\$ -	\$ -
29	2046	2049							\$ -	\$ -
30	2047	2050							\$ -	\$ -
31	2048	2050							\$ -	\$ -
Total Payments			\$ 473,225,640	\$ -		\$ 26,767,742	\$ 8,803,997		\$ 499,993,381	
Net Savings										161%

Amortization Efficiency (AE) Ratio 161%

ATTACHMENT C (SFO 2)

2020-21 Standard Fund Option 2 - Current Strategy

			Original 2013 Fresh Start			Partial Fresh Start - All Other Bases			Option 2	
			Level % of Pay Without ADP			Level % of Pay With ADP				
			14			20				
Yr	Val Yr	Pmt Yr	Balance	Required Pmt.	ADP	Balance	Payment	ADP	Balance	Payment
				\$ -			\$ -	\$ 8,803,997		
	2017	2020		\$ -			\$ -	\$ 8,803,997		
1	2018	2021	\$ 296,871,751	\$ 28,168,551		\$ 13,812,400	\$ 1,021,771	\$ 5,809,678	\$ 310,684,151	\$ 35,000,000
2	2019	2022	\$ 288,514,998	\$ 28,943,186		\$ 7,712,762	\$ 590,089	\$ 5,466,725	\$ 296,227,760	\$ 35,000,000
3	2020	2023	\$ 278,771,983	\$ 29,739,124	\$ 3,205,054	\$ 1,987,438	\$ 157,678	\$ 1,898,144	\$ 280,759,422	\$ 35,000,000
4	2021	2024	\$ 264,208,299	\$ 30,178,267	\$ 4,821,733	\$ -	\$ -	\$ -	\$ 264,208,299	\$ 35,000,000
5	2022	2025	\$ 246,498,599	\$ 30,393,195	\$ 4,606,805	\$ -	\$ -	\$ -	\$ 246,498,599	\$ 35,000,000
6	2023	2026	\$ 227,549,219	\$ 30,588,428	\$ 4,411,572	\$ -	\$ -	\$ -	\$ 227,549,219	\$ 35,000,000
7	2024	2027	\$ 207,273,383	\$ 30,752,556	\$ 4,247,444	\$ -	\$ -	\$ -	\$ 207,273,383	\$ 35,000,000
8	2025	2028	\$ 185,578,239	\$ 30,867,460	\$ 4,132,540	\$ -	\$ -	\$ -	\$ 185,578,239	\$ 35,000,000
9	2026	2029	\$ 162,364,434	\$ 30,902,709	\$ 4,097,291	\$ -	\$ -	\$ -	\$ 162,364,434	\$ 35,000,000
10	2027	2030	\$ 137,525,663	\$ 30,803,238	\$ 4,196,762	\$ -	\$ -	\$ -	\$ 137,525,663	\$ 35,000,000
11	2028	2031	\$ 110,948,177	\$ 30,458,549	\$ 4,541,451	\$ -	\$ -	\$ -	\$ 110,948,177	\$ 35,000,000
12	2029	2032	\$ 82,510,268	\$ 29,610,300	\$ 5,389,700	\$ -	\$ -	\$ -	\$ 82,510,268	\$ 35,000,000
13	2030	2033	\$ 52,081,706	\$ 27,482,668	\$ 7,517,332	\$ -	\$ -	\$ -	\$ 52,081,706	\$ 35,000,000
14	2031	2034	\$ 19,523,143	\$ 20,194,897	\$ -	\$ -	\$ -	\$ -	\$ 19,523,143	\$ 20,194,897
15	2032	2035								
16	2033	2036								
17	2034	2037								
18	2035	2038								
19	2036	2039								
20	2037	2040								
21	2038	2041								
22	2039	2042								
23	2040	2043								
24	2041	2044								
25	2042	2045								
26	2043	2046								
27	2044	2047								
28	2045	2048								
29	2046	2049								
30	2047	2050								
31	2048	2050								
Total Payments				\$ 409,083,130	\$ 51,167,682		\$ 1,769,537	\$ 21,978,545		\$ 475,194,897
Net Savings									Amortization Efficiency (AE) Ratio 153%	

**ATTACHMENT C
(SFO 3)**

2020-21 Standard Fund Option 3 - \$5M One-Time Payment

			Original 2013 Fresh Start			Partial Fresh Start - All Other Bases			Option 2	
			Level % of Pay Without ADP			Level % of Pay With ADP				
			14			20				
Yr	Val Yr	Pmt Yr	Balance	Required Pmt.	ADP	Balance	Payment	ADP	Balance	Payment
				\$ -			\$ -			
	2017	2020		\$ -			\$ -	\$ 8,803,997		
1	2018	2021	\$ 296,871,751	\$ 28,168,551		\$ 13,812,400	\$ 1,021,771	\$ 10,809,678	\$ 310,684,151	\$ 40,000,000
2	2019	2022	\$ 288,514,998	\$ 28,943,186	\$ 3,428,671	\$ 2,540,722	\$ 194,386	\$ 2,433,757	\$ 291,055,720	\$ 35,000,000
3	2020	2023	\$ 275,225,338	\$ 29,360,771	\$ 5,639,229	\$ -	\$ -	\$ -	\$ 275,225,338	\$ 35,000,000
4	2021	2024	\$ 258,286,831	\$ 29,501,908	\$ 5,498,092	\$ -	\$ -	\$ -	\$ 258,286,831	\$ 35,000,000
5	2022	2025	\$ 240,162,627	\$ 29,611,972	\$ 5,388,028	\$ -	\$ -	\$ -	\$ 240,162,627	\$ 35,000,000
6	2023	2026	\$ 220,769,730	\$ 29,677,091	\$ 5,322,909	\$ -	\$ -	\$ -	\$ 220,769,730	\$ 35,000,000
7	2024	2027	\$ 200,019,329	\$ 29,676,293	\$ 5,323,707	\$ -	\$ -	\$ -	\$ 200,019,329	\$ 35,000,000
8	2025	2028	\$ 177,816,401	\$ 29,576,424	\$ 5,423,576	\$ -	\$ -	\$ -	\$ 177,816,401	\$ 35,000,000
9	2026	2029	\$ 154,059,267	\$ 29,321,992	\$ 5,678,008	\$ -	\$ -	\$ -	\$ 154,059,267	\$ 35,000,000
10	2027	2030	\$ 128,639,135	\$ 28,812,818	\$ 6,187,182	\$ -	\$ -	\$ -	\$ 128,639,135	\$ 35,000,000
11	2028	2031	\$ 101,439,592	\$ 27,848,162	\$ 7,151,838	\$ -	\$ -	\$ -	\$ 101,439,592	\$ 35,000,000
12	2029	2032	\$ 72,336,082	\$ 25,959,110	\$ 9,040,890	\$ -	\$ -	\$ -	\$ 72,336,082	\$ 35,000,000
13	2030	2033	\$ 41,195,327	\$ 21,738,103	\$ 13,261,897	\$ -	\$ -	\$ -	\$ 41,195,327	\$ 35,000,000
14	2031	2034	\$ 7,874,718	\$ 8,145,672	\$ -	\$ -	\$ -	\$ -	\$ 7,874,718	\$ 8,145,672
15	2032	2035								
16	2033	2036								
17	2034	2037								
18	2035	2038								
19	2036	2039								
20	2037	2040								
21	2038	2041								
22	2039	2042								
23	2040	2043								
24	2041	2044								
25	2042	2045								
26	2043	2046								
27	2044	2047								
28	2045	2048								
29	2046	2049								
30	2047	2050								
31	2048	2050								
Total Payments			\$	\$ 376,342,055	\$ 77,344,025	\$	\$ 1,216,157	\$ 22,047,432	\$	\$ 468,145,672
Net Savings										Amortization Efficiency (AE) Ratio 151%

ATTACHMENT D
ANTICIPATORY PREFUNDING OPTIONS 1-3

ATTACHMENT D (APO 1)

Anticipatory Prefunding Option 1 - \$2 Million extra per year

			Original 2013 Fresh Start			Partial Fresh Start - All Other Bases			Option 2	
			Level % of Pay Without ADP			Level % of Pay With ADP				
			14			20				
Yr	Val Yr	Pmt Yr	Balance	Required Pmt.	ADP	Balance	Payment	ADP	Balance	Payment
	2017	2020		\$ -			\$ -	\$ 8,803,997		
1	2018	2021	\$ 296,871,751	\$ 28,168,551		\$ 21,419,930	\$ -	\$ 8,803,997	\$ 310,684,151	\$ 37,000,000
2	2019	2022	\$ 288,514,998	\$ 28,943,186	\$ 2,218,671	\$ 13,812,400	\$ 1,021,771	\$ 7,809,678	\$ 294,158,944	\$ 37,000,000
3	2020	2023	\$ 276,476,972	\$ 29,494,294	\$ 7,505,706	\$ 5,643,946	\$ 431,807	\$ 5,406,336	\$ 276,476,972	\$ 37,000,000
4	2021	2024	\$ 257,557,263	\$ 29,418,576	\$ 7,581,424	\$ -	\$ -	\$ -	\$ 257,557,263	\$ 37,000,000
5	2022	2025	\$ 237,313,173	\$ 29,260,635	\$ 7,739,365	\$ -	\$ -	\$ -	\$ 237,313,173	\$ 37,000,000
6	2023	2026	\$ 215,651,998	\$ 28,989,138	\$ 8,010,862	\$ -	\$ -	\$ -	\$ 215,651,998	\$ 37,000,000
7	2024	2027	\$ 192,474,540	\$ 28,556,895	\$ 8,443,105	\$ -	\$ -	\$ -	\$ 192,474,540	\$ 37,000,000
8	2025	2028	\$ 167,674,660	\$ 27,889,536	\$ 9,110,464	\$ -	\$ -	\$ -	\$ 167,674,660	\$ 37,000,000
9	2026	2029	\$ 141,138,789	\$ 26,862,847	\$ 10,137,153	\$ -	\$ -	\$ -	\$ 141,138,789	\$ 37,000,000
10	2027	2030	\$ 112,745,407	\$ 25,252,913	\$ 11,747,087	\$ -	\$ -	\$ -	\$ 112,745,407	\$ 37,000,000
11	2028	2031	\$ 82,364,488	\$ 22,611,483	\$ 14,388,517	\$ -	\$ -	\$ -	\$ 82,364,488	\$ 37,000,000
12	2029	2032	\$ 49,856,904	\$ 17,892,051	\$ 19,107,949	\$ -	\$ -	\$ -	\$ 49,856,904	\$ 37,000,000
13	2030	2033	\$ 15,073,790	\$ 7,954,194	\$ -	\$ -	\$ -	\$ -	\$ 15,073,790	\$ 7,954,194
14	2031	2034	\$ 7,901,073	\$ 8,172,934	\$ -	\$ -	\$ -	\$ -	\$ 7,901,073	\$ 8,172,934
15	2032	2035								
16	2033	2036								
17	2034	2037								
18	2035	2038								
19	2036	2039								
20	2037	2040								
21	2038	2041								
22	2039	2042								
23	2040	2043								
24	2041	2044								
25	2042	2045								
26	2043	2046								
27	2044	2047								
28	2045	2048								
29	2046	2049								
30	2047	2050								
31	2048	2050								
Total Payments			\$ 339,467,232	\$ 105,990,304		\$ 1,453,578	\$ 22,020,011		\$ 460,127,127	
Net Savings								Amortization Efficiency (AE) Ratio		148%

ATTACHMENT D (APO 2)

Anticipatory Prefunding Option 2 - \$5M for 5 Years, \$ 2 million Extra Thereafter

			Original 2013 Fresh Start			Partial Fresh Start - All Other Bases			Option 2	
			Level % of Pay Without ADP			Level % of Pay With ADP				
			14			20				
Yr	Val Yr	Pmt Yr	Balance	Required Pmt.	ADP	Balance	Payment	ADP	Balance	Payment
	2017	2020		\$ -			\$ -	\$ 8,803,997		
1	2018	2021	\$ 296,871,751	\$ 28,168,551		\$ 13,812,400	\$ 1,021,771	\$ 10,809,678	\$ 310,684,151	\$ 40,000,000
2	2019	2022	\$ 288,514,998	\$ 28,943,186	\$ 8,428,671	\$ 2,540,722	\$ 194,386	\$ 2,433,757	\$ 291,055,720	\$ 40,000,000
3	2020	2023	\$ 270,053,298	\$ 28,809,023	\$ 11,190,977	\$ -	\$ -	\$ -	\$ 270,053,298	\$ 40,000,000
4	2021	2024	\$ 247,580,707	\$ 28,279,039	\$ 11,720,961	\$ -	\$ -	\$ -	\$ 247,580,707	\$ 40,000,000
5	2022	2025	\$ 223,535,035	\$ 27,561,796	\$ 12,438,204	\$ -	\$ -	\$ -	\$ 223,535,035	\$ 40,000,000
6	2023	2026	\$ 197,806,166	\$ 26,590,202	\$ 10,409,798	\$ -	\$ -	\$ -	\$ 197,806,166	\$ 37,000,000
7	2024	2027	\$ 173,379,500	\$ 25,723,818	\$ 11,276,182	\$ -	\$ -	\$ -	\$ 173,379,500	\$ 37,000,000
8	2025	2028	\$ 147,242,967	\$ 24,491,107	\$ 12,508,893	\$ -	\$ -	\$ -	\$ 147,242,967	\$ 37,000,000
9	2026	2029	\$ 119,276,877	\$ 22,701,884	\$ 14,298,116	\$ -	\$ -	\$ -	\$ 119,276,877	\$ 37,000,000
10	2027	2030	\$ 89,353,161	\$ 20,013,477	\$ 16,986,523	\$ -	\$ -	\$ -	\$ 89,353,161	\$ 37,000,000
11	2028	2031	\$ 57,334,785	\$ 15,740,091	\$ 21,259,909	\$ -	\$ -	\$ -	\$ 57,334,785	\$ 37,000,000
12	2029	2032	\$ 23,075,122	\$ 8,280,924	\$ -	\$ -	\$ -	\$ -	\$ 23,075,122	\$ 8,280,924
13	2030	2033	\$ 16,124,526	\$ 8,508,650	\$ -	\$ -	\$ -	\$ -	\$ 16,124,526	\$ 8,508,650
14	2031	2034	\$ 8,451,827	\$ 8,742,638	\$ -	\$ -	\$ -	\$ -	\$ 8,451,827	\$ 8,742,638
15	2032	2035								
16	2033	2036								
17	2034	2037								
18	2035	2038								
19	2036	2039								
20	2037	2040								
21	2038	2041								
22	2039	2042								
23	2040	2043								
24	2041	2044								
25	2042	2045								
26	2043	2046								
27	2044	2047								
28	2045	2048								
29	2046	2049								
30	2047	2050								
31	2048	2050								
Total Payments			\$ 302,554,386	\$ 130,518,234		\$ 1,216,157	\$ 22,047,432		\$ 447,532,212	
Net Savings								Amortization Efficiency (AE) Ratio		144%

ATTACHMENT D (APO 3)

Anticipatory Prefunding Option 3 - \$5M Extra Per Year Ongoing

			Original 2013 Fresh Start			Partial Fresh Start - All Other Bases			Option 2	
			Level % of Pay Without ADP			Level % of Pay With ADP				
			14			20			Option 2	
Yr	Val Yr	Pmt Yr	Balance	Required Pmt.	ADP	Balance	Payment	ADP	Balance	Payment
	2017	2020		\$ -			\$ -	\$ 8,803,997		
	1	2018	2021	\$ 296,871,751	\$ 28,168,551		\$ 13,812,400	\$ 1,021,771	\$ 310,684,151	\$ 40,000,000
	2	2019	2022	\$ 288,514,998	\$ 28,943,186	\$ 8,428,671	\$ 2,540,722	\$ 194,386	\$ 291,055,720	\$ 40,000,000
	3	2020	2023	\$ 270,053,298	\$ 28,809,023	\$ 11,190,977	\$ -	\$ -	\$ 270,053,298	\$ 40,000,000
	4	2021	2024	\$ 247,580,707	\$ 28,279,039	\$ 11,720,961	\$ -	\$ -	\$ 247,580,707	\$ 40,000,000
	5	2022	2025	\$ 223,535,035	\$ 27,561,796	\$ 12,438,204	\$ -	\$ -	\$ 223,535,035	\$ 40,000,000
	6	2023	2026	\$ 197,806,166	\$ 26,590,202	\$ 13,409,798	\$ -	\$ -	\$ 197,806,166	\$ 40,000,000
	7	2024	2027	\$ 170,276,276	\$ 25,263,402	\$ 14,736,598	\$ -	\$ -	\$ 170,276,276	\$ 40,000,000
	8	2025	2028	\$ 140,819,293	\$ 23,422,649	\$ 16,577,351	\$ -	\$ -	\$ 140,819,293	\$ 40,000,000
	9	2026	2029	\$ 109,300,322	\$ 20,803,054	\$ 19,196,946	\$ -	\$ -	\$ 109,300,322	\$ 40,000,000
	10	2027	2030	\$ 75,575,023	\$ 16,927,426	\$ 23,072,574	\$ -	\$ -	\$ 75,575,023	\$ 40,000,000
	11	2028	2031	\$ 39,488,953	\$ 10,840,883	\$ 29,159,117	\$ -	\$ -	\$ 39,488,953	\$ 40,000,000
	12	2029	2032	\$ 876,858	\$ 314,676	\$ -	\$ -	\$ -	\$ 876,858	\$ 314,676
	13	2030	2033	\$ 612,734	\$ 323,330	\$ -	\$ -	\$ -	\$ 612,734	\$ 323,330
	14	2031	2034	\$ 321,171	\$ 332,221	\$ -	\$ -	\$ -	\$ 321,171	\$ 332,221
	15	2032	2035							
	16	2033	2036							
	17	2034	2037							
	18	2035	2038							
	19	2036	2039							
	20	2037	2040							
	21	2038	2041							
	22	2039	2042							
	23	2040	2043							
	24	2041	2044							
	25	2042	2045							
	26	2043	2046							
	27	2044	2047							
	28	2045	2048							
	29	2046	2049							
	30	2047	2050							
	31	2048	2050							
Total Payments				\$ 266,579,437	\$ 159,931,198		\$ 1,216,157	\$ 22,047,432	\$ 440,970,228	
Net Savings								Amortization Efficiency (AE) Ratio		142%