



Options for Long-Term CalPERS Pension Liabilities

October 6, 2020 City Council Meeting



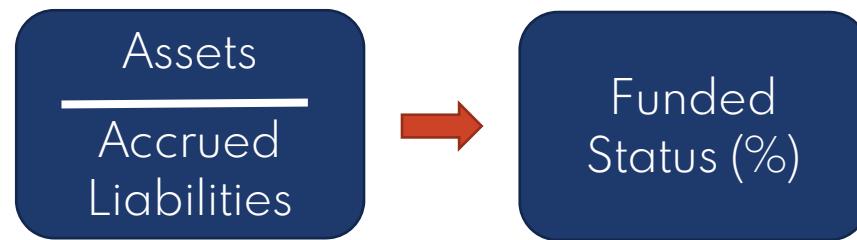
Pension Benefits Background

- City contracts with CalPERS to offer defined benefit retirement plans
 - Benefit formulas are based on years of service, age at retirement and final compensation
 - Benefit formulas vary by
 - Classification (Miscellaneous or Public Safety)
 - Date employee entered into CalPERS membership (Classic or PEPRA after January/2013)
- Benefits are funded by City (employer) and Employee contributions, as well as CalPERS investment earnings



CalPERS Funding Status

- After the Great Recession, CalPERS implemented changes to stabilize the fund
 - CalPERS Assets impacted by lower investment returns
 - Resulted in significant impacts to City Funded Status – as a consequence funded ratio declined



- If Liabilities are greater than Assets, then City has an “Unfunded Actuarial Liability” (UAL)



CalPERS Funding Status

- Annual UAL payments to amortize an estimated \$91.5 million increasing significantly over next ten years
 - Impacted by changes in actuarial assumptions (e.g. demographics), low investment returns, earlier retirement, etc.

Date	Jul-20		Jul-20		Jul-20			
Valuation as of	6/30/2019		6/30/2019		6/30/2019			
Plan	TOTAL FIRE		TOTAL Police		Miscellaneous Plan		TOTAL UAL	
Required Contribution In	Balance	Payment	Balance	Payment	Balance	Payment	Balance	Payment
6/30/2022	19,942,282	1,455,513	42,841,197	3,146,788	28,807,225	2,152,306	91,590,704	6,754,607
6/30/2023	19,832,648	1,623,787	42,585,018	3,488,182	28,597,370	2,401,557	91,015,036	7,513,526
6/30/2024	19,541,273	1,728,325	41,957,766	3,707,817	28,114,995	2,569,628	89,614,034	8,005,770
6/30/2025	19,121,369	1,833,254	41,059,413	3,927,876	27,425,002	2,746,690	87,605,784	8,507,820
6/30/2026	18,563,532	1,888,281	39,870,544	4,045,461	26,503,553	2,831,629	84,937,629	8,765,371
6/30/2027	17,909,727	1,936,747	38,476,824	4,153,200	25,429,741	2,907,340	81,816,292	8,997,287
6/30/2028	17,160,021	1,988,314	36,874,093	4,263,904	24,202,448	2,985,128	78,236,562	9,237,346
6/30/2029	16,304,495	2,041,300	35,044,663	4,377,647	22,808,779	3,065,060	74,157,937	9,484,007
6/30/2030	15,334,275	2,095,740	32,969,516	4,494,520	21,234,871	3,147,186	69,538,662	9,737,446
6/30/2031	14,239,826	2,151,679	30,628,215	4,614,615	19,465,835	3,231,573	64,333,876	9,997,867
6/30/2032	13,010,899	2,209,155	27,998,795	4,738,006	17,485,678	3,099,143	58,495,372	10,046,304



CalPERS Funding Status

- If CalPERS Investment Earnings do not meet expected return “*discount rate*” of 7%, the City’s UAL will continue to grow
 - UAL payments less than minimum interest costs would result in negative amortization
- Understanding risks of rising pension costs, City Council added Work Plan item in FY 2019 directing staff to provide options to address pension liabilities and impacts to the City’s financial future and structural deficit



Addressing Pension Liabilities

- October 2017 – City opened PARS 115 Trust to put aside funds for future pension payments
 - Current balance of \$1.674 million
- September 2019 – Options introduced at Finance Subcommittee (FSC) meeting
 - Reviewed funding options, including Additional Discretionary Payments (ADPs)
 - FSC asked staff to explore Pension Obligation Bonds (POBs)



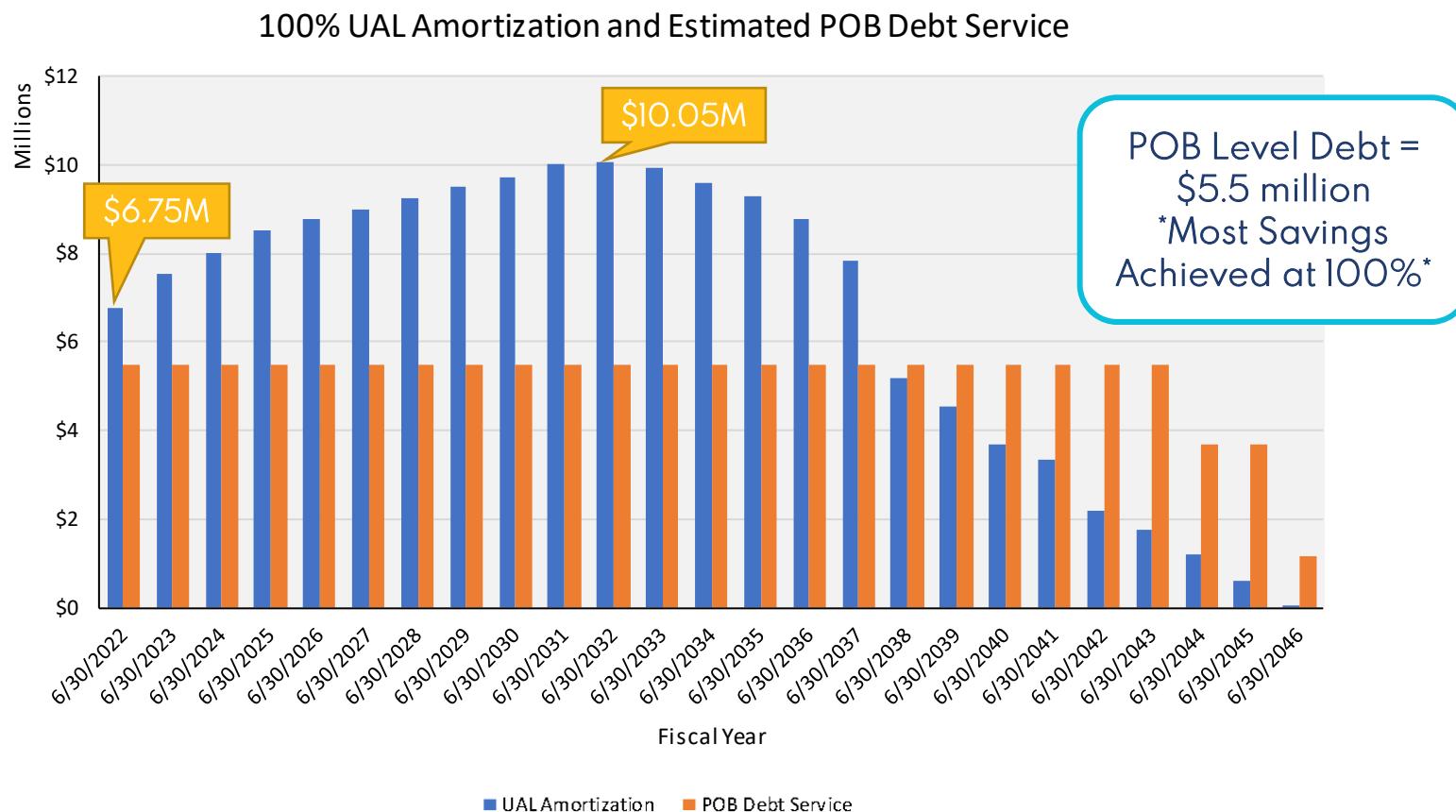
Addressing Pension Liabilities

- February 2020 - Staff hired independent actuary (Bartel & Associates) to assist with pre-funding pay down scenario analysis
- July 6 & July 22, 2020 - FSC reviewed options for POBs funded at 80-100% of current UAL
 - Approved Draft Pension Policy, including plan for use of projected budgetary savings
 - 40%-60% used to offset future UAL costs
 - 40%-60% used to offset General Fund Operational Costs
- FSC - Directed staff to bring POB recommendation to full City Council



Staff Recommendation: POBs Illustrative – 100%

- 100% POB Payment is \$5.5 million



Slide 8

SSC1 Steve S. Charelian, 10/2/2020

SSC2 Steve S. Charelian, 10/2/2020



City of Manhattan Beach

Presentation to City Council
Pension Obligation Bonds

October 6, 2020



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Pension Cost Background



Three Different Pension Cost Areas

- Employer Normal Cost - \$4.46 mm for FY 2020-21
 - Employer pension costs are determined by CalPERS and paid by the City (including any cost sharing agreements)
 - Fire employer costs are 20.558% (Classic) or 13.884% (PEPRA) of payroll
 - Police employer costs are 22.540% (Classic) or 13.884% (PEPRA) of payroll
 - Misc. employer costs are 9.672% of payroll
- Employee Normal Cost - \$2.90 mm for FY 2020-21
 - Employees also contribute toward pension related costs (including any cost sharing agreements)
 - Fire employees contribute 12% (Classic) or 13.75% (PEPRA) of payroll costs
 - Police employees contribute 12% (Classic) or 13.75% (PEPRA) of payroll costs
 - Misc. employees contribute 7% (Classic) or 7.25% (PEPRA) of payroll costs
- Unfunded Accrued Liability (UAL) Cost - \$5.73 mm for FY 2020-21
 - UAL costs are assessed to make up for valuation lost and costs incurred from prior years
 - Lower than projected investment returns
 - Changes in actuarial assumptions



UAL Structure Similar To A Mortgage

- Accelerated UAL payments mandated by CalPERS have been the cause of our current pension crisis
- Of note, UAL payments will end when the overall accrued debt load has been paid off
 - In some ways, UAL payment is similar to a mortgage payment
- The City's UAL “mortgage” includes the following key terms:
 - An interest rate of 7% to service our UAL debt load
 - 25 years left on the term of our current “mortgage”
 - Final payment scheduled for June 30, 2046
 - Annual payments will increase through FY 2031-32



Manhattan Beach Unfunded Accrued Liability

- Per the CalPERS Actuarial Valuation reports as of June 30, 2019, the City's funded ratios were:
 - 76.1% for Miscellaneous
 - 92.8% for PEPRA Fire
 - 91.6% for PEPRA Police
 - 72.0% for Fire
 - 71.0% for Police
- Projected unfunded accrued liabilities for fiscal year 2022 are:
 - \$19,942,282 for Fire
 - \$42,841,197 for Police
 - \$28,807,225 for Miscellaneous
 - **\$91,590,704 Total**

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Valuation as of	6/30/2019		6/30/2019		6/30/2019			
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6/30/2032	13,010,899	2,209,155	27,998,795	4,738,006	17,485,678	3,099,143	58,495,372	10,046,304
6/30/2033	11,636,496	2,180,785	25,057,680	4,692,888	15,503,897	3,056,143	52,198,073	9,929,816
6/30/2034	10,195,226	2,149,231	21,957,358	4,641,801	13,427,870	2,796,720	45,580,454	9,587,752
6/30/2035	8,685,711	2,081,873	18,692,858	4,520,361	11,474,871	2,685,440	38,853,440	9,287,674
6/30/2036	7,140,207	1,966,194	15,325,463	4,302,809	9,500,271	2,494,058	31,965,941	8,763,061
6/30/2037	5,606,176	1,763,276	11,947,386	3,907,144	7,585,417	2,161,929	25,138,979	7,832,349
6/30/2038	4,174,659	1,040,998	8,742,121	2,180,593	5,880,078	1,954,090	18,796,858	5,175,681
6/30/2039	3,390,069	901,291	7,098,447	1,899,588	4,270,356	1,733,242	14,758,872	4,534,121
6/30/2040	2,695,072	790,335	5,630,391	1,675,204	2,776,403	1,200,615	11,101,866	3,666,154
6/30/2041	2,066,197	721,935	4,291,675	1,537,394	1,728,825	1,088,522	8,086,697	3,347,851
6/30/2042	1,464,056	521,190	3,001,798	1,113,305	723,867	537,816	5,189,721	2,172,311
6/30/2043	1,027,416	498,899	2,060,311	1,036,551	218,217	225,725	3,305,944	1,761,175
6/30/2044	583,269	396,160	1,132,318	805,680			1,715,587	1,201,840
6/30/2045	214,307	203,438	378,178	391,190			592,485	594,628
6/30/2046	18,869	19,518					18,869	19,518
TOTAL	36,187,218		77,662,524		51,071,540		164,921,282	

Source: CalPERS Actuarial Valuation - June 30, 2019



CalPERS Cost Increases Enacted

- In response to deteriorating financial conditions, CalPERS has enacted a series of pension cost increases
 - March 16, 2012 – Change in Discount Rate from 7.75% to 7.50%
 - Designed to more accurately reflect investment return earnings
 - Impacted employer rates beginning in FY 2013-14
 - April 17, 2013 – Change in Amortization & Rate Smoothing Policy
 - Designed to pay down unfunded liabilities faster
 - Impacted employer rates beginning in FY 2015-16
 - February 18, 2014 – Change in Actuarial Assumptions & Asset Allocations
 - Designed to account for demographic and mortality adjustments
 - Impacted employer rates beginning in FY 2016-17

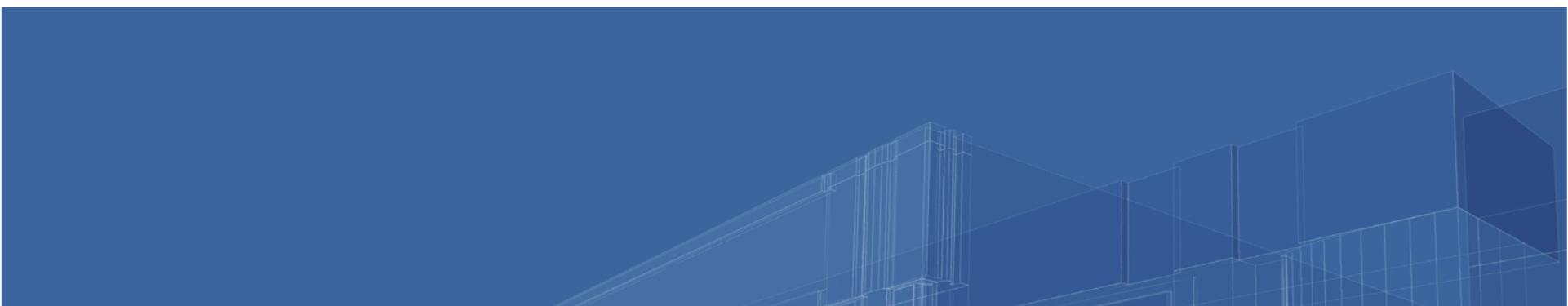


Additional Increases Enacted In 2016

- On December 21, 2016, the CalPERS Board voted to enact two substantial new changes
 - Lower the discount rate from 7.5% to 7.0%
 - Enact an accelerated payback schedule for all unfunded accrued liabilities (UAL)
- The net effect of the two changes includes the following:
 - Discount Rate Reduction
 - Designed to more accurately reflect investment return earnings
 - Impacted employer rates beginning in FY 2018-19
 - UAL Payment Acceleration
 - Designed to accelerate payments to fully fund existing unfunded liabilities over a 20-30 year period



Pension Obligation Bonds



Pension Obligation Bonds

- A Pension Obligation Bond (“POB”) is a taxable debt issuance used to extinguish some or all of a public agency’s unfunded accrued liability (“UAL”).
- Proceeds would be deposited with the City’s pension system, CalPERS, and invested along with other pension system assets, presumably in a mix of equities and corporate fixed income securities.
 - No “side-fund” specific to the City
- POBs are issued only when the all-in interest rate of the bond issue is significantly below the actuarial rate of interest factored into the calculation of the UAL.
- Debt service payments to bondholders would replace the portion of the employer contribution rate that was allocable to the payment of the extinguished UAL.



Why Is Refinancing Cheaper?

- One of the primary cost savings driver when assessing the POB option is the current municipal bond market
 - We currently live in a low-interest rate world, with certain governmental entities (Germany, Japan, and the EU) offering negative savings rates
 - These global market conditions have created a scenario where municipal borrowing rates are currently near the lowest levels ever recorded
- For the proposed POB, preliminary market rates indicate the City could refinance its UAL debt at a “true interest cost” of approximately 3.1%
- By comparison, CalPERS is currently assessing an interest rate of 7% on the City’s UAL debt

Reasons Why Refinancing Could Be A Bad Idea

- Issuing a POB now does nothing to address future possible unfunded actuarial liabilities growth
 - Returning our UAL to zero now does nothing to keep it at zero in the future
- CalPERS could over-perform from an investment perspective, and we wouldn't have had to issue such a large POB
 - If Cal PERS over-performs and beats 7% investment returns (6.7% return earned in FY 2018/19), then our UAL amount will decrease
- Unknown possible State legislative/ judicial changes in the future
 - The State and/ or the Courts could make pension rule changes to reduce our UAL amounts



Reasons Why Refinancing Makes Sense

- Refinancing removes an unknown cost variable and replaces UAL cost increases with a stable fixed payment amount
 - i.e. variable rate to fixed rate
- Interest rates are at historic lows
- Issuing a POB to refinance the UAL does not preclude the City from taking part in any future State/court decisions, if any, related to pension program changes
 - Near-term pension program fixes are unlikely
- Even if the pension fund is overfunded, those funds stay in the City's CalPERS account and can be used to cover future UAL shortfalls

Other Pension Obligation Bond Considerations

- Overfunding: If the City's POBs are sized to eliminate the entire UAL, above market returns could create an actuarial "surplus" in the retirement system.
 - Possibly result in political pressure to increase benefits.
 - If earnings above the actuarial rate in any given year are deposited into a supplemental benefit reserve, this can undermine the ability to achieve budgetary savings over the long-run with a POB.
- Consider issuing less than 100% of the current estimate of the UAL in order to manage the risks of market timing and the pressures from a potentially over-funded system.
- GFOA Advisory on Pension Obligation Bonds discourages use of this instrument.
- Consider in the context of long-term capital planning: issue a tax-exempt infrastructure financing in-lieu of taxable POB.
 - Freed up cash can be used to prepay a portion of the UAL.
 - Fungibility of cash creates a "tax-exempt" POB financing.

POBs are Increasing In the Current Market

	Sale Dates	CA POB Issuers	Par Amount (\$MM)
1	2/5/2020	City of Pasadena	\$131.805
2	4/22/2020	County of Riverside	\$719.995
3	4/30/2020	City of Larkspur	\$18.295
4	5/13/2020	City of Ontario	\$236.585
5	5/27/2020	City of Montebello	\$153.425
6	6/2/2020	City of Inglewood	\$101.620
7	6/4/2020	City of Riverside	\$432.165
8	6/9/2020	City of El Monte	\$118.725
9	6/10/2020	City of Carson	\$108.020
10	6/11/2020	North County Fire Protection District	\$20.305
11	7/23/2020	West Covina Public Financing Authority**	\$204.095
12	8/13/2020	City of Pomona	\$219.890
13	9/17/2020	City of Azusa	\$70.075

** West Covina issued Lease Revenue Bonds as an alternative to POBs because their POB validation proceeding was challenged. The LRBs refunded their CalPERS UAL.

Illustrative Pension Obligation Bonds – 100%

- 100% UALs and level debt service

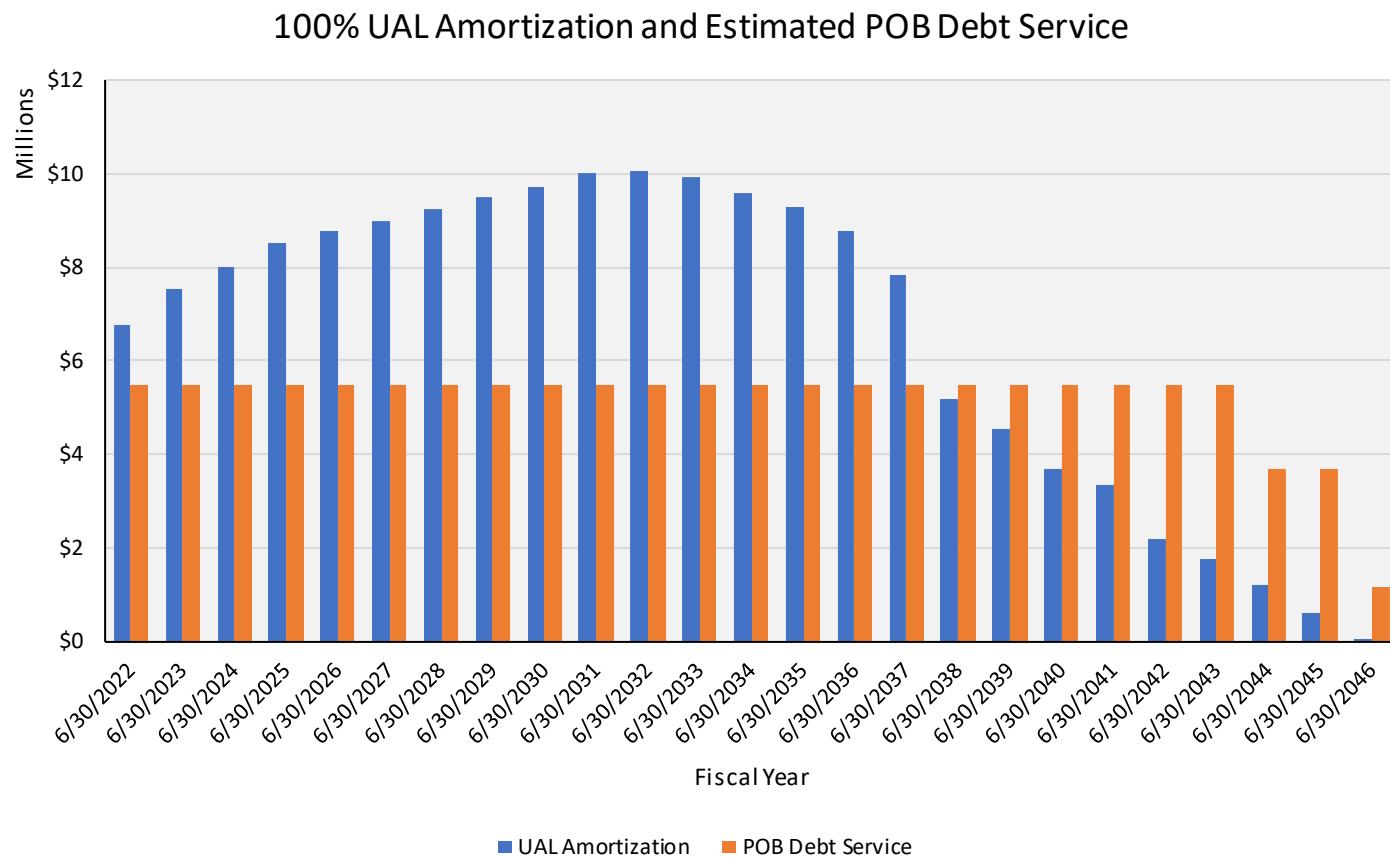
Required Contribution In	100% Fire UAL				100% Police UAL				100% Misc. UAL				100% Total UAL			
	Payment	POB Debt Service	Savings	PV Savings	Payment	POB Debt Service	Savings	PV Savings	Payment	POB Debt Service	Savings	PV Savings	Payment	POB Debt Service	Savings	PV Savings
6/30/2022	1,455,513	1,153,374	302,139	293,106	3,146,788	2,533,671	613,117	594,786	2,152,306	1,791,551	360,755	349,970	6,754,607	5,478,596	1,276,011	1,237,862
6/30/2023	1,623,787	1,155,898	467,889	440,330	3,488,182	2,543,225	944,958	889,300	2,401,557	1,800,618	600,939	565,544	7,513,526	5,499,741	2,013,786	1,895,174
6/30/2024	1,728,325	1,153,029	575,296	525,225	3,707,817	2,540,294	1,167,524	1,065,907	2,569,628	1,797,009	772,620	705,374	8,005,770	5,490,331	2,515,439	2,296,506
6/30/2025	1,833,254	1,154,358	678,897	601,278	3,927,876	2,540,483	1,387,393	1,228,772	2,746,690	1,796,992	949,698	841,119	8,507,820	5,491,833	3,015,988	2,671,168
6/30/2026	1,888,281	1,154,608	733,674	630,365	4,045,461	2,538,253	1,507,208	1,294,979	2,831,629	1,800,144	1,031,485	886,242	8,765,371	5,493,005	3,272,367	2,811,587
6/30/2027	1,936,747	1,154,067	782,681	652,367	4,153,200	2,539,266	1,613,934	1,345,220	2,907,340	1,796,884	1,110,456	925,569	8,997,287	5,490,217	3,507,071	2,923,156
6/30/2028	1,988,314	1,157,134	831,180	672,079	4,263,904	2,542,071	1,721,833	1,392,248	2,985,128	1,796,257	1,188,872	961,303	9,237,346	5,495,462	3,741,885	3,025,630
6/30/2029	2,041,300	1,153,934	887,366	696,059	4,377,647	2,542,071	1,835,576	1,439,845	3,065,060	1,798,557	1,266,504	993,459	9,484,007	5,494,562	3,989,446	3,129,363
6/30/2030	2,095,740	1,154,462	941,278	716,274	4,494,520	2,539,023	1,955,497	1,488,053	3,147,186	1,798,501	1,348,686	1,026,294	9,737,446	5,491,986	4,245,461	3,230,621
6/30/2031	2,151,679	1,153,981	997,698	736,509	4,614,615	2,538,767	2,075,848	1,532,409	3,231,573	1,796,720	1,434,854	1,059,221	9,997,867	5,489,468	4,508,400	3,328,140
6/30/2032	2,209,155	1,157,461	1,051,694	753,159	4,738,006	2,541,125	2,196,881	1,573,271	3,099,143	1,798,164	1,300,980	931,682	10,046,304	5,496,750	4,549,555	3,258,112
6/30/2033	2,180,785	1,154,389	1,026,396	713,066	4,692,888	2,540,087	2,152,802	1,495,612	3,056,143	1,797,040	1,259,104	874,735	9,929,816	5,491,515	4,438,301	3,083,414
6/30/2034	2,149,231	1,155,206	994,026	669,932	4,641,801	2,541,369	2,100,432	1,415,603	2,796,720	1,798,893	997,828	672,494	9,587,752	5,495,467	4,092,285	2,758,029
6/30/2035	2,081,873	1,154,745	927,128	606,165	4,520,361	2,539,757	1,980,604	1,294,937	2,685,440	1,798,527	886,913	579,872	9,287,674	5,493,029	3,794,645	2,480,973
6/30/2036	1,966,194	1,152,968	813,227	515,799	4,302,809	2,540,161	1,762,649	1,117,981	2,494,058	1,800,873	693,185	439,661	8,763,061	5,494,001	3,269,060	2,073,441
6/30/2037	1,763,276	1,154,833	608,443	374,375	3,907,144	2,542,344	1,364,800	839,761	2,161,929	1,795,715	366,214	225,331	7,832,349	5,492,892	2,339,457	1,439,467
6/30/2038	1,040,998	1,156,707	-115,709	-69,067	2,180,593	2,538,203	-357,610	-213,459	1,954,090	1,797,181	156,910	93,660	5,175,681	5,492,091	-316,410	-188,866
6/30/2039	901,291	1,157,552	-256,261	-148,390	1,899,588	2,542,004	-642,416	-371,997	1,733,242	1,796,931	-63,689	-36,880	4,534,121	5,496,487	-962,366	-557,266
6/30/2040	790,335	1,157,368	-367,033	-206,180	1,675,204	2,538,404	-863,200	-484,900	1,200,615	1,799,967	-599,352	-336,684	3,666,154	5,495,739	-1,829,585	-1,027,763
6/30/2041	721,935	1,156,155	-434,220	-236,629	1,537,394	2,542,575	-1,005,181	-547,775	1,088,522	1,796,116	-707,594	-385,605	3,347,851	5,494,845	-2,146,994	-1,170,009
6/30/2042	521,190	1,153,913	-632,723	-334,495	1,113,305	2,539,173	-1,425,868	-753,799	537,816	1,800,550	-1,262,734	-667,556	2,172,311	5,493,635	-3,321,324	-1,755,851
6/30/2043	498,899	1,154,672	-655,773	-336,316	1,036,551	2,541,160	-1,504,609	-771,645	225,725	1,796,246	-1,570,521	-805,449	1,761,175	5,492,077	-3,730,902	-1,913,410
6/30/2044	396,160	1,154,196	-758,036	-377,139	805,680	2,540,323	-1,734,643	-863,023	0	0	0	0	1,201,840	3,694,518	-2,492,678	-1,240,162
6/30/2045	203,438	1,157,484	-954,046	-460,468	391,190	2,541,662	-2,150,472	-1,037,920	0	0	0	0	594,628	3,699,145	-3,104,517	-1,498,387
6/30/2046	19,518	1,154,360	-1,134,842	-531,353	0	0	0	0	0	0	0	0	19,518	1,154,360	-1,134,842	-531,353
TOTAL	36,187,218	28,876,850	7,310,368	6,896,051	77,662,524	60,965,467	16,697,057	14,964,168	51,071,540	39,549,430	11,522,111	9,899,356	164,921,282	129,391,746	35,529,536	31,759,575

AAA rates as of 9/4/2020 plus 25 basis point cushion; PV Savings at Arbitrage Yield



Illustrative Pension Obligation Bonds – 100%

- 100% UALs and level debt service



Illustrative Pension Obligation Bonds – 90%

- 90% UALs and level debt service

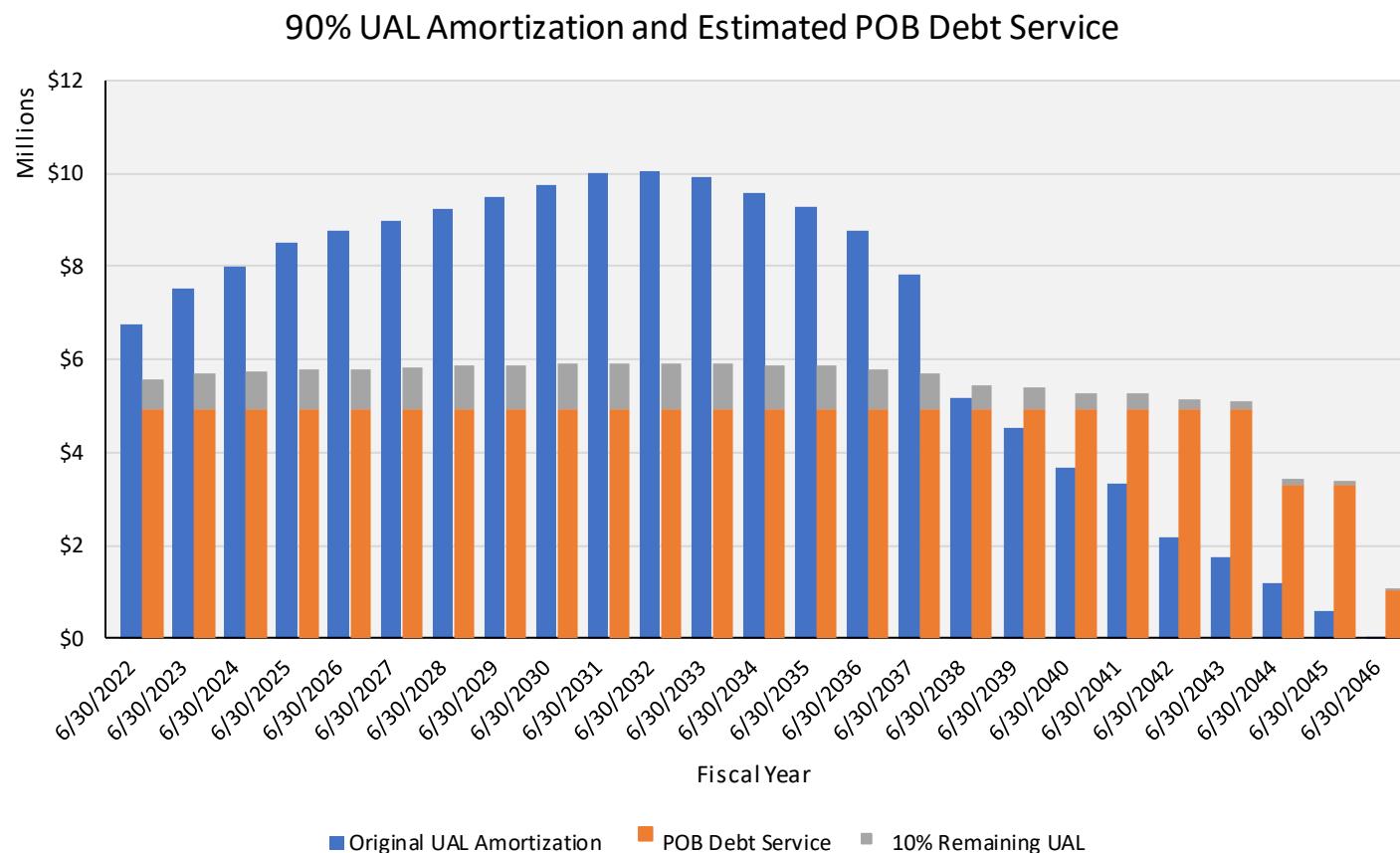
Required Contribution In	90% Fire UAL			10% Fire UAL			90% Police UAL			10% Police UAL			90% Misc. UAL			10% Misc. UAL			90% Total UAL		10% Total UAL		arb yld 3.1%	Remaining UAL pymt +POB
	Original Payment	POB Debt Service	Remaining UAL Pymt	Savings	Original Payment	POB Debt Service	Remaining UAL Pymt	Savings	Original Payment	POB Debt Service	Remaining UAL Pymt	Savings	Original Payment	POB Debt Service	Remaining UAL Pymt	Savings	Original Payment	POB Debt Service	Remaining UAL Pymt	Savings				
	17,948,054	1,994,228			38,557,077	4,284,120			25,926,503	2,880,723			82,431,634	9,159,070										
6/30/2022	1,455,513	1,035,659	145,551	274,303	3,146,788	2,279,994	314,679	552,115	2,152,306	1,613,525	215,231	323,550	6,754,607	4,929,178	675,461	1,149,968	1,115,588	1,115,588	5,604,639					
6/30/2023	1,623,787	1,041,584	162,379	419,824	3,488,182	2,288,288	348,818	851,076	2,401,557	1,616,303	240,156	545,099	7,513,526	4,946,174	751,353	1,815,999	1,709,037	1,709,037	5,697,527					
6/30/2024	1,728,325	1,039,489	172,833	516,004	3,707,817	2,287,163	370,782	1,049,873	2,569,628	1,619,112	256,963	693,553	8,005,770	4,945,764	800,577	2,259,430	2,062,778	2,062,778	5,746,341					
6/30/2025	1,833,254	1,041,664	183,325	608,265	3,927,876	2,289,326	392,788	1,245,762	2,746,690	1,620,576	274,669	851,445	8,507,820	4,951,566	850,782	2,705,473	2,396,154	2,396,154	5,802,348					
6/30/2026	1,888,281	1,037,850	188,828	661,603	4,045,461	2,289,280	404,546	1,351,635	2,831,629	1,620,366	283,163	928,100	8,765,371	4,947,496	876,537	2,941,338	2,527,171	2,527,171	5,824,033					
6/30/2027	1,936,747	1,038,388	193,675	704,685	4,153,200	2,287,617	415,320	1,450,263	2,907,340	1,618,932	290,734	997,674	8,997,287	4,944,937	899,729	3,152,622	2,627,722	2,627,722	5,844,665					
6/30/2028	1,988,314	1,042,658	198,831	746,825	4,263,904	2,288,105	426,390	1,549,409	2,985,128	1,620,340	298,513	1,066,276	9,237,346	4,951,102	923,735	3,362,510	2,718,874	2,718,874	5,874,836					
6/30/2029	2,041,300	1,040,758	204,130	796,413	4,377,647	2,286,105	437,765	1,653,778	3,065,060	1,619,840	306,506	1,138,715	9,484,007	4,946,702	948,401	3,588,905	2,815,174	2,815,174	5,895,102					
6/30/2030	2,095,740	1,042,690	209,574	843,477	4,494,520	2,286,405	449,452	1,758,664	3,147,186	1,617,268	314,719	1,215,200	9,737,446	4,946,362	973,745	3,817,340	2,904,839	2,904,839	5,920,106					
6/30/2031	2,151,679	1,038,678	215,168	897,834	4,614,615	2,284,652	461,462	1,868,502	3,231,573	1,618,199	323,157	1,290,217	9,997,867	4,941,528	999,787	4,056,553	2,994,583	2,994,583	5,941,314					
6/30/2032	2,209,155	1,038,810	220,916	949,430	4,738,006	2,285,786	473,801	1,978,420	3,099,143	1,617,475	309,914	1,171,754	10,046,304	4,942,070	1,004,630	4,099,604	2,935,885	2,935,885	5,946,700					
6/30/2033	2,180,785	1,042,620	218,079	920,087	4,692,888	2,288,889	469,289	1,934,711	3,056,143	1,619,488	305,614	1,131,041	9,929,816	4,950,997	992,982	3,985,838	2,769,075	2,769,075	5,943,978					
6/30/2034	2,149,231	1,040,264	214,923	894,044	4,641,801	2,289,478	464,180	1,888,143	2,796,720	1,619,604	279,672	897,445	9,587,752	4,949,345	958,775	3,679,632	2,479,918	2,479,918	5,908,120					
6/30/2035	2,081,873	1,041,836	208,187	831,850	4,520,361	2,287,473	452,036	1,780,852	2,685,440	1,617,761	268,544	799,135	9,287,674	4,947,069	928,767	3,411,838	2,230,690	2,230,690	5,875,836					
6/30/2036	1,966,194	1,042,166	196,619	727,409	4,302,809	2,287,794	430,281	1,584,735	2,494,058	1,618,901	249,406	625,752	8,763,061	4,948,860	876,306	2,937,895	1,863,396	1,863,396	5,825,166					
6/30/2037	1,763,276	1,041,214	176,328	545,735	3,907,144	2,285,215	390,714	1,231,215	2,161,929	1,617,817	216,193	327,920	7,832,349	4,944,245	783,235	2,104,869	1,295,125	1,295,125	5,727,480					
6/30/2038	1,040,998	1,040,832	104,100	-103,933	2,180,593	2,287,591	218,059	-325,057	1,954,090	1,619,084	195,409	139,597	5,175,681	4,947,507	517,568	-289,394	-172,740	-172,740	5,465,075					
6/30/2039	901,291	1,039,592	90,129	-228,430	1,899,588	2,287,909	189,959	-578,280	1,733,242	1,618,808	173,324	-58,890	4,534,121	4,946,309	453,412	-865,600	-501,233	-501,233	5,399,721					
6/30/2040	790,335	1,037,495	79,034	-326,194	1,675,204	2,286,169	167,520	-778,485	1,200,615	1,616,989	120,062	-536,435	3,666,154	4,940,653	366,615	-1,641,114	-921,890	-921,890	5,307,268					
6/30/2041	721,935	1,039,541	72,194	-389,799	1,537,394	2,287,371	153,739	-903,716	1,088,522	1,618,626	108,852	-638,956	3,347,851	4,945,537	334,785	-1,932,471	-1,053,104	-1,053,104	5,280,322					
6/30/2042	521,190	1,040,557	52,119	-571,486	1,113,305	2,286,344	111,331	-1,284,369	537,816	1,618,548	53,782	-1,134,513	2,172,311	4,945,448	217,231	-2,990,368	-1,580,887	-1,580,887	5,162,679					
6/30/2043	498,899	1,039,670	49,890	-590,660	1,036,551	2,286,097	103,655	-1,353,201	225,725	1,620,245	22,573	-1,417,092	1,761,175	4,946,011	176,118	-3,360,953	-1,723,680	-1,723,680	5,122,128					
6/30/2044	396,160	1,037,723	39,616	-681,179	805,680	2,288,379	80,568	-1,563,267	0	0	0	0	1,201,840	3,326,102	120,184	-2,244,446	-1,116,661	-1,116,661	3,446,286					
6/30/2045	203,438	1,039,718	20,344	-856,623	391,190	2,288,013	39,119	-1,935,942	0	0	0	0	594,628	3,327,731	59,463	-2,792,565	-1,347,825	-1,347,825	3,387,193					
6/30/2046	19,518	1,040,477	1,952	-1,022,910	0	0	0	0	0	0	0	0	19,518	1,040,477	1,952	-1,022,910	-478,945	-478,945	1,042,428					
TOTAL	36,187,218	26,001,925	3,618,722	6,566,572	77,662,524	54,889,436	7,766,252	15,006,836	51,071,540	35,607,801	5,107,154	10,356,585	164,921,282	116,499,161	16,492,128	31,929,993	28,549,044	132,991,289						

AAA rates as of 9/4/2020 plus 25 basis point cushion; PV Savings at Arbitrage Yield



Illustrative Pension Obligation Bonds – 90%

- 90% UALs and level debt service



Illustrative Pension Obligation Bonds – 80%

- 80% UALs and level debt service

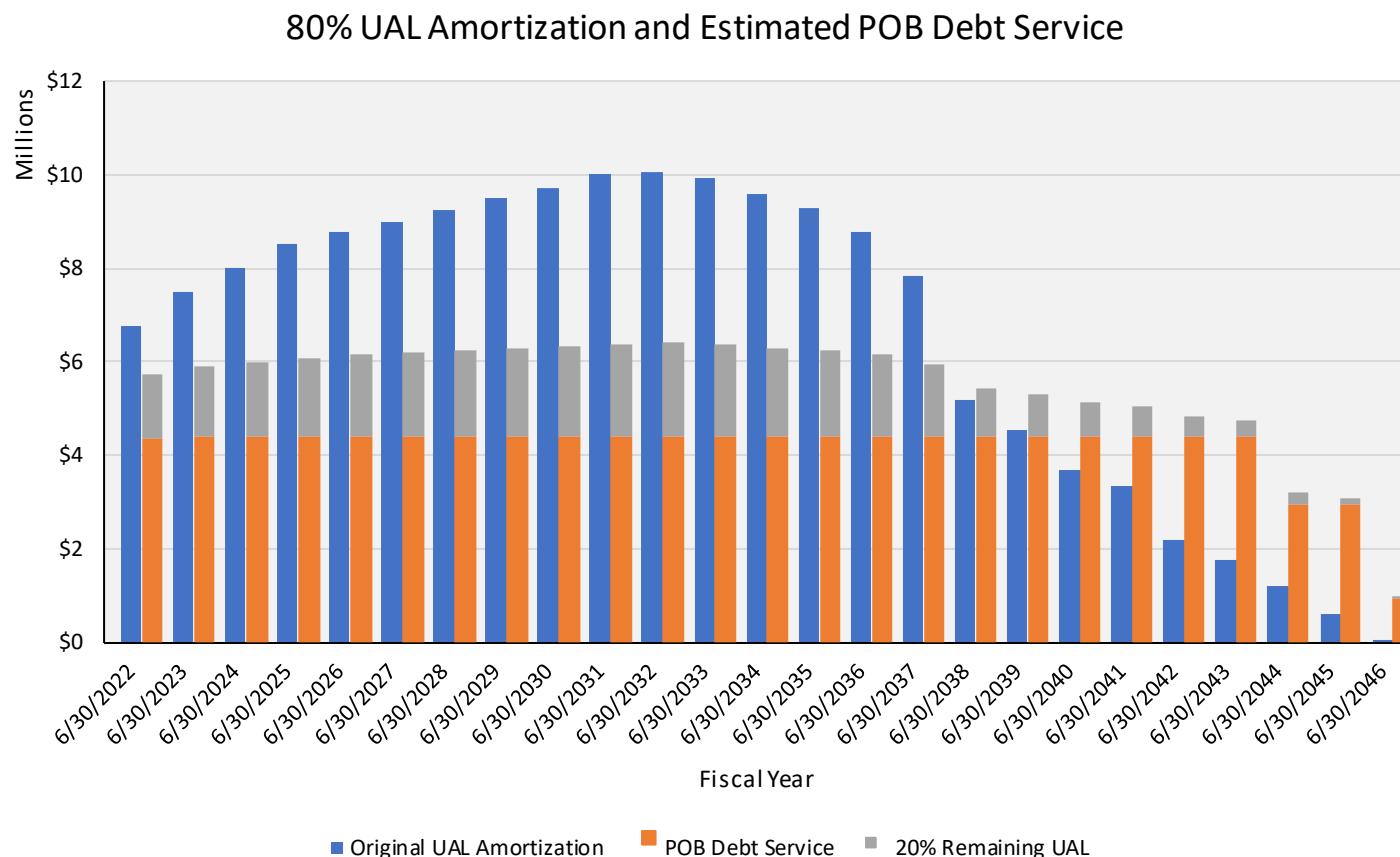
Required Contribution In	80% UAL				20% UAL				80% UAL				20% UAL				80% UAL				arb yld 3.1%	Remaining UAL pymt +POB		
	Fire	UAL	Fire	UAL	Police	UAL	Police	UAL	Misc.	UAL	Misc.	UAL	Total	UAL	Total	UAL	Total	UAL	Total	UAL				
	15,953,826	3,988,456	34,272,958	8,568,239	23,045,780	5,761,445	73,272,563	18,318,141																
6/30/2022	1,455,513	922,988	291,103	241,423	3,146,788	2,026,367	629,358	491,064	2,152,306	1,435,583	430,461	286,262	6,754,607	4,384,937	1,350,921	1,018,749	988,291	988,291	5,735,858					
6/30/2023	1,623,787	927,296	324,757	371,734	3,488,182	2,033,452	697,636	757,094	2,401,557	1,437,153	480,311	484,093	7,513,526	4,397,900	1,502,705	1,612,921	1,517,920	1,517,920	5,900,605					
6/30/2024	1,728,325	925,975	345,665	456,686	3,707,817	2,034,133	741,563	932,121	2,569,628	1,441,317	513,926	614,385	8,005,770	4,401,424	1,601,154	2,003,192	1,828,843	1,828,843	6,002,578					
6/30/2025	1,833,254	923,995	366,651	542,608	3,927,876	2,033,270	785,575	1,109,031	2,746,690	1,439,262	549,338	758,091	8,507,820	4,396,527	1,701,564	2,409,730	2,134,224	2,134,224	6,098,091					
6/30/2026	1,888,281	926,195	377,656	584,430	4,045,461	2,035,486	809,092	1,200,883	2,831,629	1,440,768	566,326	824,536	8,765,371	4,402,449	1,753,074	2,609,848	2,242,358	2,242,358	6,155,523					
6/30/2027	1,936,747	922,729	387,349	626,669	4,153,200	2,036,230	830,640	1,286,330	2,907,340	1,441,160	581,468	884,713	8,997,287	4,400,119	1,799,457	2,797,711	2,331,902	2,331,902	6,199,576					
6/30/2028	1,988,314	923,202	397,663	667,450	4,263,904	2,034,400	852,781	1,376,723	2,985,128	1,439,602	597,026	948,500	9,237,346	4,397,204	1,847,469	2,992,673	2,419,829	2,419,829	6,244,673					
6/30/2029	2,041,300	927,702	408,260	705,339	4,377,647	2,035,400	875,529	1,466,718	3,065,060	1,441,402	613,012	1,010,646	9,484,007	4,404,504	1,896,801	3,182,702	2,496,545	2,496,545	6,301,305					
6/30/2030	2,095,740	926,038	419,148	750,555	4,494,520	2,033,940	898,904	1,561,676	3,147,186	1,441,314	629,437	1,076,435	9,737,446	4,401,292	1,947,489	3,388,665	2,578,635	2,578,635	6,348,781					
6/30/2031	2,151,679	923,608	430,336	797,736	4,614,615	2,035,690	922,923	1,656,002	3,231,573	1,439,844	646,315	1,145,414	9,997,867	4,399,142	1,999,573	3,599,152	2,656,926	2,656,926	6,398,715					
6/30/2032	2,209,155	925,392	441,831	841,933	4,738,006	2,035,482	947,601	1,754,923	3,099,143	1,441,952	619,829	1,037,362	10,046,304	4,402,826	2,009,261	3,634,218	2,602,604	2,602,604	6,412,086					
6/30/2033	2,180,785	925,959	436,157	818,669	4,692,888	2,032,601	938,578	1,721,709	3,056,143	1,436,978	611,229	1,007,937	9,929,816	4,395,538	1,985,963	3,548,315	2,465,115	2,465,115	6,381,501					
6/30/2034	2,149,231	925,560	429,846	793,825	4,641,801	2,032,627	928,360	1,680,814	2,796,720	1,440,486	559,344	796,890	9,587,752	4,398,673	1,917,550	3,271,529	2,204,873	2,204,873	6,316,223					
6/30/2035	2,081,873	924,165	416,375	741,334	4,520,361	2,035,365	904,072	1,580,924	2,685,440	1,437,167	537,088	711,186	9,287,674	4,396,696	1,857,535	3,033,444	1,983,293	1,983,293	6,254,230					
6/30/2036	1,966,194	926,743	393,239	646,213	4,302,809	2,035,603	860,562	1,406,644	2,494,058	1,437,100	498,812	558,147	8,763,061	4,399,445	1,752,612	2,611,004	1,656,061	1,656,061	6,152,057					
6/30/2037	1,763,276	923,119	352,655	487,502	3,907,144	2,033,263	781,429	1,092,453	2,161,929	1,440,090	432,386	289,454	7,832,349	4,396,471	1,566,470	1,869,409	1,150,247	1,150,247	5,962,940					
6/30/2038	1,040,998	925,652	208,200	-92,854	2,180,593	2,031,984	436,119	-287,510	1,954,090	1,441,159	390,818	122,113	5,175,681	4,398,795	1,035,136	-258,250	-154,151	-154,151	5,433,931					
6/30/2039	901,291	927,328	180,258	-206,295	1,899,588	2,033,991	379,918	-514,320	1,733,242	1,440,857	346,648	-54,263	4,534,121	4,402,175	906,824	-774,878	-448,700	-448,700	5,308,999					
6/30/2040	790,335	923,147	158,067	-290,879	1,675,204	2,034,111	335,041	-693,947	1,200,615	1,439,182	240,123	-478,690	3,666,154	4,396,439	733,231	-1,463,516	-822,125	-822,125	5,129,670					
6/30/2041	721,935	923,279	144,387	-345,731	1,537,394	2,032,344	307,479	-802,429	1,088,522	1,441,136	217,704	-570,318	3,347,851	4,396,759	669,570	-1,718,478	-936,488	-936,488	5,066,329					
6/30/2042	521,190	927,554	104,238	-510,602	1,113,305	2,033,691	222,661	-1,143,047	537,816	1,441,546	107,563	-1,011,293	2,172,311	4,402,791	434,462	-2,664,942	-1,408,848	-1,408,848	4,837,253					
6/30/2043	498,899	925,020	99,780	-525,901	1,036,551	2,036,210	207,310	-1,206,969	225,725	1,439,067	45,145	-1,258,487	1,761,175	4,400,297	352,235	-2,991,357	-1,534,131	-1,534,131	4,752,532					
6/30/2044	396,160	926,604	79,232	-609,676	805,680	2,036,435	161,136	-1,391,891	0	0	0	0	1,201,840	2,963,038	240,368	-2,001,566	-995,823	-995,823	3,203,406					
6/30/2045	203,438	927,128	40,688	-764,378	391,190	2,034,365	78,238	-1,721,413	0	0	0	0	594,628	2,961,493	118,926	-2,485,790	-1,199,760	-1,199,760	3,080,418					
6/30/2046	19,518	926,594	3,904	-910,979	0	0	0	0	0	0	0	0	19,518	926,594	3,904	-910,979	-426,537	-426,537	930,497					
TOTAL	36,187,218	23,132,965	7,237,444	5,816,809	77,662,524	48,816,436	15,532,505	13,313,583	51,071,540	31,674,120	10,214,308	9,183,113	164,921,282	103,623,521	32,984,256	28,313,505	25,331,103	136,607,777						

AAA rates as of 9/4/2020 plus 25 basis point cushion; PV Savings at Arbitrage Yield



Illustrative Pension Obligation Bonds – 80%

- 80% UALs and level debt service



Development of a UAL Policy

- In conjunction with a POB issuance, The City is developing a UAL policy as “best practice” to provide guidance on the development and adoption of a funding plan for any UAL
- Overall objective is to fund the CalPERS pension plan near 100% of the total accrued liability and no less than 80%, whenever possible
- The table below lays out the parameters for paying off / funding the UAL in a designated amount of time, based on the amount of the UAL

New Unfunded Accrued Liability (Any new liability incurred after the June 30, 2019 valuation report)	Payoff / Funding Time Period
\$0 to \$5,000,000	Within 1 to 6 years
\$5,000,001 to \$10,000,000	Within 7 to 11 years
\$10,000,001 to \$15,000,000	Within 12 to 16 years
Over \$15,000,0001	Within 17 to 20 years

- Funding plan will utilize prepayment discounts, a Section 115 Trust, additional discretionary payments, allocated reserves, and POBs
- 40-60% savings from POBs will be used to offset any future UAL costs that arise and 40-60% of savings will be used to offset General Fund operational costs - ([Allocation will be determined annually during the Budget process](#))
- No offers of any enhanced pension benefits to City employees while POBs are outstanding



Questions

