

Alaska Pension Obligation Bond Corporation



Pension Bond Overview

State of Alaska

Alaska's Major Pension Systems

- The State manages 2 major pension systems: Public Employee Retirement System (PERS) and Teachers' Retirement System (TRS)
- The PERS and TRS systems provide retirement benefits for most public employees and teachers in the State of Alaska
- 160 state and local employers participate in PERS, and 60 state and local education entities and school districts participate in TRS
- By statute the State is obligated to consider appropriating amounts to support the PERS and TRS pension liabilities
- Between 1999 and 2001 PERS and TRS went from being overfunded to carrying UAALs

How Are PERS and TRS Funded

- Both are Pre funded, meaning that as retirement benefit liabilities accrue payments intended to satisfy those benefits are deposited into a trust.
 - The payments are based on actuarial analysis which includes many assumptions including employment patterns, future wages, life expectancy, healthcare costs and an investment return rate of 8% on the pre-payments
- The actual experience of the pension systems is reviewed in an annual funded status report.
 - A debt or “unfunded assumed actuarial liability (UAAL)” occurs when the current pre-funding and its future earnings are projected to be less than the retirement obligations.
 - This debt is then repaid over time in a fashion comparable to borrowing at the assumed rate of return (8%)
 - UAALs materialize due to the experience being worse than the assumptions
 - An overfunding occurs when the current pre-funding and its future earnings are projected to be more than the retirement obligations
- In 2008 SB 125 capped PERS employer contribution rate at 22% and TRS employer contribution rate at 12.56% and declared that the State **shall** make up any difference between 22% and the actuarially determined contribution rate.
 - This made the State the default funding source for any additional funding requirement due to the experience being worse than the actuarial assumptions for systems

Alaska has Actively Addressed its UAAL with Several Reforms

- 2005: SB 141 closed PERS and TRS to new employees
- 2007: SB 123 created Alaska Retiree Health Care Trusts
- 2008: SB 125 capped PERS employer contribution rate at 22% and TRS employer contribution rate at 12.56%
- 2008: HB 13 created Alaska Pension Obligation Bond Corporation (APOBC) and authorized issuance of \$5 billion of Pension Obligation Bonds (POBs)
- 2014: Deposited \$1 billion in PERS and \$2 billion in TRS from Constitutional Budget Reserve Fund
- 2016: Planned implementation of POB strategy to diminish growth of the annual increase of the State's appropriation to the systems

The POB Option is Designed to Avoid Risks

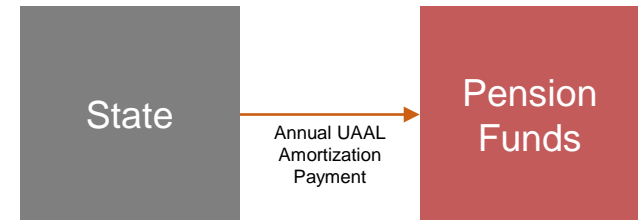
- Fund TRS to 90% - approximately \$675 Million
- Fund PRS to eliminate state contributions required when actuarially determined rate goes above 22% of payroll - \$1.1 Billion to \$1.8 billion
- Don't use the 23 years of savings to avoid short term payments
 - This is how Illinois or New Jersey used POBs
- Use savings to reduce the projected increases in future payments
 - Otherwise we are leaving even more for a future generation to fund
- Take advantage of low interest rates. Current taxable interest rates are historically low – over 1.5% lower than when the POBC Legislation was approved.
 - The lower the cost of capital the higher the probability of success
- The stock market has undergone a correction
 - Strategies may be implemented on the reinvestment side to dollar cost average or otherwise limit risk of buying into an overvalued market

How Would Pension Obligation Bonds Authorized in 2008 Work?

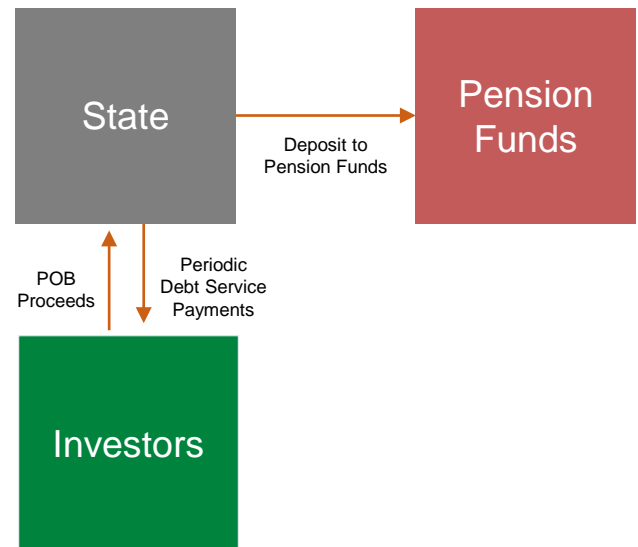
Taxable municipal bonds are issued to refinance all or a portion of the Pension Plans' UAAL

- The State borrows at a rate of 6.5% or lower (currently 5%) to “refinance” the existing liability being amortized at an 8% rate
- Proceeds of the APOBC bonds are deposited in Pension Funds; funds will be invested according to pension fund policy
- The State’s periodic UAAL amortization payments (or a portion thereof) are replaced with principal and interest payments to bondholders secured by State appropriations
- Just like the other pre-paid benefits, the actual experience of the transaction will be determined when the future investment performance of the pension trusts is realized

Current Approach



POB Transaction



TRS - Current Unfunded Liability Breakdown

Buck Consultants have provided draft 2015 Actuarial Valuation results displaying the projected UAAL payments by contributor at an assumed 8.0% actuarial rate.

TRS UAAL Contributions (\$000s)				
Fiscal Year	8.0% Actuarial Rate			Total
	ER: Non-State	ER: State	State Contribution	
2016	21,222	188	130,109	151,519
2017	26,749	237	116,700	143,686
2018	27,576	245	90,852	118,673
2019	27,579	245	100,781	128,605
2020	27,696	246	110,815	138,757
2021	27,658	246	116,063	143,967
2022	27,441	244	121,685	149,370
2023	27,231	242	127,469	154,942
2024	26,956	239	133,504	160,699
2025	26,538	236	139,913	166,687
2026	26,248	233	147,022	173,503
2027	25,856	230	153,920	180,006
2028	25,493	226	160,979	186,698
2029	25,120	223	168,320	193,663
2030	24,611	218	176,024	200,853
2031	24,478	217	183,594	208,289
2032	24,432	217	191,453	216,102
2033	24,249	215	199,814	224,278
2034	24,186	215	208,383	232,784
2035	24,392	217	217,023	241,632
2036	24,451	217	226,238	250,906
2037	24,629	219	235,750	260,598
2038	25,031	222	245,653	270,906
2039	16,471	146	265,731	282,348
2040	-	-	-	-
2041	-	-	-	-
2042	-	-	-	-
2043	-	-	-	-
2044	-	-	-	-
2045	-	-	-	-
Total	606,293	5,383	3,967,795	4,579,471

These cash flows reflect current assumptions regarding future actuarially required past service contributions. A number of factors such as investment performance or other actuarial changes could impact the cash flow differences. UAAL Amortizations and Plan Deposits based upon Buck Consultants estimates.

Source: Buck Consultants Draft 2015 Actuarial Valuation Results; 1/27/2016

PERS - Current Unfunded Liability Breakdown

Buck Consultants have provided draft 2015 Actuarial Valuation results displaying the projected UAAL payments by contributor at an assumed 8.0% actuarial rate.

PERS UAAL Contributions (\$000s)				
Fiscal Year	8.0% Actuarial Rate			Total
	ER: Non-State	ER: State	State Contrib.	
2016	118,769	132,117	126,520	377,406
2017	132,438	147,321	99,166	378,925
2018	140,159	155,910	32,548	328,617
2019	146,541	163,010	45,913	355,464
2020	153,006	170,201	58,262	381,469
2021	159,287	177,187	60,252	396,726
2022	165,560	184,166	62,907	412,633
2023	171,707	191,003	66,499	429,209
2024	177,692	197,660	71,130	446,482
2025	183,916	204,585	75,989	464,490
2026	190,045	211,402	82,945	484,392
2027	196,577	218,668	88,814	504,059
2028	203,211	226,048	95,277	524,536
2029	209,656	233,217	103,085	545,958
2030	216,332	240,643	111,307	568,282
2031	223,300	248,394	119,994	591,688
2032	230,193	256,062	129,895	616,150
2033	237,361	264,036	140,661	642,058
2034	244,374	271,836	153,264	669,474
2035	252,370	280,731	165,406	698,507
2036	260,136	289,369	180,379	729,884
2037	268,925	299,146	196,133	764,204
2038	277,931	309,164	217,303	804,398
2039	272,333	302,938	283,173	858,444
2040	-	-	-	-
2041	-	-	-	-
2042	-	-	-	-
2043	-	-	-	-
2044	-	-	-	-
2045	-	-	-	-
Total	4,831,819	5,374,814	2,766,822	12,973,455

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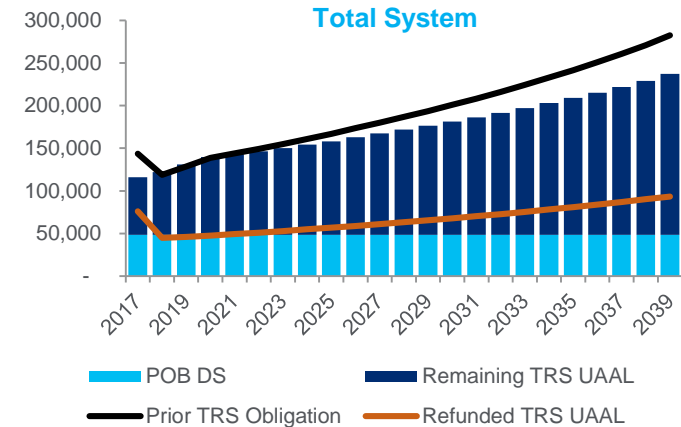
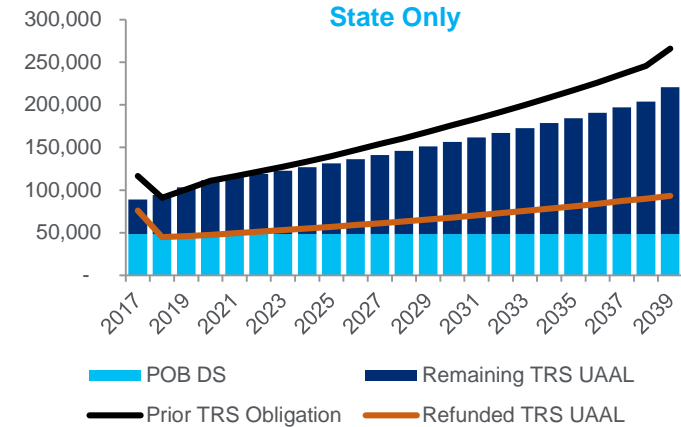
TRS – 8.0% Actuarial Rate

Comparison of State Payment – Refunded UAAL vs POB Debt Service

Estimated Total State Obligation After Transaction

TRS (SB125 Payments) 8.0% Actuarial Rate

Date	Prior State Obligation	Refunded State UAAL	Remaining State UAAL	POB Debt Service	State Payment After Transaction	Total Contribution Rate**	State Payment Growth %	Cash Flow Difference
Totals	3,837,686	1,528,343	2,309,343	1,110,790	3,420,133			417,553
PV		859,004		635,927				223,077
	[A]	[B]	[C] = [A-B]	[D]	[E] = [C+D]			[F] = [A-E]
2016		-	-	-	-			-
2017	116,700	75,914	40,786	48,297	89,083	17.88%		27,617
2018	90,852	44,797	46,055	48,293	94,348	18.42%	5.91%	(3,496)
2019	100,781	46,037	54,744	48,295	103,039	19.35%	9.21%	(2,258)
2020	110,815	47,586	63,229	48,295	111,524	20.20%	8.23%	(709)
2021	116,063	49,195	66,868	48,296	115,164	20.43%	3.26%	899
2022	121,685	51,117	70,568	48,296	118,864	20.65%	3.21%	2,821
2023	127,469	52,940	74,529	48,295	122,824	20.88%	3.33%	4,645
2024	133,504	54,929	78,575	48,294	126,869	21.10%	3.29%	6,635
2025	139,913	56,911	83,002	48,294	131,296	21.34%	3.49%	8,617
2026	147,022	58,984	88,038	48,299	136,337	21.62%	3.84%	10,685
2027	153,920	61,068	92,852	48,290	141,142	21.85%	3.52%	12,778
2028	160,979	63,157	97,822	48,296	146,118	22.07%	3.53%	14,861
2029	168,320	65,464	102,856	48,299	151,155	22.27%	3.45%	17,165
2030	176,024	67,878	108,146	48,296	156,442	22.47%	3.50%	19,582
2031	183,594	70,311	113,283	48,295	161,578	22.63%	3.28%	22,016
2032	191,453	72,868	118,585	48,292	166,877	22.78%	3.28%	24,576
2033	199,814	75,544	124,270	48,299	172,569	22.94%	3.41%	27,245
2034	208,383	78,236	130,147	48,292	178,439	23.09%	3.40%	29,944
2035	217,023	80,937	136,086	48,295	184,381	23.22%	3.33%	32,642
2036	226,238	83,899	142,339	48,295	190,634	23.35%	3.39%	35,604
2037	235,750	87,127	148,623	48,292	196,915	23.46%	3.29%	38,835
2038	245,653	90,059	155,594	48,300	203,894	23.60%	3.54%	41,759
2039	265,731	93,385	172,346	48,295	220,641	24.39%	8.21%	45,090



These cash flows reflect current assumptions regarding future actuarially required past service contributions. A number of factors such as investment performance or other actuarial changes could impact the cash flow differences. UAAL Amortizations and Plan Deposits based upon Buck Consultants estimates. **Total Contribution Rate expressed as a percentage of payroll.

Note: Estimates assume delivery date of 5/1/2016 and PV rate of 5.25%. All numbers are preliminary and subject to change

*Plan Funding assumes PV Rate equivalent to actuarial rate.

TRS – Level Debt Service / Blended Fixed-Variable Rate

Provided below is a summary of a preliminary TRS pension obligation bond transaction and the potential payment reductions to the State at an actuarial rate of 8.0%.

Summary of Structuring Scenarios – TRS Funding Target of 90%

Scenario Assumptions	8.0% Actuarial Rate
Par Amount	
Fixed Rate	506,895,000
Variable Rate	168,965,000
Total	675,860,000
Term (Years)	23
Plan Funding*	
Total Deposit	672,478,000
Refunded UAAL	672,459,850
Summary Statistics	
TIC	4.423%
All-In Cost	4.510%
Average Life	13.67
Average Annual Payment Reduction	18,154,486
Cash Flow Difference	
Gross Scheduled UAAL Payments	1,528,343,000
Total Net Debt Service	1,110,789,821
Gross Cash Flow Difference	417,553,180
Present Value @ 5.25%	
PV of Cash Flow Difference	223,076,617
Difference as % of UAAL Deposit	33.2%

**Plan Funding assumes PV Rate equivalent to Actuarial Rate.*

Annual Difference	
Fiscal Year	Cash Flow Difference
2017	27,616,751
2018	(3,496,316)
2019	(2,258,488)
2020	(708,874)
2021	899,082
2022	2,821,228
2023	4,644,764
2024	6,635,453
2025	8,617,370
2026	10,684,775
2027	12,778,215
2028	14,861,282
2029	17,165,418
2030	19,582,242
2031	22,016,373
2032	24,575,880
2033	27,244,640
2034	29,944,340
2035	32,641,650
2036	35,603,630
2037	38,834,970
2038	41,758,545
2039	45,090,250
Total	417,553,180

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Note: Estimates assume delivery date of 5/1/2016 and PV rate of 5.25%
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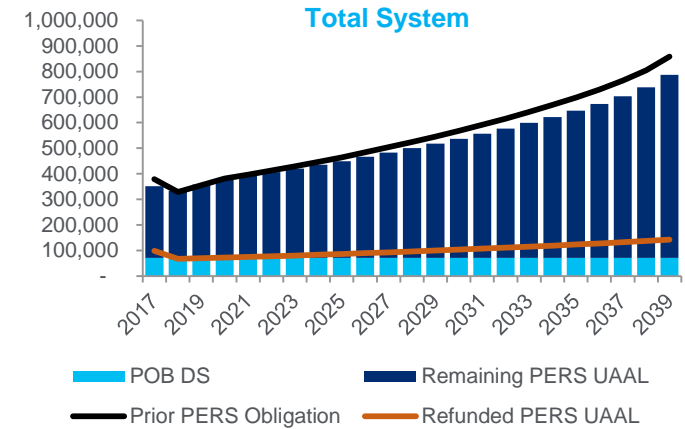
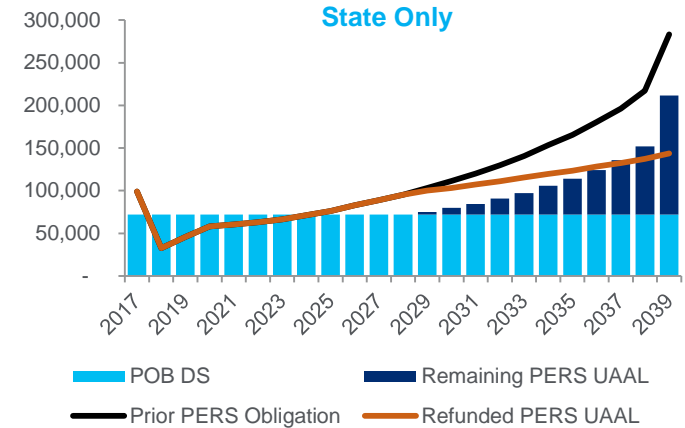
PERS – 8.0% Actuarial Rate – Partial Refund

Comparison of State Payment – Refunded UAAL vs POB Debt Service

Estimated Total State Obligation After Transaction

PERS (SB125 Payments) 8.0% Actuarial Rate

Date	Prior State Obligation	Refunded State UAAL	Remaining State UAAL	POB Debt Service	State Payment After Transaction	Total Contribution Rate**	State Payment Growth %	Cash Flow Difference
Totals	2,640,302	2,161,456	478,846	1,655,768	2,134,614			505,688
PV		1,169,198		947,913				221,285
	[A]	[B]	[C] = [A-B]	[D]	[E] = [C+D]			[F] = [A-E]
2016		-	-	-	-			-
2017	99,166	99,166	-	71,987	71,987	22.00%		27,179
2018	32,548	32,548	-	71,993	71,993	20.56%	0.01%	(39,445)
2019	45,913	45,913	-	71,987	71,987	21.04%	-0.01%	(26,074)
2020	58,262	58,262	-	71,995	71,995	21.45%	0.01%	(13,733)
2021	60,252	60,252	-	71,985	71,985	21.44%	-0.01%	(11,733)
2022	62,907	62,907	-	71,992	71,992	21.45%	0.01%	(9,085)
2023	66,499	66,499	-	71,990	71,990	21.50%	-0.00%	(5,491)
2024	71,130	71,130	-	71,990	71,990	21.56%	0.00%	(860)
2025	75,989	75,989	-	71,988	71,988	21.63%	-0.00%	4,001
2026	82,945	82,945	-	71,994	71,994	21.77%	0.01%	10,951
2027	88,814	88,814	-	71,988	71,988	21.87%	-0.01%	16,826
2028	95,277	95,277	-	71,986	71,986	21.96%	-0.00%	23,291
2029	103,085	100,054	3,031	71,992	75,023	22.09%	4.22%	28,062
2030	111,307	103,306	8,001	71,988	79,989	22.23%	6.62%	31,318
2031	119,994	107,420	12,574	71,990	84,564	22.35%	5.72%	35,430
2032	129,895	110,967	18,928	71,992	90,920	22.51%	7.52%	38,975
2033	140,661	115,365	25,296	71,986	97,282	22.66%	7.00%	43,379
2034	153,264	119,601	33,663	71,995	105,658	22.85%	8.61%	47,606
2035	165,406	123,235	42,171	71,986	114,157	23.03%	8.04%	51,249
2036	180,379	128,298	52,081	71,994	124,075	23.23%	8.69%	56,304
2037	196,133	132,510	63,623	71,985	135,608	23.45%	9.30%	60,525
2038	217,303	137,291	80,012	71,993	152,005	23.76%	12.09%	65,298
2039	283,173	143,707	139,466	71,994	211,460	24.96%	39.11%	71,713



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Note: Estimates assume delivery date of 5/1/2016 and PV rate of 5.25%. All numbers are preliminary and subject to change

*Plan Funding assumes PV Rate equivalent to actuarial rate.

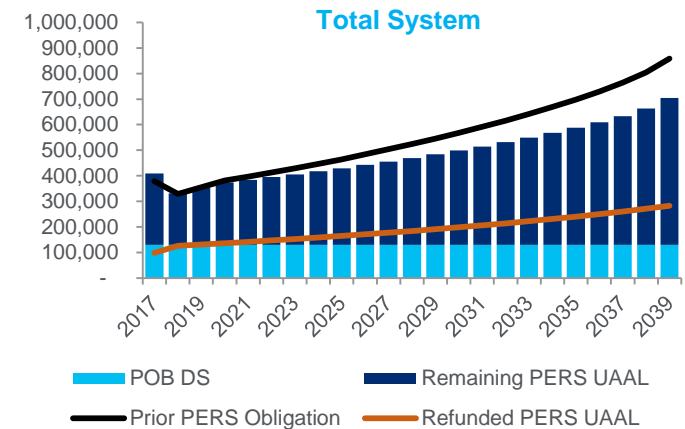
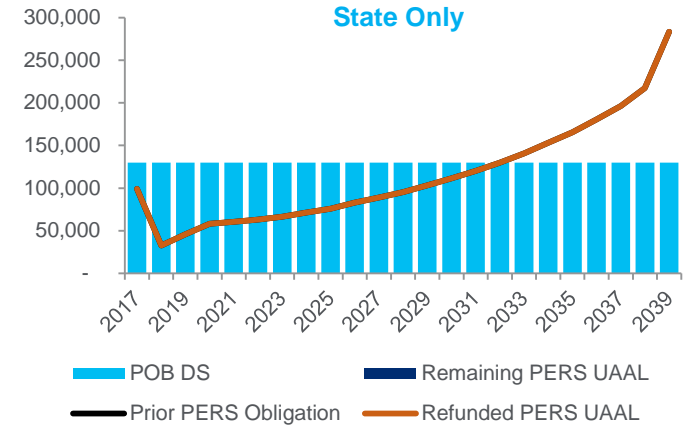
PERS – 8.0% Actuarial Rate – Full Refund

Comparison of State Payment – Refunded UAAL vs POB Debt Service

Estimated Total State Obligation After Transaction

PERS (SB125 Payments) 8.0% Actuarial Rate

Date	Prior State Obligation	Refunded State UAAL	Remaining State UAAL	POB Debt Service	State Payment After Transaction	Total Contribution Rate**	State Payment Growth %	Cash Flow Difference
Totals	2,640,302	2,640,302	-	2,982,621	2,982,621			(342,319)
PV		1,345,551		1,707,529				(361,977)
	[A]	[B]	[C] = [A-B]	[D]	[E] = [C+D]			[F] = [A-E]
2016		-	-	-	-			-
2017	99,166	99,166	-	129,684	129,684	22.00%		(30,518)
2018	32,548	32,548	-	129,677	129,677	18.08%	-0.01%	(97,129)
2019	45,913	45,913	-	129,682	129,682	18.54%	0.00%	(83,769)
2020	58,262	58,262	-	129,676	129,676	18.93%	-0.00%	(71,414)
2021	60,252	60,252	-	129,680	129,680	18.90%	0.00%	(69,428)
2022	62,907	62,907	-	129,679	129,679	18.88%	-0.00%	(66,772)
2023	66,499	66,499	-	129,682	129,682	18.91%	0.00%	(63,183)
2024	71,130	71,130	-	129,676	129,676	18.95%	-0.00%	(58,546)
2025	75,989	75,989	-	129,680	129,680	19.00%	0.00%	(53,691)
2026	82,945	82,945	-	129,677	129,677	19.11%	-0.00%	(46,732)
2027	88,814	88,814	-	129,680	129,680	19.19%	0.00%	(40,866)
2028	95,277	95,277	-	129,681	129,681	19.26%	0.00%	(34,404)
2029	103,085	103,085	-	129,677	129,677	19.37%	-0.00%	(26,592)
2030	111,307	111,307	-	129,680	129,680	19.49%	0.00%	(18,373)
2031	119,994	119,994	-	129,683	129,683	19.58%	0.00%	(9,689)
2032	129,895	129,895	-	129,672	129,672	19.73%	-0.01%	223
2033	140,661	140,661	-	129,680	129,680	19.85%	0.01%	10,981
2034	153,264	153,264	-	129,681	129,681	20.02%	0.00%	23,583
2035	165,406	165,406	-	129,678	129,678	20.17%	-0.00%	35,728
2036	180,379	180,379	-	129,681	129,681	20.35%	0.00%	50,698
2037	196,133	196,133	-	129,675	129,675	20.55%	-0.00%	66,458
2038	217,303	217,303	-	129,683	129,683	20.82%	0.01%	87,620
2039	283,173	283,173	-	129,679	129,679	21.99%	-0.00%	153,494



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Note: Estimates assume delivery date of 5/1/2016 and PV rate of 5.25%. All numbers are preliminary and subject to change

*Plan Funding assumes PV Rate equivalent to actuarial rate.

PERS – Level Debt Service / Blended Fixed-Variable Rate

Buck Consultants has provided two alternative funding solutions to reducing the State's PERS obligations (both assuming 8.0% actuarial rate).

Summary of Structuring Scenarios

- The State should be aware of the potential cash flow difference calculation methods to evaluate the impact of a deposit to the pension system
 - State Only: Measures reduction to the State's projected contribution over the calculated 22% threshold
 - Total System: Measures reduction to total unfunded liability across all contributors to the system

<i>Scenario Assumptions</i>	Partial Refund of State Contribution - 8.0%		Full Refund of State Contribution - 8.0%	
	State Only UAAL Comparison	Total System UAAL Comparison	State Only UAAL Comparison	Total System UAAL Comparison
Par Amount				
Fixed Rate	756,550,000	756,550,000	1,362,820,000	1,362,820,000
Variable Rate	252,185,000	252,185,000	454,270,000	454,270,000
Total	1,008,735,000	1,008,735,000	1,817,090,000	1,817,090,000
Term (Years)	23	23	23	23
Plan Funding*				
Total Deposit	1,003,687,000	1,003,687,000	1,808,000,000	1,808,000,000
UAAL Impact	896,377,664	1,007,645,620	1,003,687,076	1,839,410,026
Summary Statistics				
TIC	4.599%	4.599%	3.856%	3.856%
All-In Cost	4.650%	4.650%	4.049%	4.049%
Average Life	13.66	13.66	13.67	13.67
Average Annual Payment Reduction	21,986,436	28,593,740	(14,883,420)	60,137,667
Cash Flow Difference				
Gross Scheduled UAAL Payments	2,161,456,000	2,313,424,000	2,640,302,000	4,365,787,000
Total Net Debt Service	1,655,767,980	1,655,767,980	2,982,620,650	2,982,620,650
Gross Cash Flow Difference	505,688,021	657,656,021	(342,318,650)	1,383,166,351
Present Value @ 5.25%				
PV of Cash Flow Difference	221,285,161	344,219,771	(361,977,161)	680,930,613
Difference as % of UAAL Deposit	22.0%	34.3%	-20.0%	37.7%

These cash flows reflect current assumptions regarding future actuarially required past service contributions. A number of factors such as investment performance or other actuarial changes could impact the cash flow differences. UAAL Amortizations and Plan Deposits based upon Buck Consultants estimates.

Note: Estimates assume delivery date of 5/1/2016 and PV rate of 5.25%. All numbers are preliminary and subject to change

*Plan Funding assumes PV Rate equivalent to actuarial rate.

Why Now is a Good Time to Issue POBs

- The Proposal is for a conservative approach to use POBs
 - Not relying on savings today, but banking them for the future
 - Considering a blend of fixed and variable rate bonds
 - Potentially eliminating the State's payment on behalf of employers for PERS
- Interest Rates are at some of the lowest levels ever seen
- The Stock Market has undergone a correction