

Presentation on Pension Obligation Bonds

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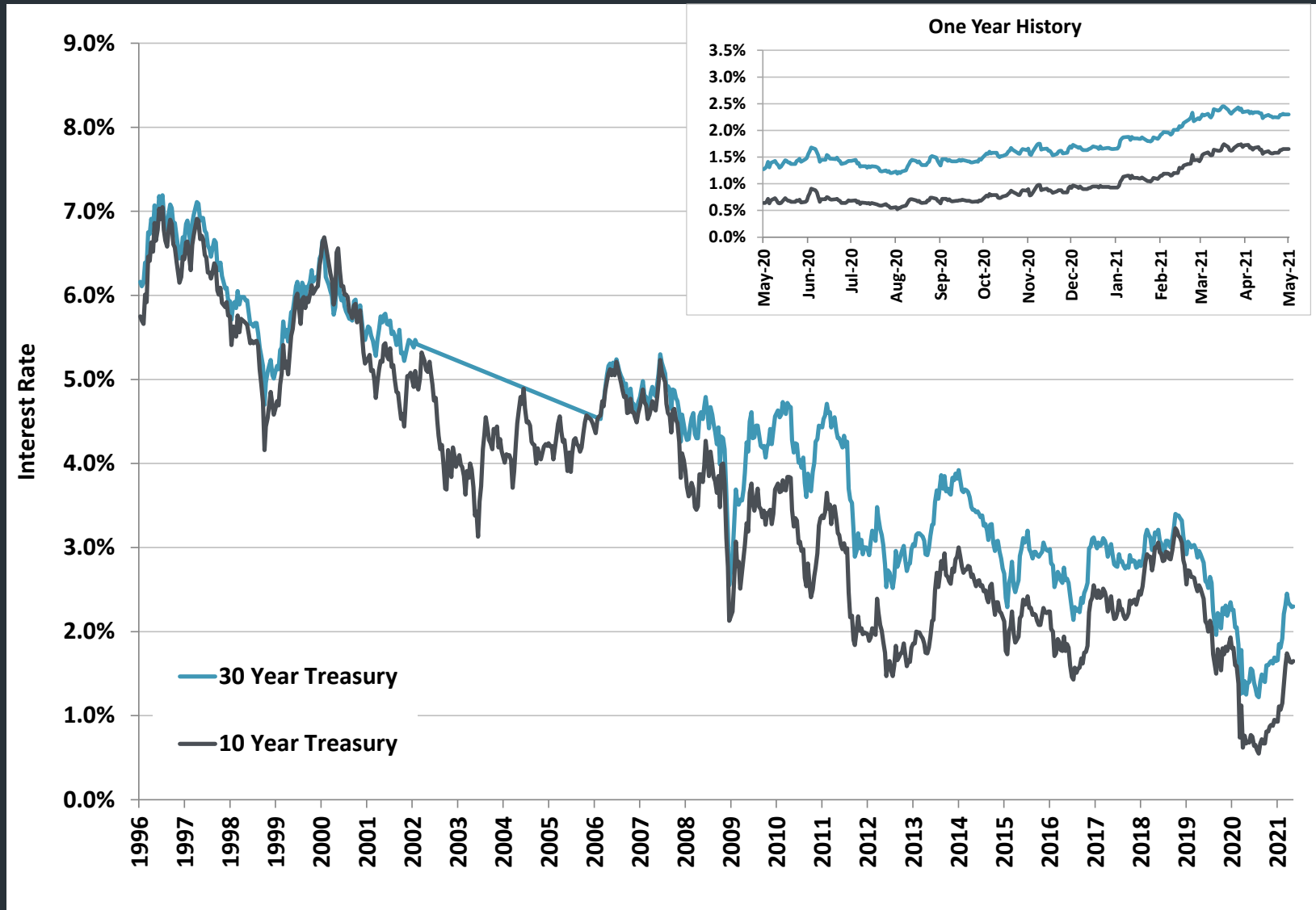
Pension Bonds (POBs) may help reduce pension costs

- Concept is to borrow at low interest rates and send funds to PERS; if returns exceed borrowing rate, jurisdictions save.
- Bond funds are deposited into Side Accounts (SAs) and invested with the rest of the PERS fund. Earnings/losses credited directly to SA.
- SAs are drawn down and provide 'rate credit' over 20 years from the date of the last valuation.
- Under federal tax law, POBs must be sold on taxable basis, so borrowing rates are higher than on capital borrowings.
- SAs funded with POBs are NOT eligible for State matching funds under Employer Incentive Fund.

Now is a good time to borrow

Interest rates are at historic lows

10 Year Treasury Rates vs. 30 Year Treasury Rates



Note: The 30 year treasury was not published between 2002 and 2006.

Oregon History with POBs

- Over 100 Oregon POBs were issued between 1999-2018; total exceeds \$6b.
 - Interest rates ranged from 3.43% to 7.06%.
 - Borrowing amounts ranged from \$3m - \$2b.
- Most SDs and CCs borrowed on pooled basis with ‘intercept agreements’ with State, in which ODE/CCWD makes debt service payments directly from monthly appropriation. Agreements standardized security and raised bond ratings.
- Generally positive PERS returns since borrowings means most, but not all, have realized savings. But they carry significant risks.

POBs are an arbitrage play!

Issuing a POB is not like refinancing your mortgage...

Success from borrowing largely depends on the market returning more than the cost of the bond.

- If returns $>$ borrowing rate, borrowers should expect to have lower pension costs than they would otherwise be.
- If returns = borrowing rate, borrowers should expect to break even.
- If returns $<$ borrowing rate, borrowers would be worse off than if they had not issued the bonds.

We are currently projecting borrowing rates of 3.50%.

PERS Investments

Year	Earnings (%)	Distributions			
		Tier One	Tier Two	Variable Account	IAP
1970	5.09	5.09		7.47	
1971	6.27	6.27		9.47	
1972	7.46	7.46		13.87	
1973	0.00	0.00		-16.39	
1974	0.00	5.50		-18.16	
1975	9.19	7.50		18.94	
1976	10.38	7.75		18.58	
1977	4.79	7.00		-2.62	
1978	7.37	7.00		7.03	
1979	12.32	11.09		20.40	
1980	16.92	13.00		29.94	
1981	4.37	7.50		-2.25	
1982	15.31	11.50		22.39	
1983	18.37	13.00		23.12	
1984	7.33	7.50		4.00	
1985	21.38	15.00		27.99	
1986	22.70	18.37		18.98	
1987	9.00	7.50		4.54	
1988	16.86	13.50		18.62	
1989	19.74	14.50		26.84	
1990	-1.53	8.00		-7.84	
1991	22.45	15.00		35.05	
1992	6.94	8.00		10.54	
1993	15.04	12.00		12.65	
1994	2.16	8.00		-1.76	
1995	20.78	12.50		29.92	
1996	24.42	21.00	24.42	21.06	
1997	20.42	18.70	20.42	28.87	
1998	15.43	14.10	13.63	21.45	
1999	24.89	11.33 *	21.97	28.83	
2000	0.63	8.00	0.54	-3.24	
2001	-7.17	8.00	-6.66	-11.19	
2002	-8.93	8.00	-8.93	-21.51	
2003	23.79	8.00	22.00	34.68	
2004	13.80	8.00	13.27	13.00	12.77
2005	13.04	8.00	18.31 **	8.29	12.80
2006	15.57	8.00	15.45	15.61	14.98
2007	10.22	7.97 ***	9.47	1.75	9.46
2008	-27.18	8.00	-27.18	-43.71	-26.75
2009	19.12	8.00	19.12	37.57	18.47
2010	12.44	8.00	12.44	15.17	12.13
2011	2.21	8.00	2.21	-7.80	2.15
2012	14.29	8.00	14.68	18.43	14.09
2013	15.76	8.00	15.62	25.74	15.59
2014	7.29	7.75	7.24	4.29	7.05
2015	2.21	7.75	1.87	-1.61	1.85
2016	6.90	7.50	7.15	8.76	7.13
2017	15.30	7.50	15.23	26.48	14.72
2018	0.19	7.20	0.23	-10.03	****
2019	10.01	7.20	13.27	28.80	****

OIC is responsible for PERS' investments; has long history of strong performance.

50-Year Average Rates of Return (1970-2019):

Regular account earnings: 10.1%

Tier One Crediting: 9.4%

Variable Crediting: 11.0%

Avg. return on SAs 2007-2019: 7.61%

1-year earnings through 03/31/2021: 22.2%

*The PERS Board originally credited these accounts at 20%. That allocation was later reduced to 11.33% to comply with subsequent court decisions and legislative findings.

**Tier Two regular account crediting, based solely on earnings, was 13.74%. However, the PERS Board deployed \$9 million from the Capital Preservation Reserve and \$17 million from the Contingency Reserve that was added to Tier Two earnings. As a result, Tier Two was credited with a total of 18.31%. The dollars allocated from the reserves were originally withheld from Tier Two regular account earnings.

***After crediting Tier One accounts with the assumed rate of 8%, member attorney fees in the Strunk case were deducted by order of the Oregon Supreme Court, resulting in an effective crediting rate of 7.97%.

****Various Target-Date Fund returns.

Statistically Based Assessment Required

Any district contemplating issuing pension obligation bonds is required to:

- a) Obtain a statistically based assessment from an independent economic or financial consulting firm regarding the likelihood that investment returns on bond proceeds will exceed the interest cost of the bonds under various market conditions; and
- b) Make a report available to the general public that:
 - (A) Describes the results of the assessment

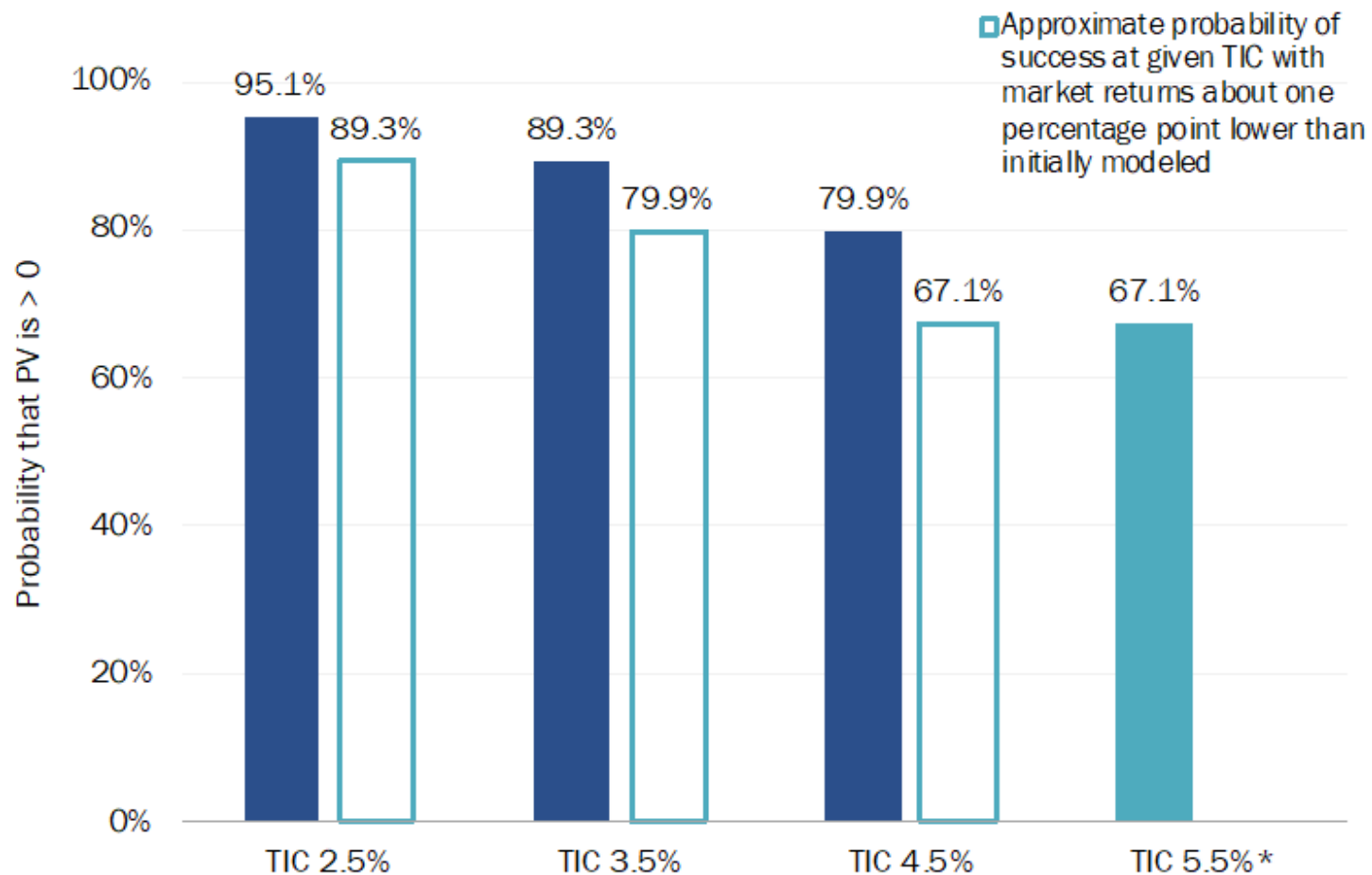
District participated in contract with ECONorthwest to conduct this assessment in January.

However...

- At March 29 PERS Board meeting, OIC and Milliman presentations suggested future returns might be lower than previously assumed.
- Original ECONorthwest assessment may not have contained latest information from Treasury, which will not be available until June.
- Assessment was revised in April by increasing borrowing rate assumptions as alternative means of assessing risk.

Revised ECONorthwest Assessment on POBs

*The fourth TIC of 5.5% was added to our analysis to help evaluate the potential risk associated with less-favorable future market conditions relative to those anticipated in our original report. For example, the 5.5% TIC scenario provides output that is roughly analogous to a 4.5% TIC bond issue with market returns approximately one percentage point below those anticipated in our original analysis. The 4.5% TIC scenario can be similarly compared to the 3.5% TIC scenario output, and so on.



And there are other risks too...

- **Timing of earnings matter; early negative returns are hard to overcome, and may more than offset later positive returns.**
- **Rate credits will not be consistent:**
 - ✓ **Earnings variability will cause volatility, even if earnings rate exceeds bond rates.**
 - ✓ **SAs cause 'doubling down' of investment performance in Fund.**
 - ✓ **Particularly fast or slow growth in payroll relative to 3.50% assumption can cause increases or decreases in rate credits. If extreme and extended, may affect compounding (and potential savings).**
 - ✓ **Reductions in assumed rate can reduce rate credits, at least temporarily.**

Timing Matters

School District A

- Issued twice in 2002 (5.60% TIC) & 2003 (5.73% TIC)
- Total issuance amount: \$491,673,897
- Benefit from strong market returns prior to the 2008 great recession

School District B

- Issued twice in 2005 (4.77% TIC) & 2015 (4.15% TIC)
- Total issuance amount: \$142,135,000
- Benefit from low borrowing rate and strong early market returns

School District C

- Issued once in 2007 (5.67% TIC)
- \$41,385,000
- Combined impact of immediate negative market and payroll growth trends

Summary of Results

Actual results through December 31, 2019.

	School "A"	School "B"	School "C"
Bonds Issued	2002 (5.60% TIC) 2003 (5.73% TIC)	2005 (4.77% TIC) 2015 (4.15% TIC)	2007 (5.67% TIC)
Total Amount Borrowed	\$491,673,897	\$142,135,000	\$41,385,000
Number of SAs Funded from Bonds	2	2	1
Final SA Amort. Date(s)	12/31/2027 12/31/2027	12/31/2027 12/31/2034	12/31/2027
Remaining Value of SA(s) as of 12/31/19	\$525,839,172	\$102,606,509	\$21,223,157
Nominal Savings/(Costs) through 12/31/19	\$283,009,407	\$39,632,131	(\$2,412,217)
Additional Savings/(Costs) projected @ 7.20%	\$186,210,015	\$7,438,157	(\$7,315,014)

Bottom line...

- **Employers with SAs will have to deal with more volatility than those without.**
- **Volatility is not an indicator of whether Employer is better or worse off with POBs, but it may cause cash flow issues.**
- **It is prudent for borrowers to hold reserves to offset fluctuations.**

Numerical Analysis

Portland SD – Background Data

	2007 Valuation		2017 Valuation		2018 Valuation		2019 Valuation	
System								
Combined Valuation Payroll	\$	7,721,819,358	\$	10,098,900,000	\$	10,852,000,000	\$	11,533,700,000
OPSRP UAL (\$ in millions)		(72.1)		1,518.2		1,955.0		1,891.8
School District Pool								
Combined Valuation Payroll	\$	2,693,307,473	\$	3,314,200,000	\$	3,543,500,000	\$	3,740,700,000
Total T1/T2 UAL (\$ in millions)		1,142.8		7,752.7		9,051.6		7,880.4
Portland Public Schools No. 1J								
Combined Valuation Payroll	\$	258,327,394	\$	314,463,253	\$	356,902,791	\$	379,338,096
Payroll Increase						13.50%		6.29%
Allocated UAL/(surplus)								
T1/T2		109,611,322		735,594,609		911,675,644		799,130,951
OPSRP		(2,410,672)		47,386,819		64,443,762		62,361,478
Total Allocated Pooled UAL		107,200,650		782,981,428		976,119,406		861,492,429
Less Side Account		786,186,729		606,925,156		538,088,317		535,370,414
Net UAL	\$	(678,986,079)	\$	176,056,272	\$	438,031,089	\$	326,122,015

	2007 Valuation		2017 Valuation		2018 Valuation		2019 Valuation	
	T1/T2		T1/T2	OPSRP	T1/T2	OPSRP	T1/T2	OPSRP
Rates Effective	7/1/09 - 6/30/11		7/1/2019 - 6/30/21		Advisory Only		7/1/2021 - 6/30/23	
Pension								
Normal cost rate	5.19%	5.81%	13.79%	8.40%	13.63%	8.70%	13.45%	8.64%
Tier 1/Tier 2 UAL rate	8.82%	8.82%	16.73%	16.73%	17.05%	17.05%	14.09%	14.09%
OPSRP UAL rate	<u>(0.08%)</u>	<u>(0.08%)</u>	<u>1.45%</u>	<u>1.45%</u>	<u>1.76%</u>	<u>1.76%</u>	<u>1.69%</u>	<u>1.69%</u>
Total Pension Rate	13.93%	14.55%	31.97%	26.58%	32.44%	27.51%	29.23%	24.42%
Side account rate relief	(22.10%)	(22.10%)	(23.22%)	(23.22%)	(19.82%)	(19.82%)	(20.36%)	(20.36%)
Member redirect offset	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>(2.45%)</u>	<u>(0.70%)</u>	<u>(2.45%)</u>	<u>(0.70%)</u>
Net Pension Rate	0.00%	0.00%	8.75%	3.36%	10.17%	6.99%	6.42%	3.36%
Retiree Healthcare								
Normal cost rate	0.10%	0.00%	0.06%	0.00%	0.05%	0.00%	0.05%	0.00%
UAL rate	<u>0.19%</u>	<u>0.19%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Total Retiree Healthcare Rate	0.29%	0.19%	0.06%	0.00%	0.05%	0.00%	0.05%	0.00%
Total Net Employer Rate	0.29%	0.19%	8.81%	3.36%	10.22%	6.99%	6.47%	3.36%

Source: Oregon Public Employees Retirement System – System Actuarial Valuation Reports and Employer Actuarial Valuation Reports.

Portland SD – Payroll Growth

Payroll and Payroll Growth						
Calendar Year	System		School Pool		Portland Public Schools No. 1J	
	PERS Covered Payroll	Annual Payroll Growth	PERS Covered Payroll	Annual Payroll Growth	PERS Covered Payroll	Annual Payroll Growth
2007	7,721,819,358	----	2,693,307,473	----	258,327,394	----
2008	8,130,136,492	5.29%	2,815,403,743	4.53%	261,655,598	1.29%
2009	8,512,192,290	4.70%	2,873,703,874	2.07%	264,721,365	1.17%
2010	8,750,064,502	2.79%	2,950,661,440	2.68%	280,450,614	5.94%
2011	8,550,511,000	(2.28%)	2,786,000,000	(5.58%)	261,181,186	(6.87%)
2012	8,590,879,000	0.47%	2,731,500,000	(1.96%)	250,889,737	(3.94%)
2013	8,671,800,000	0.94%	2,723,500,000	(0.29%)	248,356,156	(1.01%)
2014	9,115,800,000	5.12%	2,872,700,000	5.48%	277,853,261	11.88%
2015	9,544,100,000	4.70%	3,060,700,000	6.54%	311,657,866	12.17%
2016	9,872,600,000	3.44%	3,240,700,000	5.88%	318,721,363	2.27%
2017	10,098,900,000	2.29%	3,314,200,000	2.27%	314,463,253	(1.34%)
2018	10,852,000,000	7.46%	3,543,500,000	6.92%	356,902,791	13.50%
2019	11,533,700,000	6.28%	3,740,700,000	5.57%	379,338,096	6.29%
Average 2007-2019		3.40%			2.78%	3.25%

Source: Oregon Public Employees Retirement System – System Actuarial Valuation Reports and Employer Actuarial Valuation Reports.

Portland SD – Historical Rate Credits and Savings

Pension Bonds Issued	Dated Date	Amount Issued	TIC
Series 2002	10/31/02	\$ 210,103,857	5.60%
Less Amount Refunded		(14,000,000)	
Series 2003	4/21/03	281,170,040	5.73%
Series 2012 Refunding	1/31/12	14,400,000	2.87%
Total Amount Issued		\$ 491,673,897	

CALENDAR Year	Pro Forma Balance January 1	Admin. Expense	Rate Credits	Bond Proceed Deposits	Investment Earnings (\$)	Investment Returns (%)	Pro Forma Balance December 31	Calendar Year Debt Service	Pension Bond Savings	PV Savings	PV Savings as Percent of Par
2004	\$ 581,599,915	\$ (2,000)	\$ (26,188,808)	\$ -	\$ 81,075,029	13.3%	\$ 636,484,136	\$ 18,088,323	\$ 8,100,486	\$ 8,100,486	
2005	636,484,136	(2,000)	(33,249,605)	-	84,143,203	13.7%	687,375,734	18,643,323	14,606,283	13,832,105	
2006	687,375,734	(2,000)	(42,341,422)	-	107,368,090	15.5%	752,400,402	24,608,323	17,733,100	15,903,102	
2007	752,400,402	(2,000)	(42,039,424)	-	75,827,752	9.5%	786,186,730	25,408,323	16,631,102	14,124,296	
2008	786,186,729	(2,000)	(51,544,798)	-	(203,230,835)	(27.2%)	531,409,096	27,603,323	23,941,476	19,255,078	
2009	531,409,097	(2,000)	(38,868,222)	-	95,661,656	19.1%	588,200,531	28,468,323	10,399,900	7,920,856	
2010	588,200,531	(2,000)	(51,189,761)	-	69,572,282	12.4%	606,581,052	30,873,323	20,316,439	14,653,425	
2011	606,581,051	(2,000)	(45,753,755)	-	15,863,183	2.2%	576,688,479	31,813,323	13,940,433	9,521,742	
2012	576,688,479	(2,000)	(47,272,658)	-	81,405,038	14.3%	610,818,859	34,266,323	13,006,336	8,412,861	
2013	610,818,860	(2,000)	(48,097,208)	-	93,800,185	15.6%	656,519,837	35,834,323	12,262,886	7,511,558	
2014	656,519,837	(2,000)	(49,807,755)	-	47,093,834	7.2%	653,803,916	38,134,323	11,673,433	6,771,494	
2015	653,803,916	(2,000)	(58,735,664)	-	13,609,514	1.9%	608,675,766	39,799,323	18,936,342	10,402,330	
2016	608,675,766	(2,000)	(61,949,774)	-	41,440,148	6.9%	588,164,140	42,314,323	19,635,452	10,214,663	
2017	588,164,140	(1,000)	(68,321,339)	-	87,083,355	15.3%	606,925,156	44,134,323	24,187,017	11,915,548	
2018	606,925,156	(1,000)	(72,444,106)	-	3,608,267	0.4%	538,088,317	46,874,323	25,569,784	11,929,092	
2019	538,088,317	(1,000)	(80,923,268)	-	68,675,124	13.6%	525,839,173	48,854,323	32,068,946	14,168,165	
Subtotal (Actual)									\$ 283,009,407	\$ 184,636,802	37.55%

Portland SD – Projected Rate Credits and Savings

FISCAL Year	Pro Forma Balance July 1	Admin. Expense	Rate Credits	Bond Proceed Deposits	Investment Earnings (\$)	Investment Returns (%)	Pro Forma Balance June 30	Fiscal Year Debt Service	Pension Bond Savings	PV Savings	PV Savings as Percent of Par
2020	\$ 531,963,745	\$ (500)	\$ (37,269,105)	\$ -	\$ 11,713,141	7.20%	\$ 506,407,781	\$ 25,929,661	\$ 11,339,444	\$ 4,744,269	
2021	506,407,781	(1,000)	(76,489,229)	-	33,525,686	7.20%	463,444,237	54,414,323	22,074,907	8,746,313	
2022	463,444,237	(1,000)	(80,564,345)	-	30,275,907	7.20%	413,155,799	57,698,323	22,866,023	8,579,567	
2023	413,155,799	(1,000)	(83,384,098)	-	26,546,916	7.20%	356,318,618	60,042,003	23,342,095	8,293,983	
2024	356,318,618	(1,000)	(86,842,030)	-	22,321,923	7.20%	291,798,510	63,716,822	23,125,208	7,781,397	
2025	291,798,510	(1,000)	(89,881,501)	-	17,559,820	7.20%	219,476,829	66,269,834	23,611,667	7,523,972	
2026	219,476,829	(1,000)	(93,027,354)	-	12,231,920	7.20%	138,681,395	70,471,269	22,556,085	6,806,641	
2027	138,681,395	(1,000)	(96,283,311)	-	6,289,684	7.20%	48,687,768	73,254,542	23,028,769	6,580,947	
2028	48,687,768	(1,000)	(49,398,098)	-	710,330	7.20%	-	35,132,281	14,265,817	3,860,672	
Subtotal (Projected)									186,210,015	62,917,759	
Total (Actual + Projected)									\$ 469,219,422	\$ 247,554,561	50.35%

Source: Oregon Public Employees Retirement System – System Actuarial Valuation Reports and Employer Actuarial Valuation Reports. Information for calendar years 2003 and prior was not readily available.

Note: Because PERS changes rates on a fiscal year basis, projected rate credits and savings are projected to match that timing.

(1) Payroll growth projected at 3.50% annually, as assumed by PERS in its actuarial models. Actual payroll growth may differ from the assumption, and any changes in payroll growth rates from the assumption will affect the actual savings or costs realized.

(2) Investment returns projected at 7.20% annually, as assumed by PERS in its actuarial models. Actual rates of return may differ from the assumption, and any changes in investment earnings will affect the actual savings or costs realized.

Portland SD – Sensitivity Analysis Summary

Scenario:	1	2	3
	Base Case: 7.20% Earnings	Assume actual earnings from 2002- 2019, then 7.20% for remainder	Assume actual earnings from 2007- 2019, then 7.20% for remainder
T1/T2 UAL Payoff	\$ 802,465,624	\$ 802,465,624	\$ 802,465,624
OPSRP UAL Payoff	60,858,770	60,858,770	60,858,770
Less: Existing Side Account	(470,057,550)	(470,057,550)	(470,057,550)
Total Payoff (projected as of 8/1/2021)	\$ 393,266,844	\$ 393,266,844	\$ 393,266,844
Years where Net Rate Credit is negative	0	0	2
Years where Net Rate Credit is positive	19	19	17
T1/T2/OPSRP Average Rate Credit	7.12%	8.29%	6.08%
Debt Cost (%)	5.40%	5.40%	5.40%
Net Savings (%)	1.71%	2.88%	0.67%
T1/T2/OPSRP UAL Payoff Savings (in millions)	\$179.0	\$306.7	\$71.2
PV Savings (in millions)	\$125.7	\$211.4	\$49.4
PV Savings %	31.96%	53.76%	12.56%

Assumes bonds sold at a TIC of **3.50%**, leading to significantly better results than District C (5.67% TIC) even with 2007 performance.

Portland SD – Base Case Scenario (7.20% Earnings)

Portland Public Schools No. 1J - Projected Rate Credits and Pension Bond Savings

(New Payoff Date: 08/01/21, Payoff Amount: \$393,266,844)

Fiscal Year	Side Account		Earnings ⁽¹⁾				Side Account	Bond Debt Service		Savings	
	Balance July 1	Deposit 8/1/21	Credit (%)	Rate Credit (\$)	Investment Earnings (\$)	Investment Returns (%)	Balance June 30	Debt Service (\$) ⁽²⁾	Debt Cost (%)	Savings (\$)	Savings (%)
2022	-	393,266,844	6.74%	26,928,819	24,927,059	7.20%	391,265,084	20,442,024	5.12%	6,486,794	1.62%
2023	391,265,084	-	7.34%	30,361,773	27,005,794	7.20%	387,909,106	23,046,700	5.57%	7,315,073	1.77%
2024	387,909,106	-	7.34%	31,424,435	26,723,379	7.20%	383,208,050	23,857,350	5.58%	7,567,085	1.77%
2025	383,208,050	-	7.34%	32,524,290	26,342,690	7.20%	377,026,450	24,693,100	5.58%	7,831,190	1.77%
2026	377,026,450	-	7.34%	33,662,640	25,853,924	7.20%	369,217,735	25,556,675	5.58%	8,105,965	1.77%
2027	369,217,735	-	7.34%	34,840,832	25,246,478	7.20%	359,623,380	26,450,625	5.58%	8,390,207	1.77%
2028	359,623,380	-	7.34%	36,060,261	24,508,882	7.20%	348,072,001	27,372,325	5.57%	8,687,936	1.77%
2029	348,072,001	-	7.34%	37,322,371	23,628,743	7.20%	334,378,373	28,334,150	5.58%	8,988,221	1.77%
2030	334,378,373	-	7.34%	38,628,654	22,592,666	7.20%	318,342,385	29,322,950	5.58%	9,305,704	1.77%
2031	318,342,385	-	7.34%	39,980,656	21,386,185	7.20%	299,747,914	30,350,925	5.58%	9,629,731	1.77%
2032	299,747,914	-	7.34%	41,379,979	19,993,677	7.20%	278,361,611	31,414,750	5.58%	9,965,229	1.77%
2033	278,361,611	-	7.34%	42,828,279	18,398,277	7.20%	253,931,609	32,511,100	5.58%	10,317,179	1.77%
2034	253,931,609	-	7.34%	44,327,268	16,581,785	7.20%	226,186,125	33,651,650	5.58%	10,675,618	1.77%
2035	226,186,125	-	7.34%	45,878,723	14,524,565	7.20%	194,831,967	34,827,550	5.58%	11,051,173	1.77%
2036	194,831,967	-	7.34%	47,484,478	12,205,436	7.20%	159,552,925	36,045,125	5.57%	11,439,353	1.77%
2037	159,552,925	-	7.34%	49,146,435	9,601,559	7.20%	120,008,049	37,310,350	5.58%	11,836,085	1.77%
2038	120,008,049	-	7.34%	50,866,560	6,688,309	7.20%	75,829,798	38,613,850	5.58%	12,252,710	1.77%
2039	75,829,798	-	7.34%	52,646,890	3,439,146	7.20%	26,622,054	39,966,425	5.58%	12,680,465	1.77%
2040	26,622,054	-	3.64%	27,010,456	388,402	7.20%	0	20,503,350	2.76%	6,507,106	0.88%
TOTAL FY 2018-2038		\$ 393,266,844		\$ 743,303,799	\$ 350,036,955			\$ 564,270,974		\$ 179,032,824	
PRESENT VALUE SAVINGS⁽³⁾:										\$ 125,704,305	31.96%

(1) Preliminary, based on market conditions as of February 19, 2021. Reflects a True Interest Cost (TIC) of 3.50%.

(2) Estimated present value savings discounted at the TIC on a monthly discounting of side account payments and semiannual discounting of bond payments. Percent savings shown at far right are Net PV Savings as a percentage of the payoff amount.

Portland SD – 2002 Scenario

Portland Public Schools No. 1J - Projected Rate Credits and Pension Bond Savings

(New Payoff Date: 08/01/21, Payoff Amount: \$393,266,844)

Fiscal Year	Side Account		Earnings ⁽¹⁾				Side Account	Bond Debt Service		Savings	
	Balance July 1	Deposit 8/1/21	Credit (%)	Rate Credit (\$)	Investment Earnings (\$)	Investment Returns (%)	Balance June 30	Debt Service (\$) ⁽²⁾	Debt Cost (%)	Savings (\$)	Savings (%)
2022	-	393,266,844	6.74%	26,928,819	75,791,988	22.00%	442,130,013	20,442,024	5.12%	6,486,794	1.62%
2023	442,130,013	-	7.34%	30,361,773	56,541,334	13.27%	468,309,575	23,046,700	5.57%	7,315,073	1.77%
2024	468,309,575	-	7.76%	33,186,269	61,937,461	13.74%	497,060,767	23,857,350	5.58%	9,328,919	2.18%
2025	497,060,767	-	7.76%	34,347,789	73,999,670	15.45%	536,712,648	24,693,100	5.58%	9,654,689	2.18%
2026	536,712,648	-	9.18%	42,095,525	48,708,597	9.47%	543,325,720	25,556,675	5.58%	16,538,850	3.61%
2027	543,325,720	-	9.18%	43,568,868	(140,984,416)	(27.18%)	358,772,435	26,450,625	5.58%	17,118,243	3.61%
2028	358,772,435	-	10.63%	52,170,522	63,367,102	19.12%	369,969,016	27,372,325	5.57%	24,798,197	5.05%
2029	369,969,016	-	10.63%	53,996,490	42,470,054	12.44%	358,442,580	28,334,150	5.58%	25,662,340	5.05%
2030	358,442,580	-	7.56%	39,746,621	7,449,873	2.21%	326,145,831	29,322,950	5.58%	10,423,671	1.98%
2031	326,145,831	-	7.56%	41,137,753	44,692,788	14.68%	329,700,866	30,350,925	5.58%	10,786,828	1.98%
2032	329,700,866	-	7.70%	43,392,471	47,867,229	15.60%	334,175,624	31,414,750	5.58%	11,977,721	2.13%
2033	334,175,624	-	7.70%	44,911,207	22,336,942	7.20%	311,601,360	32,511,100	5.58%	12,400,107	2.13%
2034	311,601,360	-	8.43%	50,855,811	5,401,293	1.90%	266,146,842	33,651,650	5.58%	17,204,161	2.85%
2035	266,146,842	-	8.43%	52,635,764	16,427,290	6.90%	229,938,367	34,827,550	5.58%	17,808,214	2.85%
2036	229,938,367	-	8.83%	57,101,928	30,576,152	15.30%	203,412,591	36,045,125	5.57%	21,056,803	3.26%
2037	203,412,591	-	8.83%	59,100,496	720,672	0.42%	145,032,767	37,310,350	5.58%	21,790,146	3.26%
2038	145,032,767	-	8.98%	62,227,693	15,208,731	13.56%	98,013,806	38,613,850	5.58%	23,613,843	3.41%
2039	98,013,806	-	8.98%	64,405,662	4,585,090	7.20%	38,193,233	39,966,425	5.58%	24,439,237	3.41%
2040	38,193,233	-	5.22%	38,750,453	557,220	7.20%	-	20,503,350	2.76%	18,247,103	2.46%
TOTAL FY 2018-2038		\$ 393,266,844		\$ 870,921,915	\$ 477,655,070			\$ 564,270,974		\$ 306,650,940	
PRESENT VALUE SAVINGS⁽³⁾:										\$ 211,402,930	53.76%

(1) Preliminary, based on market conditions as of February 19, 2021. Reflects a True Interest Cost (TIC) of 3.50%.

(2) Estimated present value savings discounted at the TIC on a monthly discounting of side account payments and semiannual discounting of bond payments. Percent savings shown at far right are Net PV Savings as a percentage of the payoff amount.

Portland SD – 2007 Scenario

Portland Public Schools No. 1J - Projected Rate Credits and Pension Bond Savings

(New Payoff Date: 08/01/21, Payoff Amount: \$393,266,844)

Fiscal Year	Side Account		Earnings ⁽¹⁾				Side Account	Bond Debt Service		Savings		
	Balance July 1	Deposit 8/1/21	Credit (%)	Rate Credit (\$)	Investment Earnings (\$)	Investment Returns (%)	Balance June 30	Debt Service (\$) ⁽²⁾	Debt Cost (%)	Savings (\$)	Savings (%)	
2022	-	393,266,844	6.74%	26,928,819	(95,368,193)	(27.18%)	270,969,832	20,442,024	5.12%	6,486,794	1.62%	
2023	270,969,832	-	7.34%	30,361,773	48,765,610	19.12%	289,373,670	23,046,700	5.57%	7,315,073	1.77%	
2024	289,373,670	-	6.24%	26,691,179	34,241,250	12.44%	296,923,741	23,857,350	5.58%	2,833,829	0.66%	
2025	296,923,741	-	6.24%	27,625,371	6,234,160	2.21%	275,532,530	24,693,100	5.58%	2,932,271	0.66%	
2026	275,532,530	-	5.58%	25,583,155	38,467,194	14.68%	288,416,569	25,556,675	5.58%	26,480	0.01%	
2027	288,416,569	-	5.58%	26,478,566	42,816,908	15.60%	304,754,911	26,450,625	5.58%	27,941	0.01%	
2028	304,754,911	-	5.54%	27,225,171	20,897,445	7.20%	298,427,185	27,372,325	5.57%	(147,154)	(0.03%)	
2029	298,427,185	-	5.54%	28,178,052	5,382,477	1.90%	275,631,610	28,334,150	5.58%	(156,098)	(0.03%)	
2030	275,631,610	-	6.26%	32,918,943	17,807,260	6.90%	260,519,927	29,322,950	5.58%	3,595,993	0.68%	
2031	260,519,927	-	6.26%	34,071,106	37,112,223	15.30%	263,561,044	30,350,925	5.58%	3,720,181	0.68%	
2032	263,561,044	-	6.03%	33,992,052	1,030,080	0.42%	230,599,072	31,414,750	5.58%	2,577,302	0.46%	
2033	230,599,072	-	6.03%	35,181,774	28,748,970	13.56%	224,166,268	32,511,100	5.58%	2,670,674	0.46%	
2034	224,166,268	-	6.27%	37,867,689	14,686,601	7.20%	200,985,180	33,651,650	5.58%	4,216,039	0.70%	
2035	200,985,180	-	6.27%	39,193,058	12,966,694	7.20%	174,758,816	34,827,550	5.58%	4,365,508	0.70%	
2036	174,758,816	-	6.50%	42,044,657	10,968,951	7.20%	143,683,110	36,045,125	5.57%	5,999,532	0.93%	
2037	143,683,110	-	6.50%	43,516,219	8,675,021	7.20%	108,841,912	37,310,350	5.58%	6,205,869	0.93%	
2038	108,841,912	-	6.60%	45,705,169	6,082,443	7.20%	69,219,186	38,613,850	5.58%	7,091,319	1.02%	
2039	69,219,186	-	6.60%	47,304,850	3,168,210	7.20%	25,082,546	39,966,425	5.58%	7,338,425	1.02%	
2040	25,082,546	-	3.31%	24,556,699	416,403	7.20%	942,250	20,503,350	2.76%	4,053,349	0.55%	
TOTAL FY 2018-2038		\$ 393,266,844		\$ 635,424,302	\$ 243,099,708			\$ 564,270,974		\$ 71,153,328		
										PRESENT VALUE SAVINGS⁽³⁾:	\$ 49,389,843	12.56%

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Financing timeline

- **May 11: Board Considers Resolution**
- **April-June: Development of Disclosure Document, Rating**
- **Wk of May 24th: Due diligence and rating calls**
- **June 30: Bond Sale**
- **July 15: Closing, funds sent to PERS**
- **August 1: Payroll rates reduced.**

Questions



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