Umpqua Community College
PERS Unfunded Actuarial Liability and Pension Bond Analysis
Background Data
March 1, 2021



[^0]| Payroll and Payroll Growth |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | SLGR | Pool | Umpqua Com | unity College |
| Calendar Year | PERS Covered Payroll | Annual Payroll Growth | PERS Covered Payroll | Annual Payroll Growth | PERS Covered Payroll | Annual Payroll Growth |
| 2007 | 7,721,819,358 | ---- | 4,264,200,000 |  | 9,238,171 | ---- |
| 2008 | 8,130,136,492 | 5.29\% | 4,521,300,000 | 6.03\% | 10,493,966 | 13.59\% |
| 2009 | 8,512,192,290 | 4.70\% | 4,850,100,000 | 7.27\% | 12,102,489 | 15.33\% |
| 2010 | 8,750,064,502 | 2.79\% | 4,973,400,000 | 2.54\% | 13,118,819 | 8.40\% |
| 2011 | 8,550,511,000 | (2.28\%) | 4,935,700,000 | (0.76\%) | 12,168,208 | (7.25\%) |
| 2012 | 8,590,879,000 | 0.47\% | 5,018,000,000 | 1.67\% | 11,904,908 | (2.16\%) |
| 2013 | 8,671,800,000 | 0.94\% | 5,121,900,000 | 2.07\% | 11,873,180 | (0.27\%) |
| 2014 | 9,115,800,000 | 5.12\% | 5,390,800,000 | 5.25\% | 12,292,455 | 3.53\% |
| 2015 | 9,544,100,000 | 4.70\% | 5,594,300,000 | 3.77\% | 12,079,641 | (1.73\%) |
| 2016 | 9,872,600,000 | 3.44\% | 5,714,000,000 | 2.14\% | 11,697,991 | (3.16\%) |
| 2017 | 10,098,900,000 | 2.29\% | 5,897,800,000 | 3.22\% | 11,018,484 | (5.81\%) |
| 2018 | 10,852,000,000 | 7.46\% | 6,346,100,000 | 7.60\% | 11,806,724 | 7.15\% |
| 2019 | 11,533,700,000 | 6.28\% | 6,768,800,000 | 6.66\% | 12,230,537 | 3.59\% |
| Average 2007-2019 |  | 3.40\% |  | 3.93\% |  | 2.37\% |

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


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.

Prepared by Piper Sandler Co.

Umpqua Community College
New Payoff Rate Credits and Pension Bond Savings (T1/T2/OPSRP UAL)
PERS Unfunded Actuarial Liability and Pension Bond Analysis
February 18, 2021
Investment Earnings Scenario: Base Case

| Umpqua Community College - Projected Rate Credits and Pension Bond Savings (New Payoff Date: 09/01/21, Payoff Amount: \$16,970,014) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Side A | ccount |  |  |  |  | Earnin | gs ${ }^{(1)}$ | Side Account | Bond Debt | Service |  | Savin |  |
| Fiscal Year | Balance July 1 | $\begin{gathered} \text { Deposit } \\ 9 / 1 / 21 \\ \hline \end{gathered}$ | Rate Credit |  | $\begin{aligned} & \text { Rate } \\ & \text { Credit (\$) } \end{aligned}$ |  | Investment Earnings (\$) | Investment Returns (\%) | Balance June 30 | $\begin{gathered} \text { Debt } \\ \text { Service }(\$)^{(2)} \end{gathered}$ | $\begin{aligned} & \text { Debt } \\ & \text { Cost (\%) } \end{aligned}$ |  | Savings (\$) | Savings (\%) |
| 2022 | - | 16,970,014 | 8.22\% |  | 1,058,268 |  | 977,989 | 7.20\% | 16,889,734 | 803,397 | 6.24\% |  | 254,871 | 1.98\% |
| 2023 | 16,889,734 | - | 9.83\% |  | 1,310,626 |  | 1,165,759 | 7.20\% | 16,744,867 | 994,750 | 7.46\% |  | 315,876 | 2.37\% |
| 2024 | 16,744,867 |  | 9.83\% |  | 1,356,498 |  | 1,153,568 | 7.20\% | 16,541,936 | 1,030,575 | 7.47\% |  | 325,923 | 2.36\% |
| 2025 | 16,541,936 | - | 9.83\% |  | 1,403,976 |  | 1,137,135 | 7.20\% | 16,275,095 | 1,069,650 | 7.49\% |  | 334,326 | 2.34\% |
| 2026 | 16,275,095 | - | 9.83\% |  | 1,453,115 |  | 1,116,036 | 7.20\% | 15,938,017 | 1,106,800 | 7.49\% |  | 346,315 | 2.34\% |
| 2027 | 15,938,017 | - | 9.83\% |  | 1,503,974 |  | 1,089,814 | 7.20\% | 15,523,857 | 1,142,025 | 7.47\% |  | 361,949 | 2.37\% |
| 2028 | 15,523,857 | - | 9.83\% |  | 1,556,613 |  | 1,057,975 | 7.20\% | 15,025,219 | 1,185,325 | 7.49\% |  | 371,288 | 2.35\% |
| 2029 | 15,025,219 | - | 9.83\% |  | 1,611,094 |  | 1,019,982 | 7.20\% | 14,434,106 | 1,226,350 | 7.48\% |  | 384,744 | 2.35\% |
| 2030 | 14,434,106 | - | 9.83\% |  | 1,667,483 |  | 975,257 | 7.20\% | 13,741,881 | 1,270,100 | 7.49\% |  | 397,383 | 2.34\% |
| 2031 | 13,741,881 | - | 9.83\% |  | 1,725,844 |  | 923,177 | 7.20\% | 12,939,214 | 1,311,400 | 7.47\% |  | 414,444 | 2.36\% |
| 2032 | 12,939,214 | - | 9.83\% |  | 1,786,249 |  | 863,067 | 7.20\% | 12,016,032 | 1,360,250 | 7.49\% |  | 425,999 | 2.35\% |
| 2033 | 12,016,032 | - | 9.83\% |  | 1,848,768 |  | 794,198 | 7.20\% | 10,961,462 | 1,406,300 | 7.48\% |  | 442,468 | 2.35\% |
| 2034 | 10,961,462 | - | 9.83\% |  | 1,913,475 |  | 715,786 | 7.20\% | 9,763,773 | 1,454,550 | 7.47\% |  | 458,925 | 2.36\% |
| 2035 | 9,763,773 | - | 9.83\% |  | 1,980,446 |  | 626,982 | 7.20\% | 8,410,309 | 1,504,825 | 7.47\% |  | 475,621 | 2.36\% |
| 2036 | 8,410,309 | - | 9.83\% |  | 2,049,762 |  | 526,872 | 7.20\% | 6,887,419 | 1,556,950 | 7.47\% |  | 492,812 | 2.36\% |
| 2037 | 6,887,419 | - | 9.83\% |  | 2,121,503 |  | 414,470 | 7.20\% | 5,180,386 | 1,615,750 | 7.49\% |  | 505,753 | 2.34\% |
| 2038 | 5,180,386 | - | 9.83\% |  | 2,195,756 |  | 288,714 | 7.20\% | 3,273,344 | 1,670,875 | 7.48\% |  | 524,881 | 2.35\% |
| 2039 | 3,273,344 | - | 9.83\% |  | 2,272,608 |  | 148,458 | 7.20\% | 1,149,194 | 1,727,325 | 7.47\% |  | 545,283 | 2.36\% |
| 2040 | 1,149,194 | - | 4.87\% |  | 1,165,960 |  | 16,766 | 7.20\% | 0 | 884,925 | 3.70\% |  | 281,035 | 1.17\% |
| TOTAL FY 2018-2038 |  | \$ 16,970,014 | \$ 31,982,017 |  |  | \$ | \$ 15,012,003 | \$ | \$ 24,322,122 |  |  | \$ | 7,659,895 |  |
| PRESENT VALUE SAVINGS ${ }^{(3)}$ : |  |  |  |  |  |  |  |  |  |  |  | \$ | 5,371,761 | 31.65\% |

(1) Preliminary, based on market conditions as of February 18, 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.

Prepared by Piper Sandler Co.

Umpqua Community College
New Payoff Rate Credits and Pension Bond Savings (T1/T2/OPSRP UAL)
PERS Unfunded Actuarial Liability and Pension Bond Analysis
February 18, 2021
Investment Earnings Scenario: 2002 Scenario

|  |  | Umpqua | mmu |  | y College <br> New Payoff |  | rojected <br> : 09/01/21, P | Rate Cre <br> Payoff Amou | dits and Pe <br> t: \$16,970,014) | sion Bo | Savi |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Side | ccount |  |  |  |  | Earning |  | Side Account | Bond Debt | Service |  | Savi |  |
| Fiscal Year | Balance July 1 | $\begin{gathered} \text { Deposit } \\ 9 / 1 / 21 \\ \hline \end{gathered}$ | Rate Credit |  | $\begin{aligned} & \text { Rate } \\ & \text { Credit (\$) } \end{aligned}$ |  | Investment Earnings (\$) | Investment Returns (\%) | Balance June 30 | $\begin{gathered} \text { Debt } \\ \text { Service }(\$)^{(2)} \end{gathered}$ | $\begin{aligned} & \text { Debt } \\ & \text { Cost (\%) } \end{aligned}$ |  | Savings (\$) | Savings (\%) |
| 2022 | - | 16,970,014 | 8.22\% |  | 1,058,268 |  | 2,956,659 | 22.00\% | 18,868,404 | 803,397 | 6.24\% |  | 254,871 | 1.98\% |
| 2023 | 18,868,404 | - | 9.83\% |  | 1,310,626 |  | 2,411,921 | 13.27\% | 19,969,699 | 994,750 | 7.46\% |  | 315,876 | 2.37\% |
| 2024 | 19,969,699 |  | 10.27\% |  | 1,416,820 |  | 2,641,020 | 13.74\% | 21,193,899 | 1,030,575 | 7.47\% |  | 386,245 | 2.80\% |
| 2025 | 21,193,899 | - | 10.27\% |  | 1,466,409 |  | 3,155,079 | 15.45\% | 22,882,569 | 1,069,650 | 7.49\% |  | 396,759 | 2.78\% |
| 2026 | 22,882,569 | - | 12.15\% |  | 1,794,965 |  | 2,076,663 | 9.47\% | 23,164,267 | 1,106,800 | 7.49\% |  | 688,165 | 4.66\% |
| 2027 | 23,164,267 | - | 12.15\% |  | 1,857,789 |  | $(6,010,720)$ | (27.18\%) | 15,295,758 | 1,142,025 | 7.47\% |  | 715,764 | 4.68\% |
| 2028 | 15,295,758 | - | 14.05\% |  | 2,224,262 |  | 2,701,563 | 19.12\% | 15,773,059 | 1,185,325 | 7.49\% |  | 1,038,937 | 6.56\% |
| 2029 | 15,773,059 | - | 14.05\% |  | 2,302,111 |  | 1,810,642 | 12.44\% | 15,281,591 | 1,226,350 | 7.48\% |  | 1,075,761 | 6.57\% |
| 2030 | 15,281,591 | - | 9.99\% |  | 1,694,539 |  | 317,613 | 2.21\% | 13,904,664 | 1,270,100 | 7.49\% |  | 424,439 | 2.50\% |
| 2031 | 13,904,664 | - | 9.99\% |  | 1,753,848 |  | 1,905,399 | 14.68\% | 14,056,216 | 1,311,400 | 7.47\% |  | 442,448 | 2.52\% |
| 2032 | 14,056,216 | - | 10.18\% |  | 1,849,964 |  | 2,040,735 | 15.60\% | 14,246,987 | 1,360,250 | 7.49\% |  | 489,714 | 2.70\% |
| 2033 | 14,246,987 | - | 10.18\% |  | 1,914,712 |  | 952,296 | 7.20\% | 13,284,570 | 1,406,300 | 7.48\% |  | 508,412 | 2.70\% |
| 2034 | 13,284,570 | - | 11.14\% |  | 2,168,148 |  | 230,275 | 1.90\% | 11,346,697 | 1,454,550 | 7.47\% |  | 713,598 | 3.67\% |
| 2035 | 11,346,697 | - | 11.14\% |  | 2,244,033 |  | 700,348 | 6.90\% | 9,803,012 | 1,504,825 | 7.47\% |  | 739,208 | 3.67\% |
| 2036 | 9,803,012 | - | 11.68\% |  | 2,434,439 |  | 1,303,560 | 15.30\% | 8,672,133 | 1,556,950 | 7.47\% |  | 877,489 | 4.21\% |
| 2037 | 8,672,133 | - | 11.68\% |  | 2,519,645 |  | 30,725 | 0.42\% | 6,183,213 | 1,615,750 | 7.49\% |  | 903,895 | 4.19\% |
| 2038 | 6,183,213 | - | 11.88\% |  | 2,652,967 |  | 648,397 | 13.56\% | 4,178,643 | 1,670,875 | 7.48\% |  | 982,092 | 4.40\% |
| 2039 | 4,178,643 | - | 11.88\% |  | 2,745,821 |  | 195,477 | 7.20\% | 1,628,300 | 1,727,325 | 7.47\% |  | 1,018,496 | 4.41\% |
| 2040 | 1,628,300 | - | 6.91\% |  | 1,652,056 |  | 23,756 | 7.20\% | - | 884,925 | 3.70\% |  | 767,131 | 3.21\% |
| TOTAL FY 2018-2038 |  | \$ 16,970,014 |  | \$ | 37,061,420 | \$ | 20,091,406 | \$ | \$ 24,322,122 |  |  | \$ | 12,739,298 |  |
| PRESENT VALUE SAVINGS ${ }^{(3)}$ : |  |  |  |  |  |  |  |  |  |  |  | \$ | 8,780,014 | 51.74\% |

(1) Preliminary, based on market conditions as of February 18, 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.

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Umpqua Community College
New Payoff Rate Credits and Pension Bond Savings (T1/T2/OPSRP UAL)
PERS Unfunded Actuarial Liability and Pension Bond Analysis
February 18, 2021
Investment Earnings Scenario: 2007 Scenario

|  |  | Umpqua | nmu |  | y College <br> New Payoff |  | rojected <br> : 09/01/21, P | Rate Cre <br> Payoff Amou | dits and Pe <br> t: \$16,970,014 | sion Bo | Savi |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Side | ccount |  |  |  |  | Earning |  | Side Account | Bond Debt | Service |  | Savi |  |
| Fiscal Year | Balance July 1 | $\begin{gathered} \text { Deposit } \\ 9 / 1 / 21 \\ \hline \end{gathered}$ | Rate Credit |  | $\begin{aligned} & \text { Rate } \\ & \text { Credit (\$) } \end{aligned}$ |  | Investment Earnings (\$) | Investment Returns (\%) | Balance June 30 | $\begin{gathered} \text { Debt } \\ \text { Service }(\$)^{(2)} \end{gathered}$ | $\begin{aligned} & \text { Debt } \\ & \text { Cost (\%) } \end{aligned}$ |  | Savings (\$) | Savings (\%) |
| 2022 | - | 16,970,014 | 8.22\% |  | 1,058,268 |  | $(3,801,641)$ | (27.18\%) | 12,110,104 | 803,397 | 6.24\% |  | 254,871 | 1.98\% |
| 2023 | 12,110,104 | - | 9.83\% |  | 1,310,626 |  | 2,184,059 | 19.12\% | 12,983,538 | 994,750 | 7.46\% |  | 315,876 | 2.37\% |
| 2024 | 12,983,538 |  | 8.63\% |  | 1,190,943 |  | 1,536,763 | 12.44\% | 13,329,358 | 1,030,575 | 7.47\% |  | 160,368 | 1.16\% |
| 2025 | 13,329,358 | - | 8.63\% |  | 1,232,626 |  | 279,950 | 2.21\% | 12,376,683 | 1,069,650 | 7.49\% |  | 162,976 | 1.14\% |
| 2026 | 12,376,683 | - | 7.77\% |  | 1,148,155 |  | 1,727,992 | 14.68\% | 12,956,520 | 1,106,800 | 7.49\% |  | 41,355 | 0.28\% |
| 2027 | 12,956,520 | - | 7.77\% |  | 1,188,340 |  | 1,923,556 | 15.60\% | 13,691,736 | 1,142,025 | 7.47\% |  | 46,315 | 0.30\% |
| 2028 | 13,691,736 | - | 7.73\% |  | 1,222,982 |  | 938,867 | 7.20\% | 13,407,621 | 1,185,325 | 7.49\% |  | 37,657 | 0.24\% |
| 2029 | 13,407,621 | - | 7.73\% |  | 1,265,786 |  | 241,824 | 1.90\% | 12,383,658 | 1,226,350 | 7.48\% |  | 39,436 | 0.24\% |
| 2030 | 12,383,658 | - | 8.72\% |  | 1,478,960 |  | 800,051 | 6.90\% | 11,704,750 | 1,270,100 | 7.49\% |  | 208,860 | 1.23\% |
| 2031 | 11,704,750 | - | 8.72\% |  | 1,530,723 |  | 1,667,397 | 15.30\% | 11,841,423 | 1,311,400 | 7.47\% |  | 219,323 | 1.25\% |
| 2032 | 11,841,423 | - | 8.41\% |  | 1,527,207 |  | 46,280 | 0.42\% | 10,360,496 | 1,360,250 | 7.49\% |  | 166,957 | 0.92\% |
| 2033 | 10,360,496 | - | 8.41\% |  | 1,580,659 |  | 1,291,652 | 13.56\% | 10,071,489 | 1,406,300 | 7.48\% |  | 174,359 | 0.93\% |
| 2034 | 10,071,489 | - | 8.74\% |  | 1,701,342 |  | 659,849 | 7.20\% | 9,029,996 | 1,454,550 | 7.47\% |  | 246,792 | 1.27\% |
| 2035 | 9,029,996 | - | 8.74\% |  | 1,760,889 |  | 582,576 | 7.20\% | 7,851,683 | 1,504,825 | 7.47\% |  | 256,064 | 1.27\% |
| 2036 | 7,851,683 | - | 9.06\% |  | 1,889,010 |  | 492,821 | 7.20\% | 6,455,494 | 1,556,950 | 7.47\% |  | 332,060 | 1.59\% |
| 2037 | 6,455,494 | - | 9.06\% |  | 1,955,125 |  | 389,757 | 7.20\% | 4,890,126 | 1,615,750 | 7.49\% |  | 339,375 | 1.57\% |
| 2038 | 4,890,126 | - | 9.20\% |  | 2,053,473 |  | 273,276 | 7.20\% | 3,109,929 | 1,670,875 | 7.48\% |  | 382,598 | 1.71\% |
| 2039 | 3,109,929 | - | 9.20\% |  | 2,125,345 |  | 142,344 | 7.20\% | 1,126,928 | 1,727,325 | 7.47\% |  | 398,020 | 1.72\% |
| 2040 | 1,126,928 | - | 4.78\% |  | 1,143,369 |  | 16,441 | 7.20\% | 0 | 884,925 | 3.70\% |  | 258,444 | 1.08\% |
| TOTAL FY 2018-2038 |  | \$ 16,970,014 | \$ 28,363,829 |  |  | \$ | 11,393,815 | \$ | \$ 24,322,122 |  |  | \$ | 4,041,707 |  |
| PRESENT VALUE SAVINGS ${ }^{(3)}$ : |  |  |  |  |  |  |  |  |  |  |  | \$ | 2,770,119 | 16.32\% |

(1) Preliminary, based on market conditions as of February 18, 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.

Prepared by Piper Sandler Co.

Pension Obligation Bonds - Sensitivity Analysis Summary

|  | Scenario: | 1 |  | 2 |  | 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Base Case: <br> 7.20\% Earnings |  | Assume actual earnings from 20022019, then 7.20\% for remainder |  | Assume actual earnings from 20072019, then $7.20 \%$ for remainder |  |
| T1/T2 UAL Payoff |  | \$ | 23,113,768 | \$ | 23,113,768 | \$ | 23,113,768 |
| OPSRP UAL Payoff |  |  | 1,959,079 |  | 1,959,079 |  | 1,959,079 |
| Less: Existing Side Account |  |  | $(8,035,450)$ |  | $(8,035,450)$ |  | $(8,035,450)$ |
| Total Payoff (projected as 9/1/2021) |  | \$ | 17,037,396 | \$ | 17,037,396 | \$ | 17,037,396 |
| Years where Net Rate Credit is negative |  |  | 0 |  | 0 |  | 0 |
| Years where Net Rate Credit is positive |  |  | 19 |  | 19 |  | 19 |
| T1/T2/OPSRP Average Rate Credit |  |  | 9.49\% |  | 10.93\% |  | 8.39\% |
| Debt Cost (\%) |  |  | 7.21\% |  | 7.21\% |  | 7.21\% |
| Net Savings (\%) |  |  | 2.27\% |  | 3.71\% |  | 1.17\% |
| T1/T2/OPSRP UAL Payoff Savings (in millions) |  |  | \$7.7 |  | \$12.7 |  | \$4.0 |
| PV Savings (in millions) |  |  | \$5.4 |  | \$8.8 |  | \$2.8 |
| PV Savings \% |  |  | 31.65\% |  | 51.74\% |  | 16.32\% |

## Notes:

1. Scenarios 1-3 assumed borrowing rate of $3.50 \%$.
2. "Average" Net Rate Credit may include years of both positives and negatives and does not take the time value of money into account.
3. "Net Rate Credit" is effective payroll rate credit after payment of debt.
4. Assumes District payroll grows at $3.50 \%$ annually. To the extent higher or lower growth is experienced, results will differ.

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[^0]:    Source: Oregon Public Employees Retirement System - System Actuarial Valuation Reports and Employer Actuarial Valuation Reports.

