



Wyoming Retirement System

Partnering to Build Financial Security for Members and their Families

Matt Mead
Governor

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Executive Director

TO: Senator Bruce Burns, JAC Co-Chair
Representative Bob Nicholas, JAC Co-Chair
Members of the Joint Appropriations Committee

FROM: Ruth Ryerson, WRS Executive Director

DATE: May 24, 2018

RE: 2018 Actuarial Valuation Results

The purpose of this memo is to provide a brief update regarding the results of the 1-1-2018 actuarial valuations recently received by the WRS Board of Directors. These valuations included the new assumptions adopted by the WRS Board in August 2017, the above average investment performance for 2017, and the legislative changes enacted during the 2018 legislative session.

Below are the new assumptions adopted by the WRS Board in August 2017, effective January 1, 2018.

State Plan Adopted Assumption Summary		
Assumption	Current	Adopted
Investment Return/Discount Rate	7.75%	7.00%
Inflation	3.25%	2.25%
Real Rate of Return	4.50%	4.75%
Wage Inflation	4.25%	2.50%
(Productivity)	(1.00%)	(0.25%)
Payroll Growth	4.25%	2.50%
Amortization Period for ADC	30 Year Open	30 Year Closed Layered
Mortality Base Table	RP-2000	RP-2014
Mortality Projection Scale	Scale BB	Scale MP-2017
Retirement	Age-based	Age-based modified
Termination	Age-based	Age-based modified
Salary	Age-based	Service-based
Disability	Age-based	Age-based modified
Expense Growth Rate	6.50%	2.50%

The actuaries provided WRS with a few observations about our 2017 experience:

- All plans experienced lower than expected salary increases (except Judges)

- Overall, the plans experienced losses on post-retirement mortality (members are living longer than expected...)
- In the State plan, 7.67% of male retirees and 9.63% of female retirees are over 85 years old
- Of the new retirees in 2017 in the State plan, 13.68% retired at age 70 or older (24 members retired at age 85 +)
- There are currently 347 active employees in the State plan who are over 70 years old.

The 30 year projections for each of the plans were impacted negatively by the reduced assumption for future earnings and increased longevity of members, but impacted positively by the above average investment returns in 2017, HB-109 (which increases contributions to the State plan by 2% over the next 4 years), and HB-110 (which changes the amount of refunds that non-vested terminating members can receive). All plans except Fire A and Fire B are projected to be above 100% in 30 years or less.

Plan	Projected 30-Year Funded Ratio from the 2018 Valuation	Projected 30-Year Funded Ratio from the 2017 Valuation
State	106.1%	85.4%
Fire A	0.0%	0.0%
Fire B	79.9%	90.0%
Wardens	102.8%	83.7%
Law Enforcement	100.2%	107.1%
Judges	118.0%	158.8%
Guard Fire	177.3%	163.0%
Volunteer	138.4%	144.1%

Fire A continues to be a source of concern. The fund assets are projected to be depleted in approximately 10 years unless a source of funding for the plan is found. As of January 1, 2018, assets of the plan were \$116.7 million, while accrued liabilities totaled \$229.3 million, leaving an unfunded liability of \$112.6 million (based on current market values). The plan has 2 active members, 214 retirees and 67 beneficiaries.

Fire B, while currently funded at 95.92%, is projected to slowly lose ground on funding levels over the coming years. With the change in assumptions, the annual employer and employer

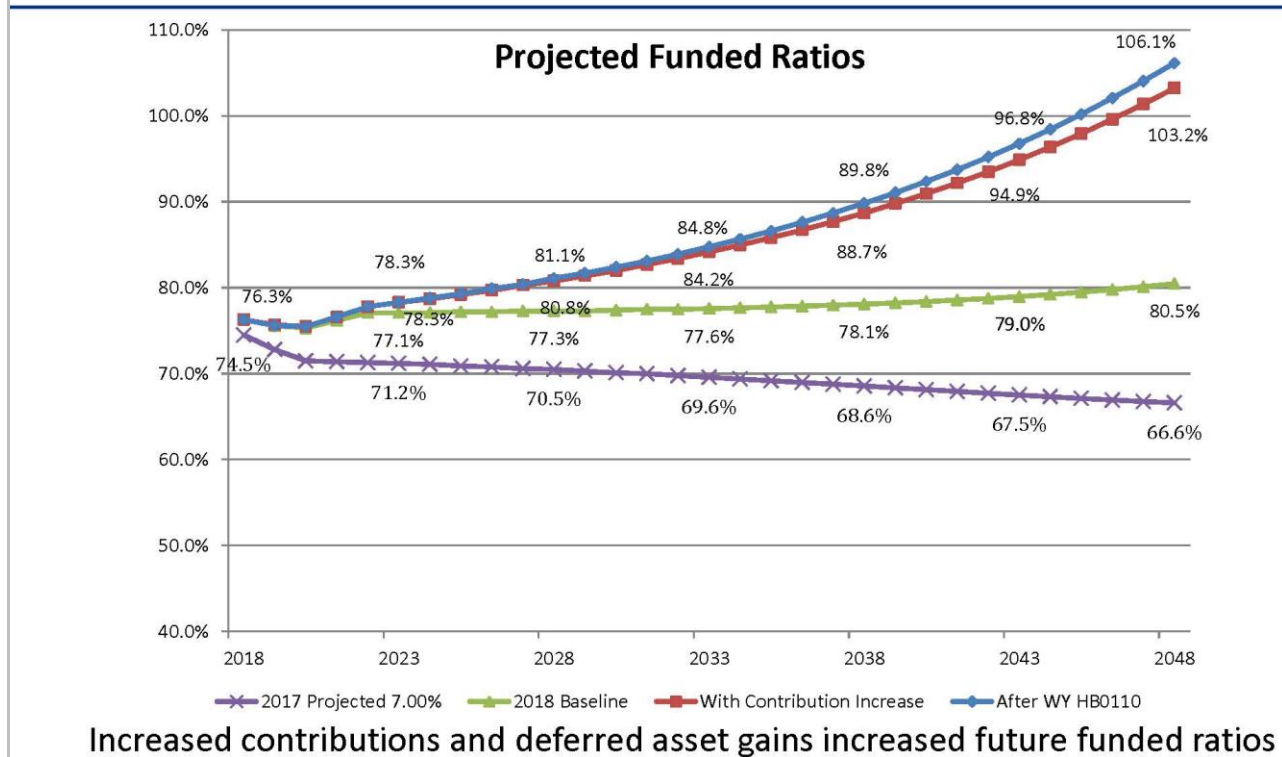
contributions are slightly less than the normal cost of the plan, so will end up increasing the unfunded liabilities over time if all assumptions are met.

The chart below shows the change in the 30-year projected funding ratio for the Public Employee Plan.

- The purple line shows the change in actuarial assumptions, but assumes that WRS investment returns were only 7% for 2017. Funding was projected to decrease to 66.6% in 30 years.
- The green line shows the impact of the above average returns of 14.2% for 2017. Funding was projected to increase to 80.5% in 30 years.
- The red line shows the impact of the increased contributions (HB-109) over the next 4 years. Funding is now projected to increase to 103.2% in 30 years.
- The blue line shows the additional impact of HB-110, which changed the refund provisions for non-vested members hired on or after July 1, 2018. Funding is now projected to increase to 106.1% over 30 years.

All of the above positive changes get the State Plan to a projected funding period of 27 years, and to 106.1% funding in 30 years.

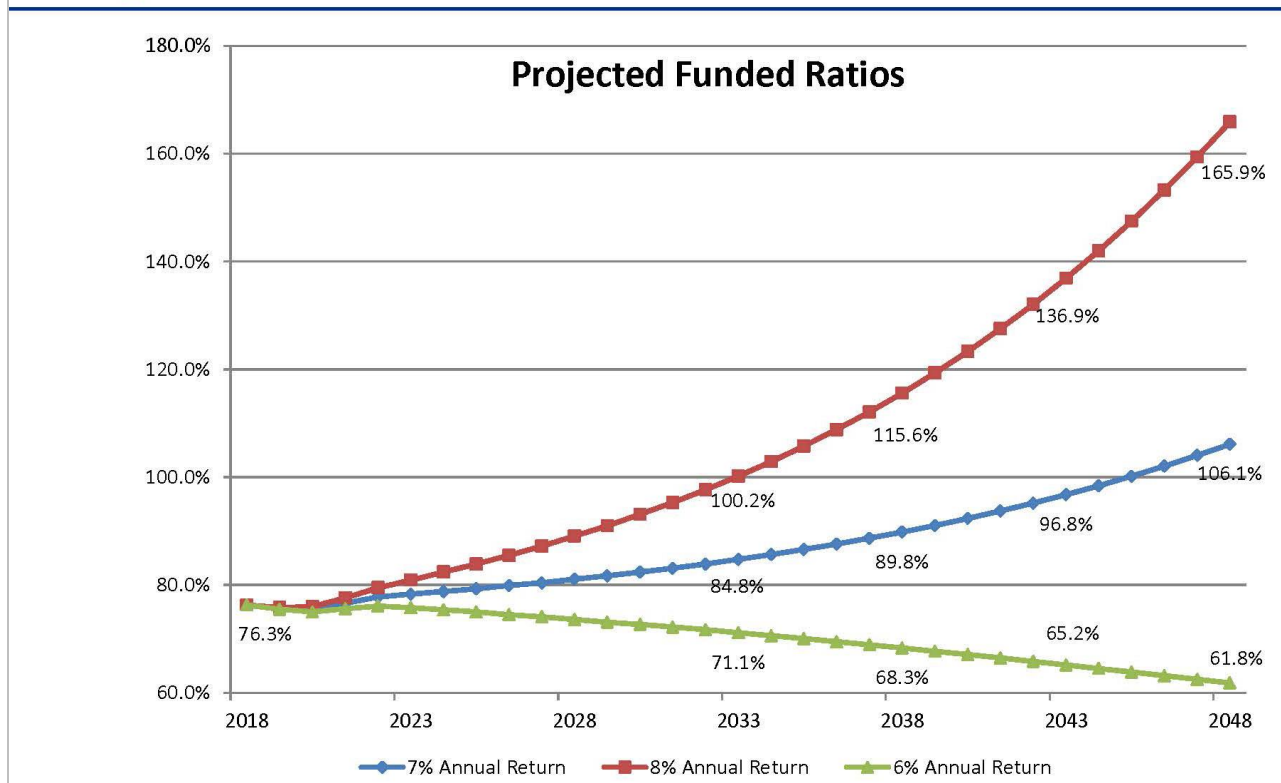
Funded Ratio Comparison (State Plan)



It should also be pointed out how sensitive funding levels are to actual rates of return each year. The chart below shows projected funding levels at 1% above and below the assumed rate of 7%. 30-year funding levels range from 61.8% (at 6%) to 106.1% (at 7%) to 165.0% (at 8%).

Sensitivity Analysis – State Plan

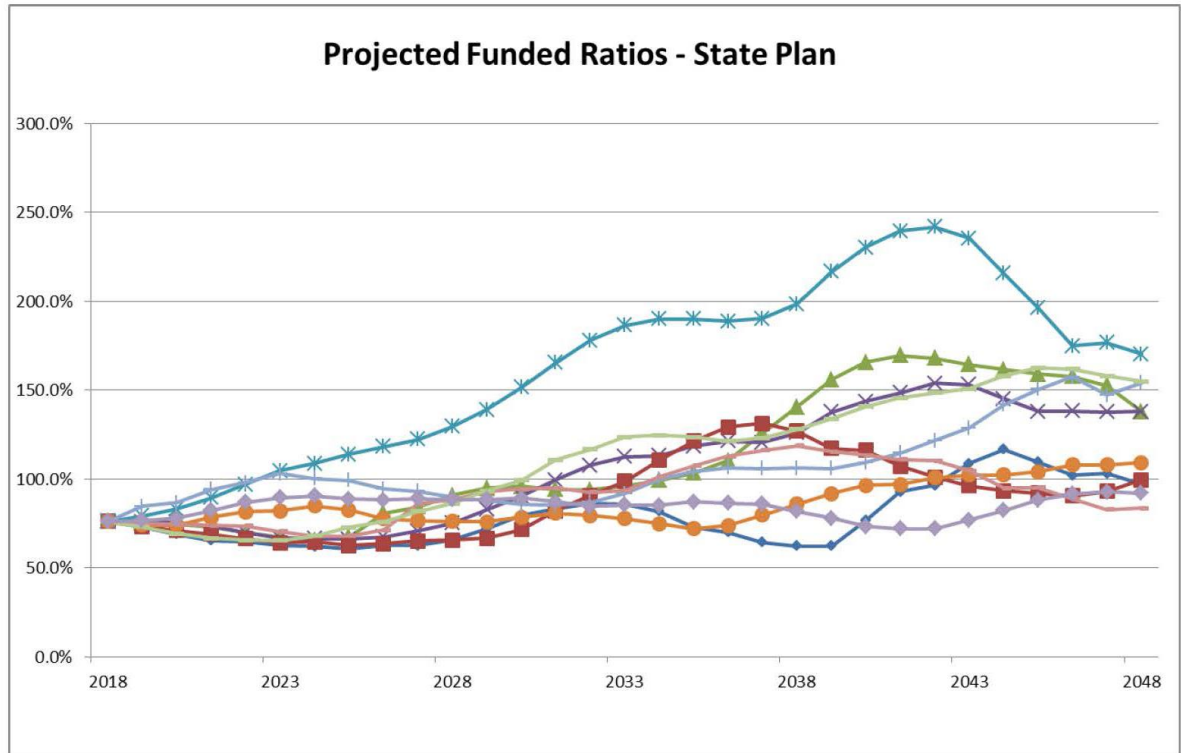
Changes in the Annual Return on Assets



Even if WRS is able to achieve exactly 7% in average net returns over the next 30 years, the order in which returns are earned makes a difference in overall funding levels as well. The sensitivity analysis shown below shows return streams with a 30-year average of 7%. About ½ are clustered around 100% (some higher and some lower), while the other half range from 130-170%. The order in which returns are earned makes a huge difference.

Sensitivity Analysis – State Plan

Why Order of Returns Matter



All ten trials have a 30 year average return of 7.0%

The WRS Board is working with its actuary this summer in studying potential plan design changes that would further strengthen the projected funding status of the various plans. This information will be available by the JAC's October 2018 meeting.

The full **actuarial valuation reports** can be found at <https://goo.gl/twp8NM>
Or by visiting retirement.wyo.gov/About/Reports and choosing the Actuarial Reports section.