New Risk Measures (ASOP 51)

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Presentation to: LEOFF Plan 2 Retirement Board

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What's The Bottom Line Here?

- Does this mean that LEOFF 2 has new risks?
  - No
- New Actuarial Standard of Practice (ASOP) now effective on the assessment and disclosure of risk for pension plans
  - The "risk ASOP"
- Does not represent a significant change in reporting for Washington State because we have been assessing and reporting on risk since 2010
- For today's presentation, I will explain some key risk measures for LEOFF 2, OSA's plans for reporting on risk, and provide some key risk management strategies

What's The New Risk ASOP?

- ASOP 51: "*Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions*"
- Provides guidance to pension actuaries when performing certain actuarial measurements with regard to "the assessment and disclosure of the risk that actual future measurements may differ significantly from expected future measurements"
- Examples of future measurements include
  - Pension obligations
  - Actuarially determined contributions; and
  - Funded status

What's The Need For This New Risk ASOP?

- According to the Pension Committee of the Actuarial Standards Board, "the additional disclosures required by [ASOP 51] will help the intended users of the actuarial findings gain a better understanding of risks inherent in the measurements of pension obligations and actuarially determined pension plan contributions"
- What are some of those risks and how might ASOP 51 apply to LEOFF 2 and our state pension plans?

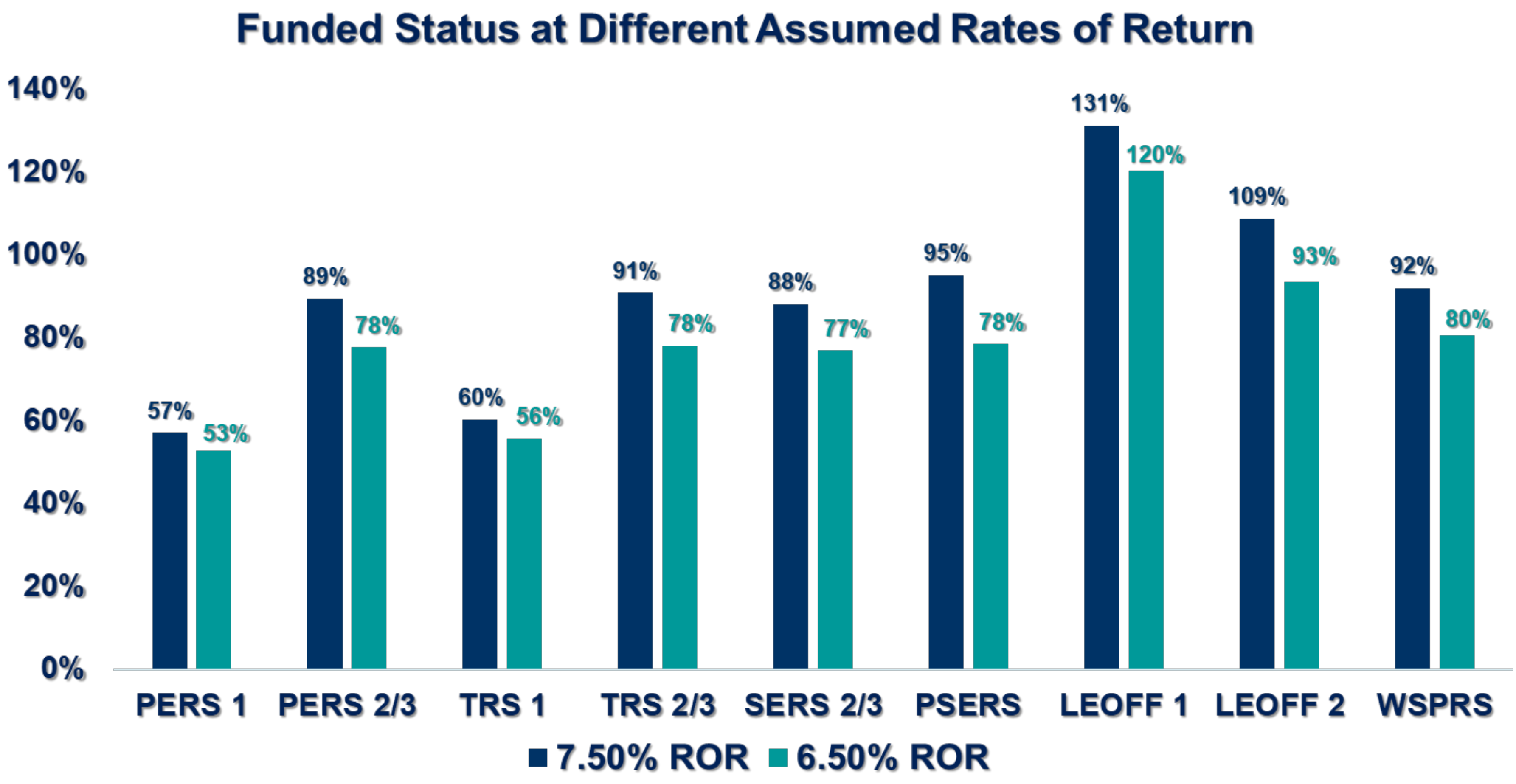
Examples Of Risks For Our State Pension Plans

- Investment Risk
- Contribution Risk
- Plan Maturity
- Plan Size Relative to Plan Sponsor

Investment Risk

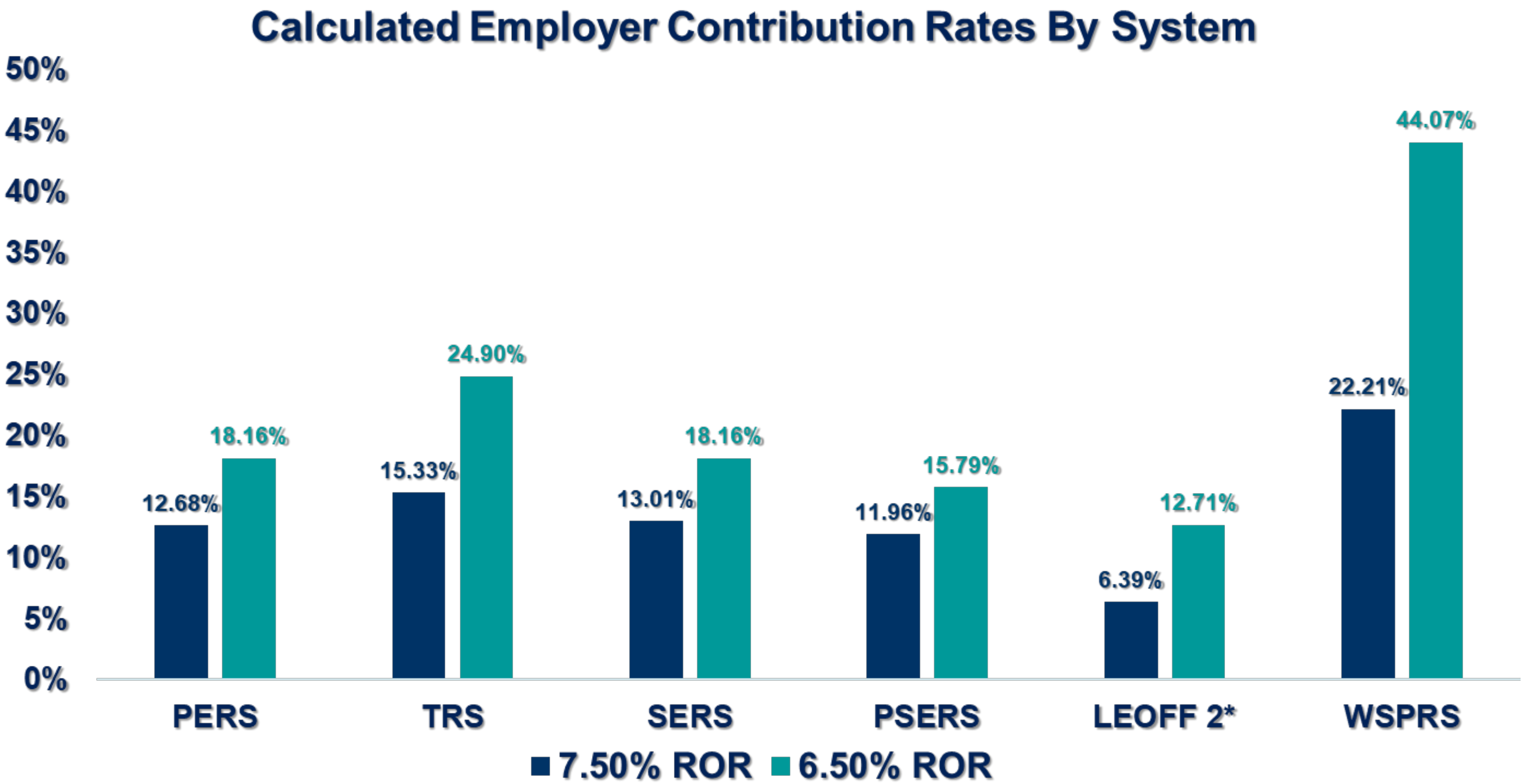
- The potential that investment returns will be different than expected
- Why does this matter?
  - Under current funding policy, we reduce today's pension costs based on anticipated future investment returns
  - Over the past 20 years, actual investment returns have covered about 70% of our state's pension costs
- What happens if the future is different than the past?
- How would contribution rates and funded status change?
- We measure this risk through our interactive reports

Investment Risk Measurements



Note: Measured at June 30, 2017. 7.40% ROR and 6.40% ROR for LEOFF 2.

Investment Risk Measurements



Note: Based on [June 30, 2017, Actuarial Valuation Report](). 7.40% ROR and 6.40% ROR for LEOFF 2.
**Represents the sum of the Local Employer and State contribution rates under the Aggregate actuarial cost method.*

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Contribution Risk

- The potential of actual future contributions deviating from expected future contributions
- Examples include
  - Actual contributions made below the plan’s funding policy or actuarially determined contributions
  - Material changes occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base
- Why does this matter?
  - When contribution risk materializes, it leads to funding shortfalls and the potential to create a vicious cycle

Vicious Cycle Of Funding Shortfalls

Contribution Risk Measurements

- OSA measures certain contribution risk in the annual risk assessment
- Includes simulations where economic outcomes, including state revenue growth, vary from our expectations
  - A very robust, but complicated form of risk analysis
  - Represents one of many ways to measure and report risk
- Contribution risk very low for LEOFF 2 under most recent OSA risk measurements

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Contribution Risk For LEOFF 2

- How can this risk materialize for LEOFF 2?
  - Adopt contribution rates below required levels
  - Legislative revision to funding policy leading to funding shortfalls
  - Below expected payroll growth
- Funding policy within Board's control
  - Proven track record of adopting stable and adequate contribution rates
- Legislative action and payroll growth largely outside Board's control

Plan Maturity Risk

- As a plan matures, its risks can change
- Consider the analogy of saving for your personal retirement through a deferred compensation program
- As you get older and closer to retirement, investment risk can have a larger impact on your retirement savings and your ability to recover is constrained
  - For example, what's the impact of losing 25% of your retirement savings when you're 25 years old versus 55?
  - How much would you lose, how much time do you have to recover, and how much additional money would you need to set aside to recover?
- Similar concepts apply to a maturing pension plan especially a closed plan

Plan Maturity Risk

- Consider a plan closed to new members, 100% funded with no active members in 2008, and with assets invested like LEOFF 2
- What happened to that plan after the Great Recession?
- It's most likely no longer fully funded because it lost 25% to 30% of its assets at the bottom of the market
- It has no payroll remaining for contributions
- How does this plan recover and who pays the contributions?
  - Does the state step in?
  - Do employers make contributions in addition to making contributions for current employees covered under a different retirement program? If so, what's the impact to the current program?

Plan Maturity Risk

- An open plan like LEOFF 2 faces much lower plan maturity risk than a plan closed to new members
- However, an open plan can mature and move in the direction of a closed plan
- Plan maturity risk measures allow you to monitor how your plan is maturing and whether these risks are materializing (or expected to materialize)
- With this information, you're in a better to position to manage or mitigate these risks

Plan Maturity Risk Measurements

Two Common Examples

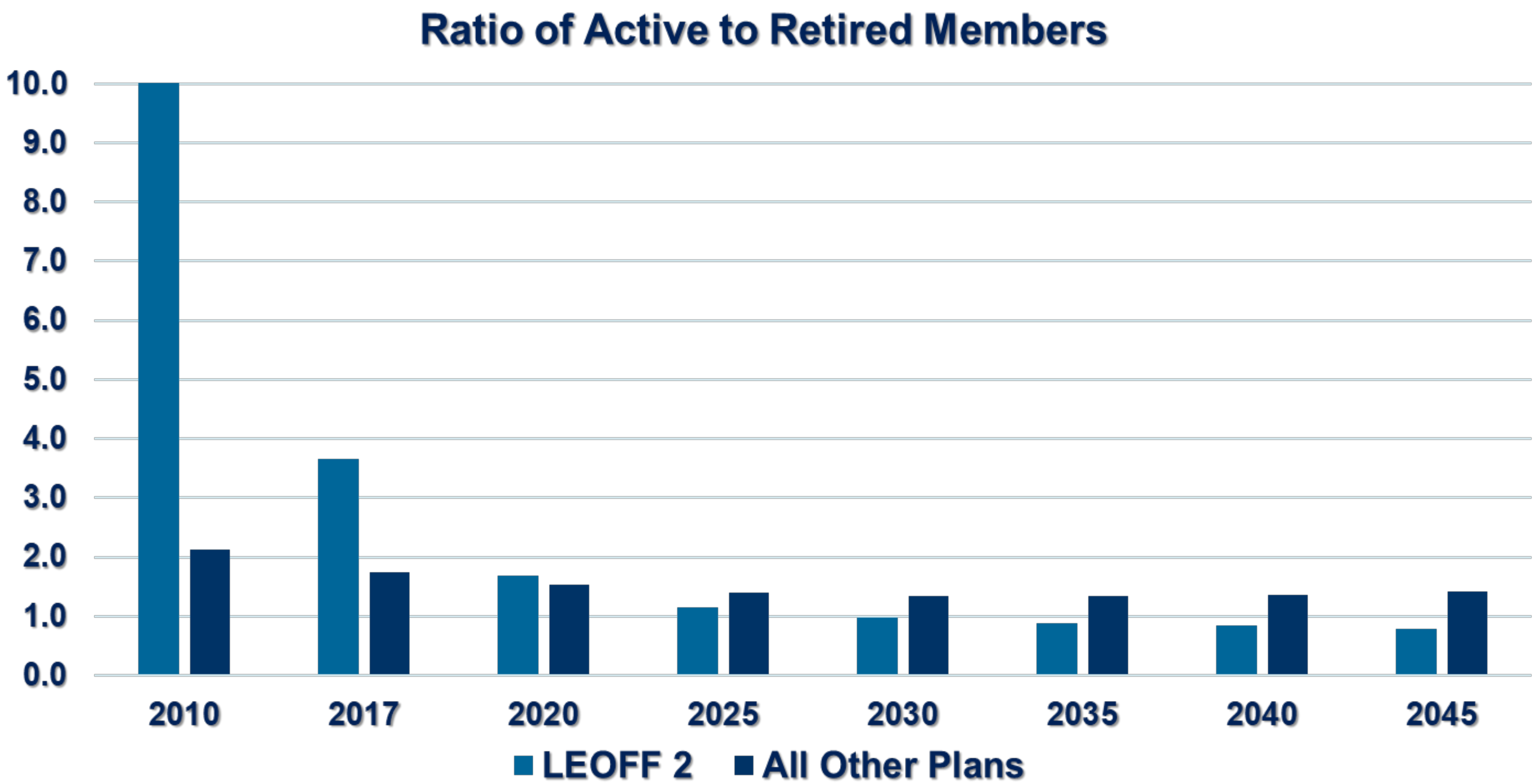
Ratio of Active to Retired Members

- A maturing plan exhibits a declining ratio of active to retired members
- Risk: Less payroll available to levy future contributions if necessary
- More of an issue for our closed Plans 1

Ratio of Assets to Payroll

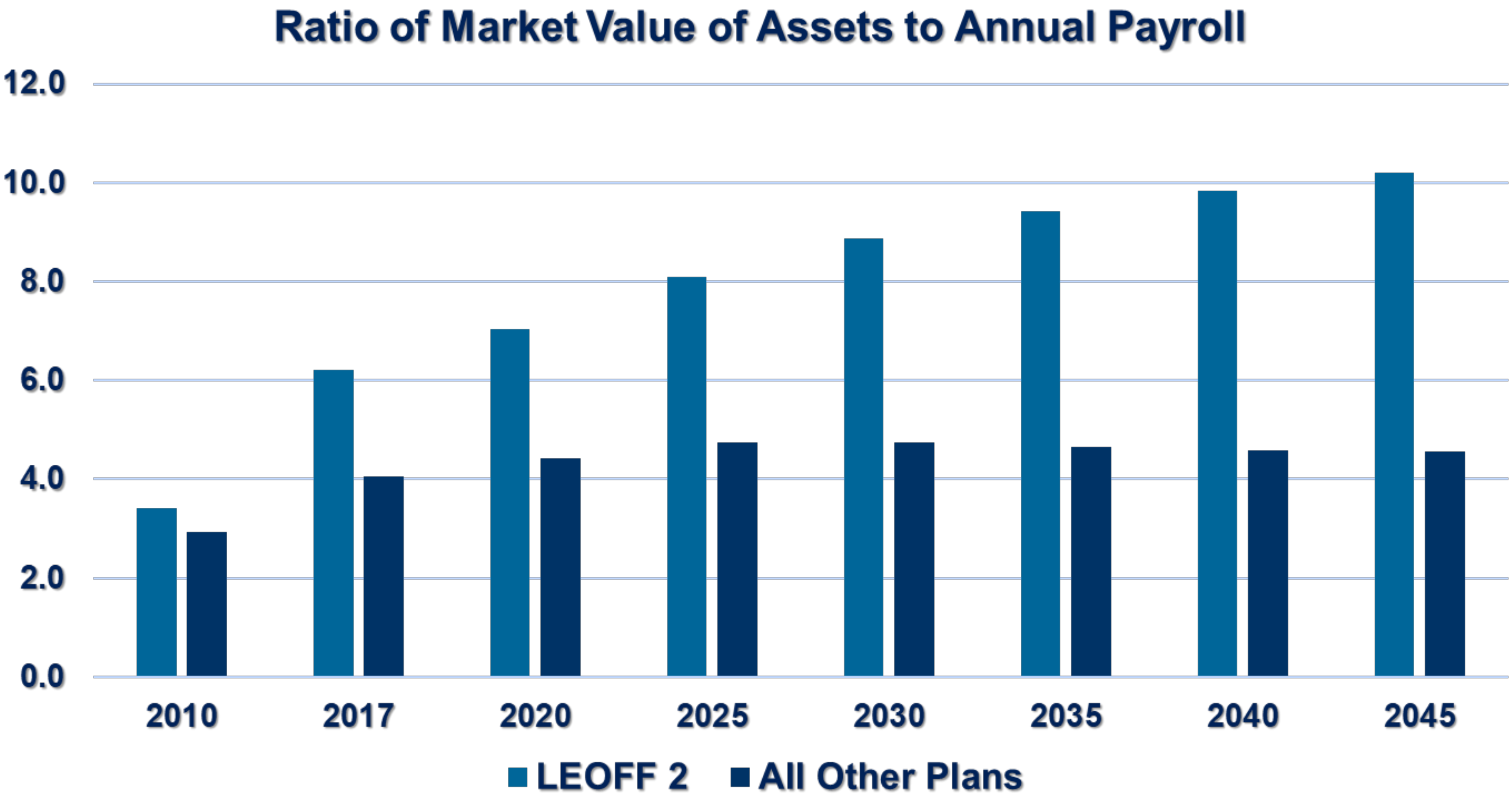
- A maturing plan exhibits an increasing ratio of assets to payroll
- Risk: Face larger contribution/budget shocks when short-term investment returns vary from the long-term assumption
- This risk can materialize in an open plan
- Our longer asset smoothing periods mitigate this risk, but don’t eliminate this risk entirely

Plan Maturity Measurements



Note: Historical values from OSA AVRs. All other values based on OSA projections.

Plan Maturity Measurements

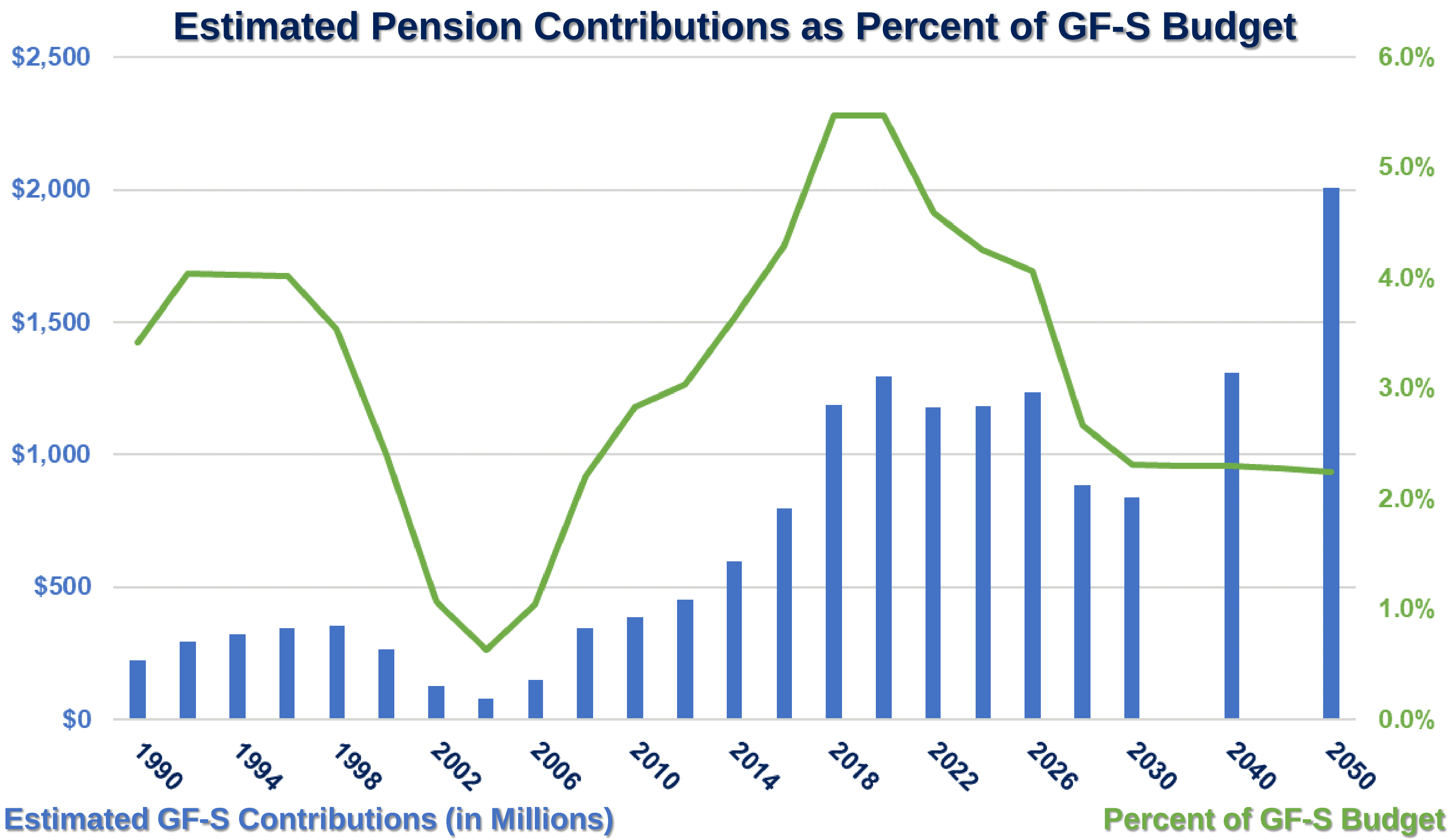


Note: Historical values from OSA AVRs. All other values based on OSA projections.

Plan Size Relative To Plan Sponsor

- As our plans grow, they can become a larger share of the entire state enterprise
- If something goes wrong, a large pension plan relative to the plan sponsor can become an "enterprise risk" and negatively impact core services
  - We're starting to hear about this risk in Illinois, New Jersey, and Kentucky, and for some local governments across the country
- Helpful quote for context
  - "GM became an unfunded pension plan that also sold cars"

Plan Size Measurements – All Plans Combined



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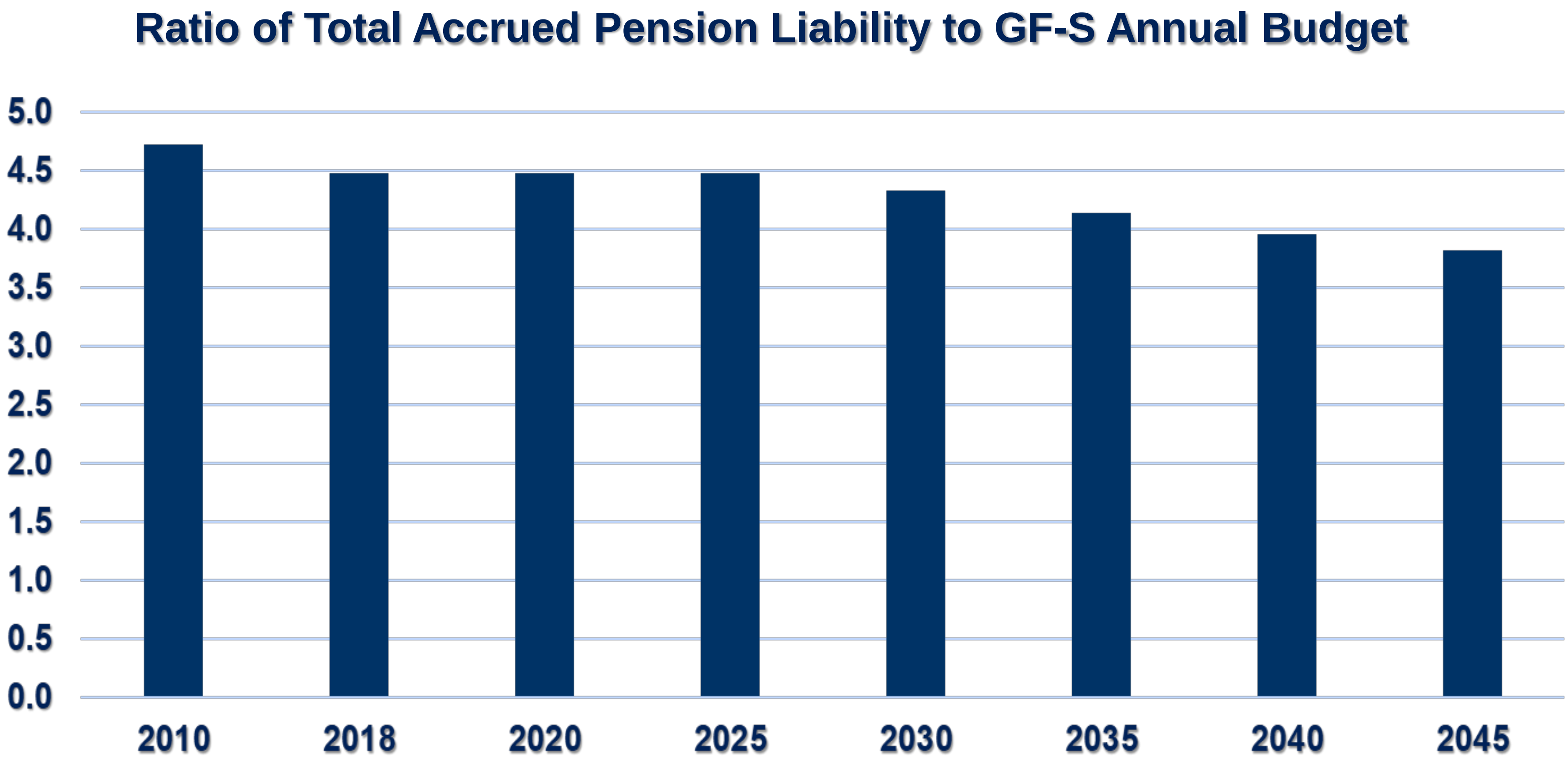


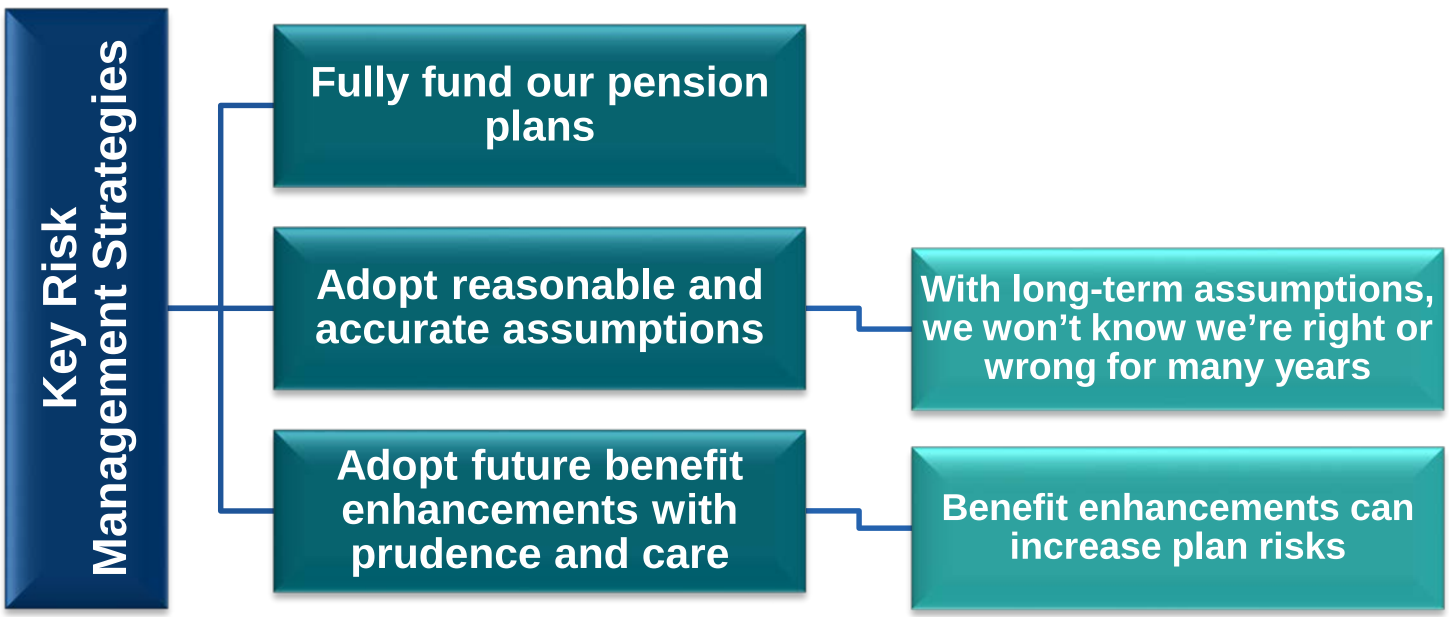
Note: 2010 value estimated by OSA. All other values based on OSA projections.

OSA Risk Measures/Reporting

- We update select risk measures annually
- Every 5-6 years, we perform a risk assessment assumptions study
- This fall, we will publish a new risk webpage that will consolidate and explain our combined plan risk measures
  - Actuarial valuation report will reference this new webpage
- Later upgrades to the risk webpage will include information on plan-specific risk measurements

Some Closing Thoughts On Risk Management

- The continuation of our current risk assessment work and the addition of ASOP 51 will help keep these risks in front of us
  - "What gets measured, gets managed"



Questions?