Report to the Ohio Retirement Study Council on OP&F 30 Year Funding, Actuarial Status as of January 1, 2018, and Anticipated Shortfall as of January 1, 2019

William B. Fornia, FSA

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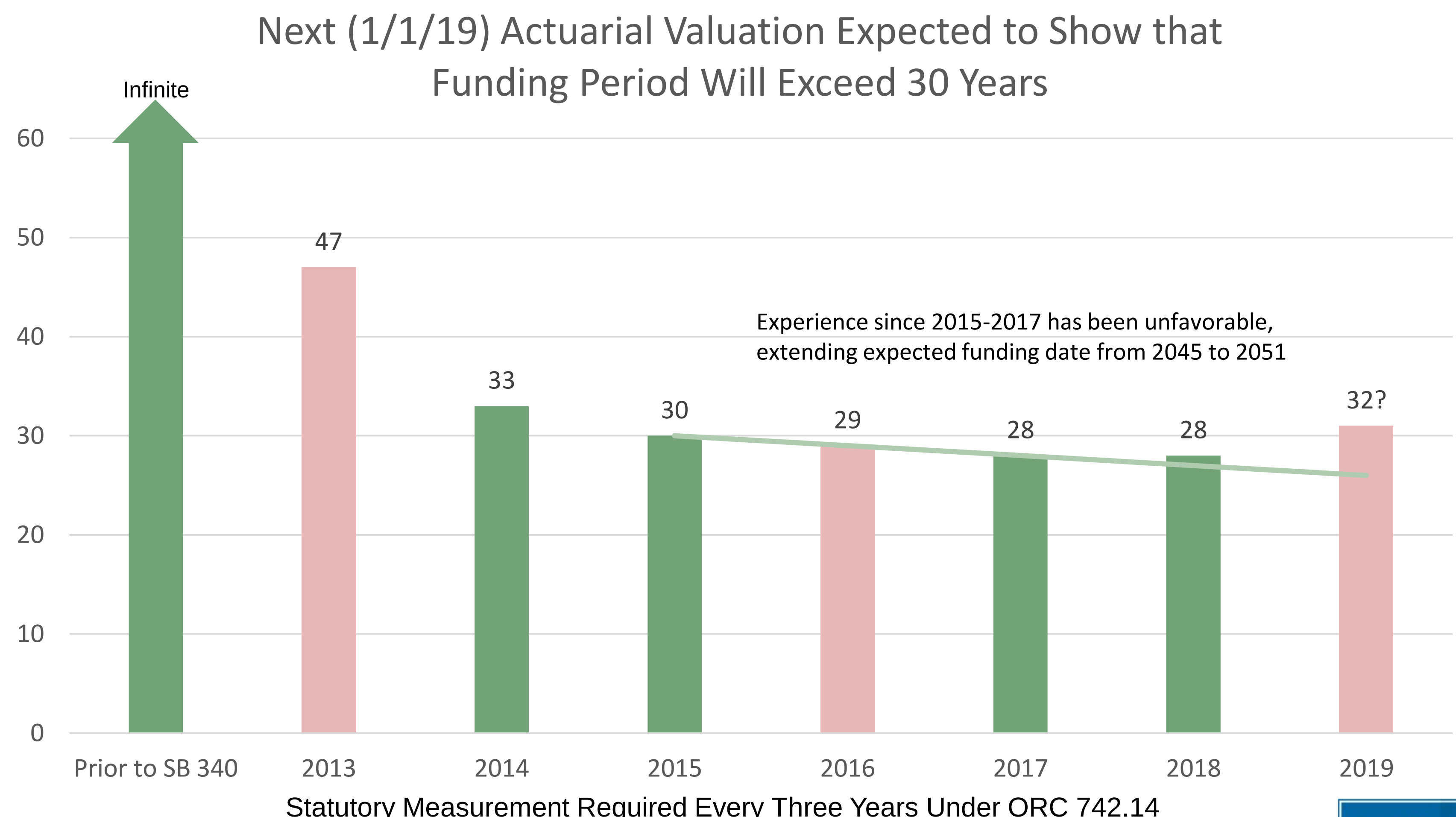
Agenda

- Adequacy of Current Statutory Contribution Rates to Fund Current Statutory Benefits – 30 Year Funding Requirement
  - January 2018 – We match 28 year calculation
  - January 2019 – We estimate 32 years based on 12/31/18 assets
  - January 2020 – Even with strong returns, we estimate will exceed 30
- Likelihood of Necessity for Future Changes in Benefits or Contributions
- Potential Future Changes to Actuarial Assumptions Will Exacerbate Funding Position

Current OP&F Contributions Are Adequate for 30-Year Requirement

- Buck (OP&F Actuary) calculated a 28-Year Funding Period as of 1/1/2018
- We replicate Buck's calculations
- Poor 2018 Investment Return will lengthen the funding period (all other things being equal)
  - We estimate that based on reported assets, period will be 32 years
  - Next actuarial valuation will determine this

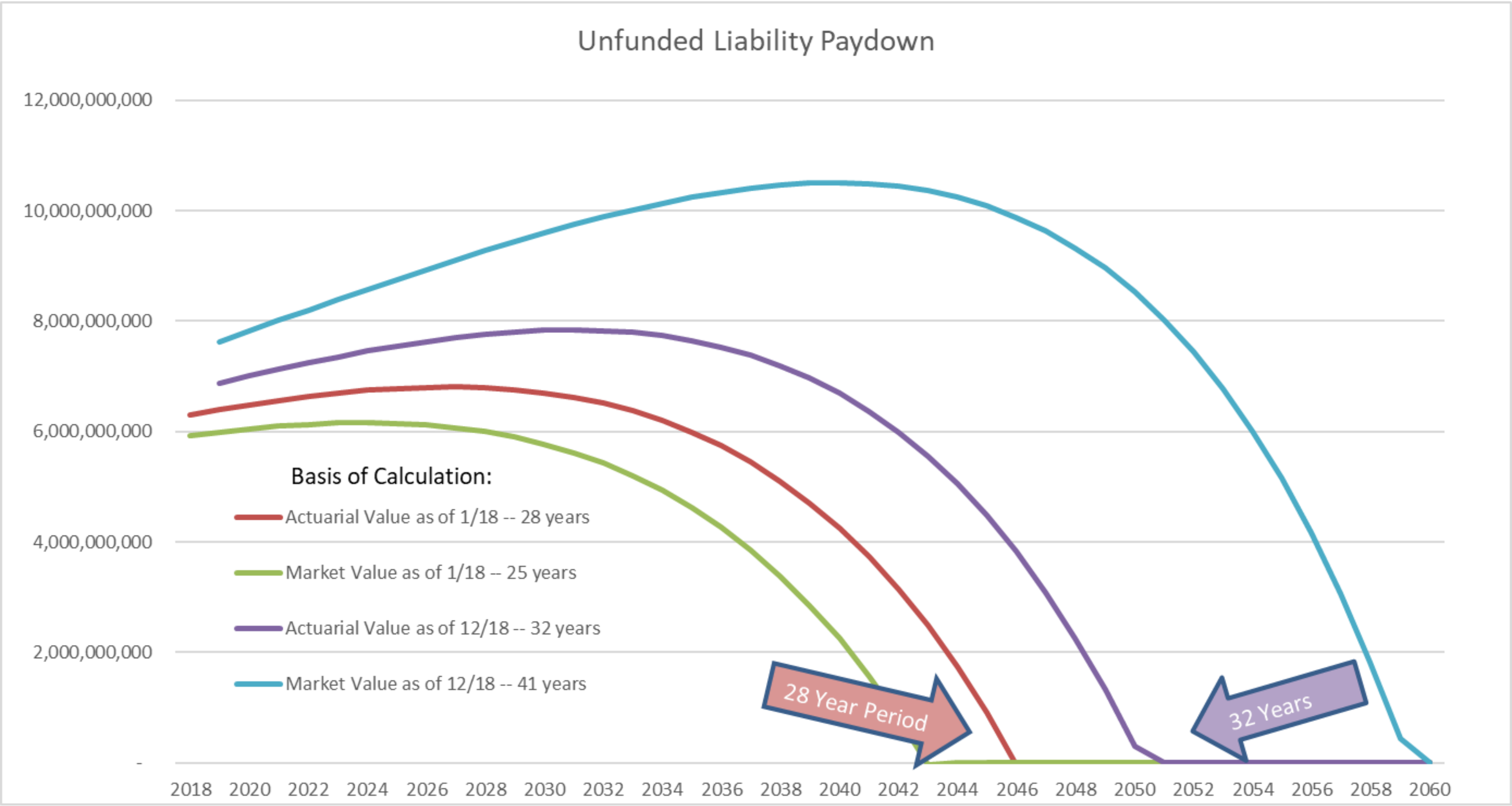
History of Funding Periods



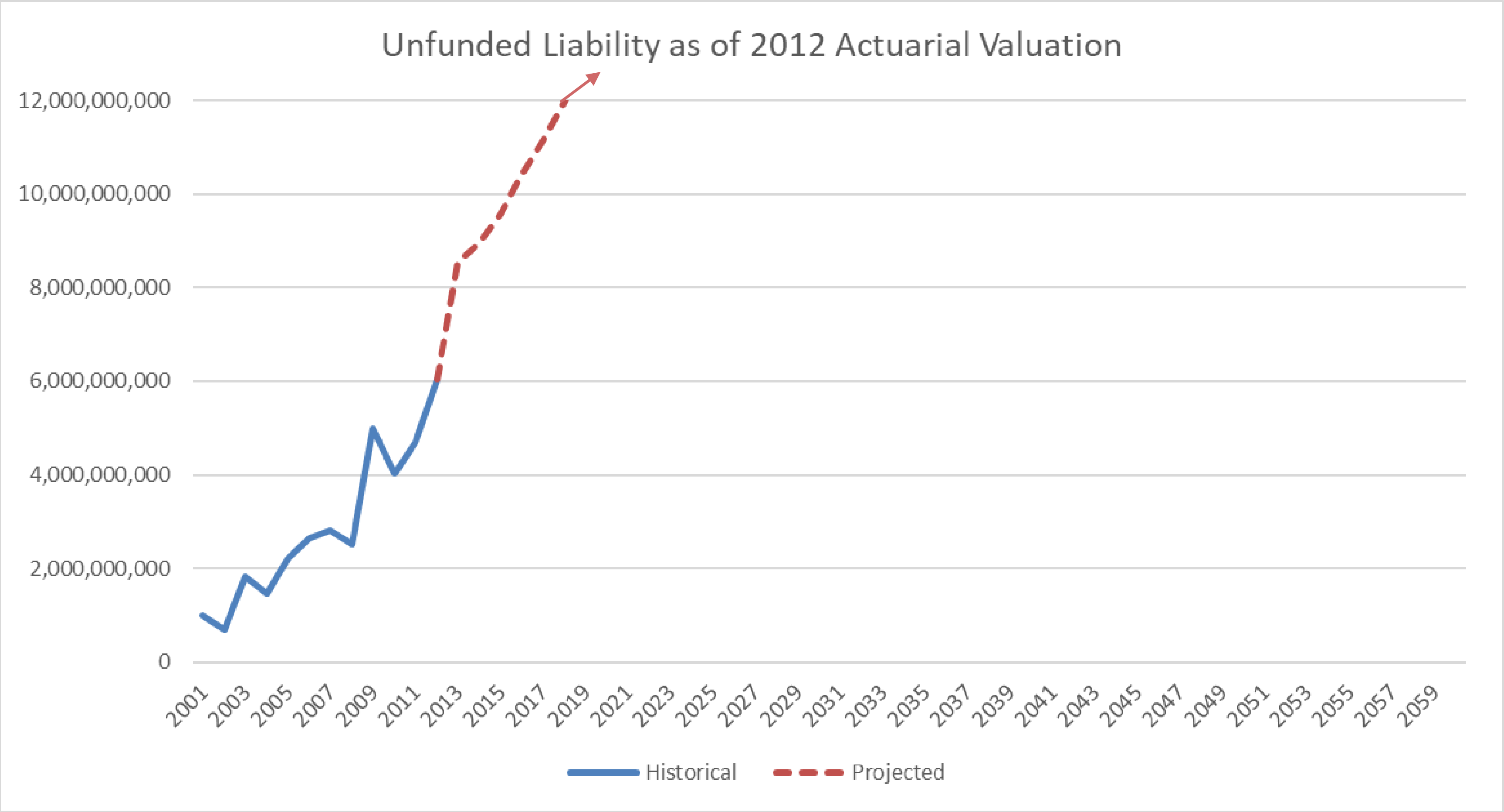
Does OP&F Meet 30 Year Funding?

- OP&F does meet 30 year funding, because:
  - Measurement is as of January 1, 2018
  - Health care stabilization fund is tapped
  - Future members have lower benefits, allowing higher share of contribution toward unfunded liability
- Concerns that 30 year funding will be jeopardized
  - Poor 2018 investment returns
  - Likely decrease in discount rate

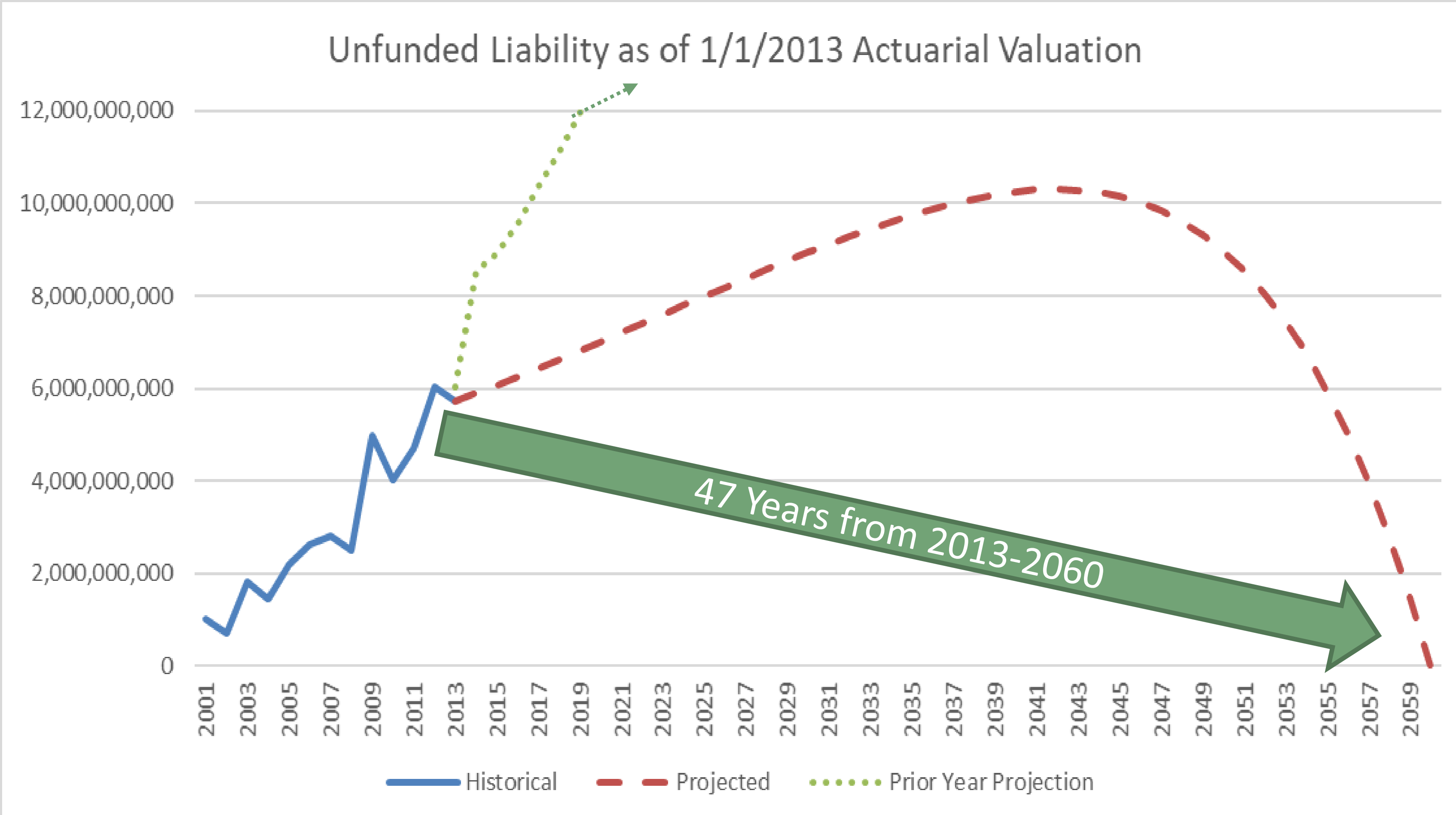
30 Year Funding Met as of 1/1/2018, But Not Likely as of 1/1/2019



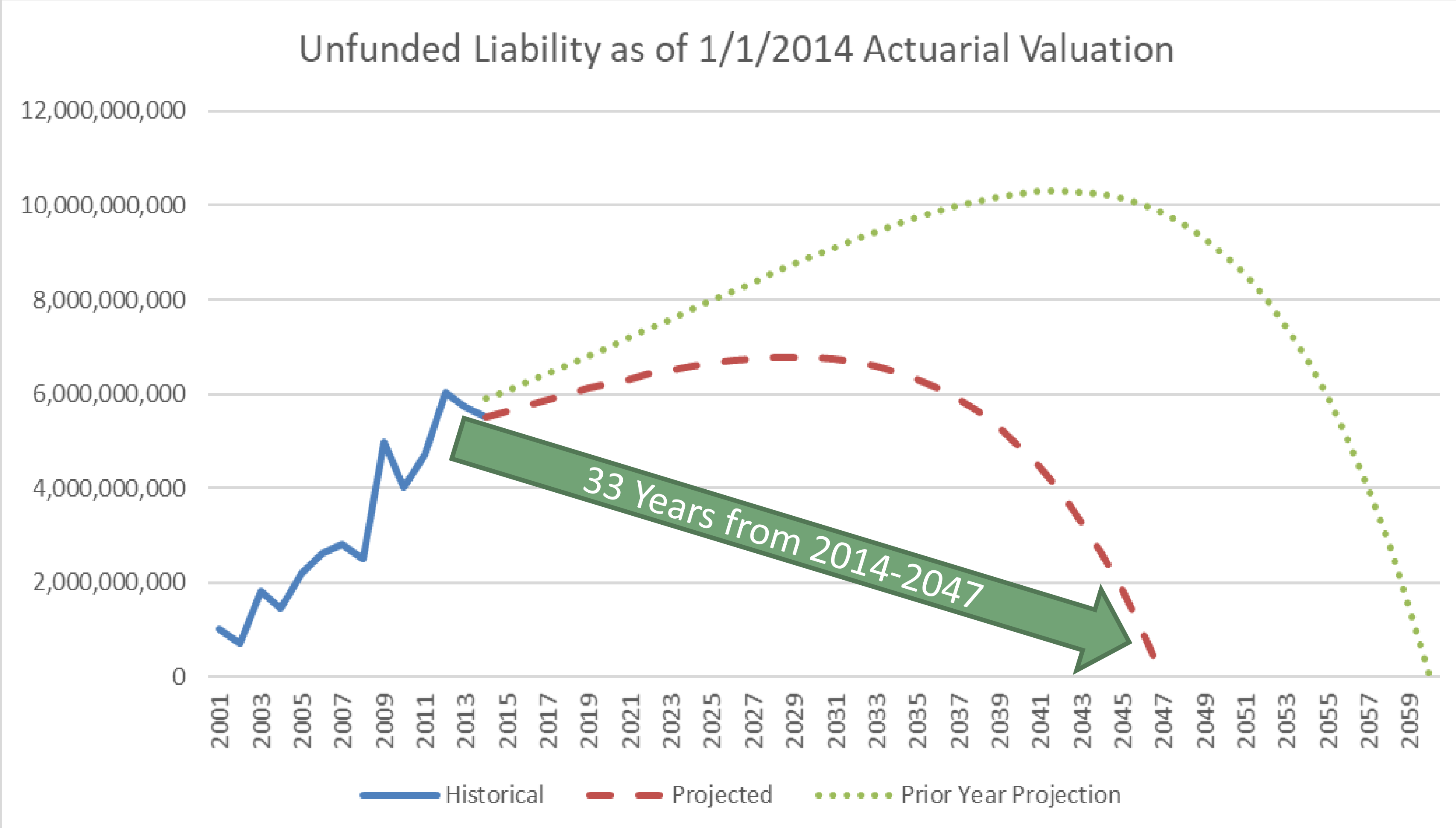
Prior to SB 340, Unfunded Liability Was Estimated to Increase Indefinitely



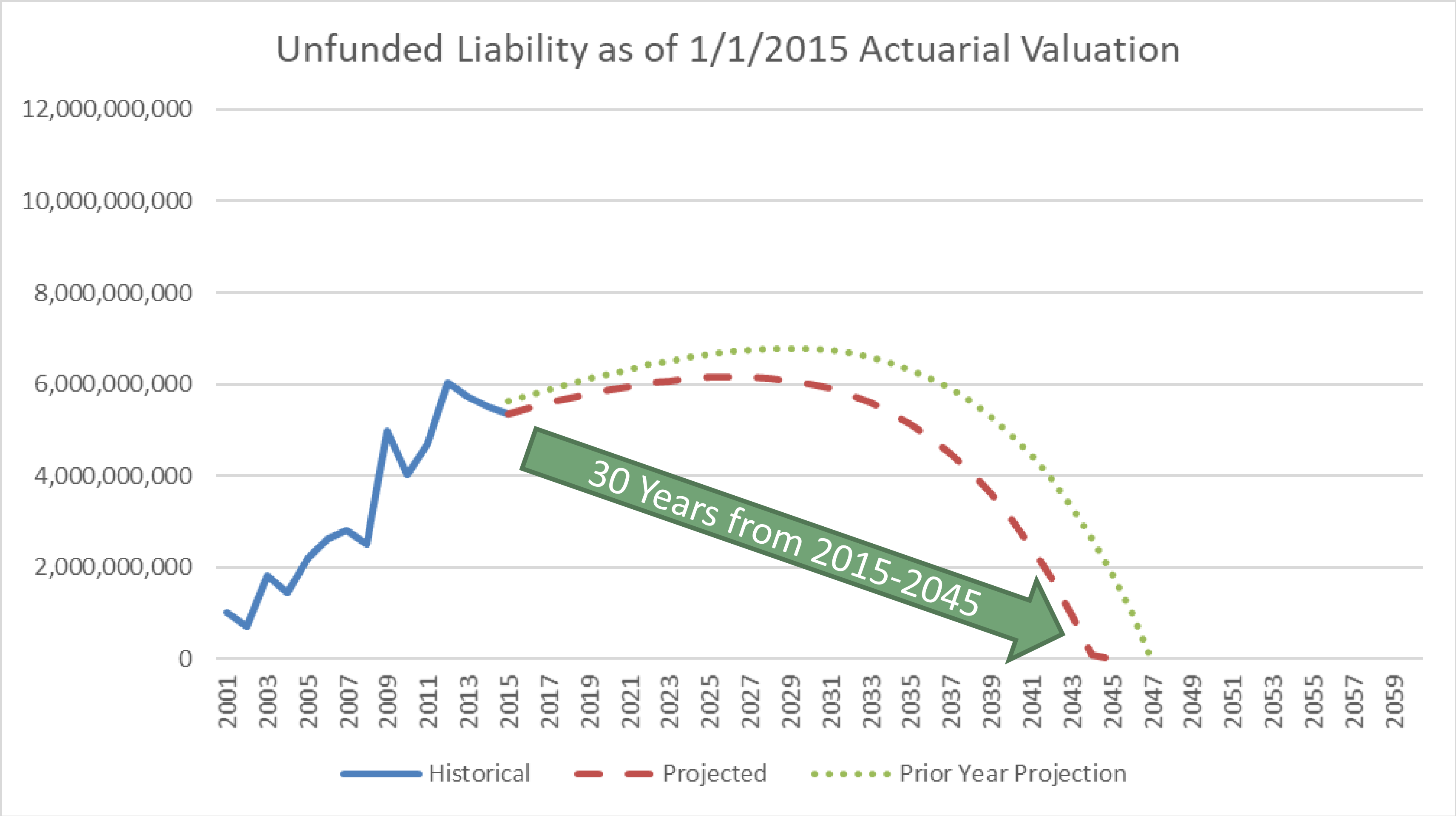
As of January 1, 2013 Actuarial Valuation, Situation had Improved to 47 Years (2060)



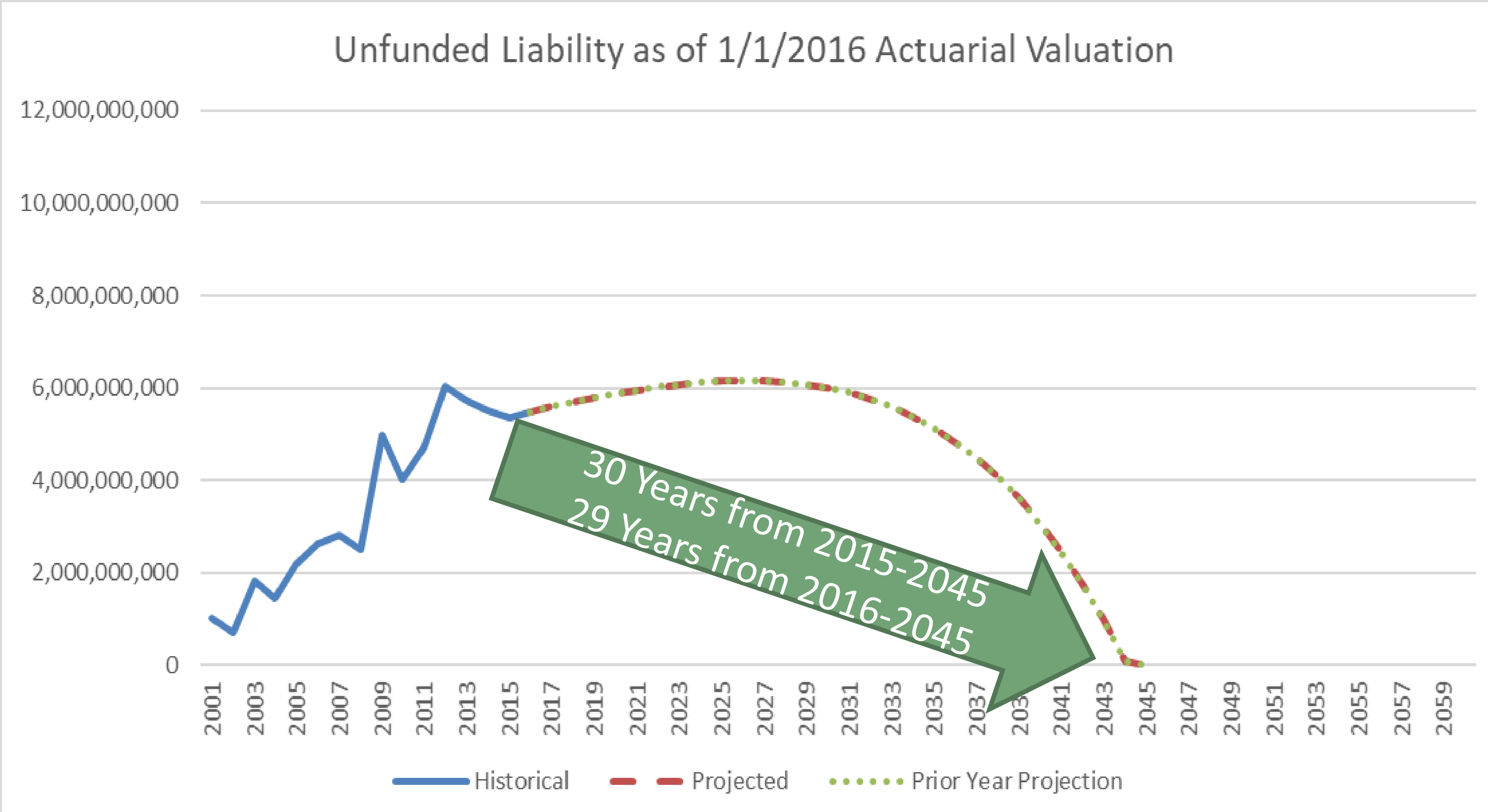
As of January 1, 2014 Actuarial Valuation, Situation Improved Further to 33 Years (2047)



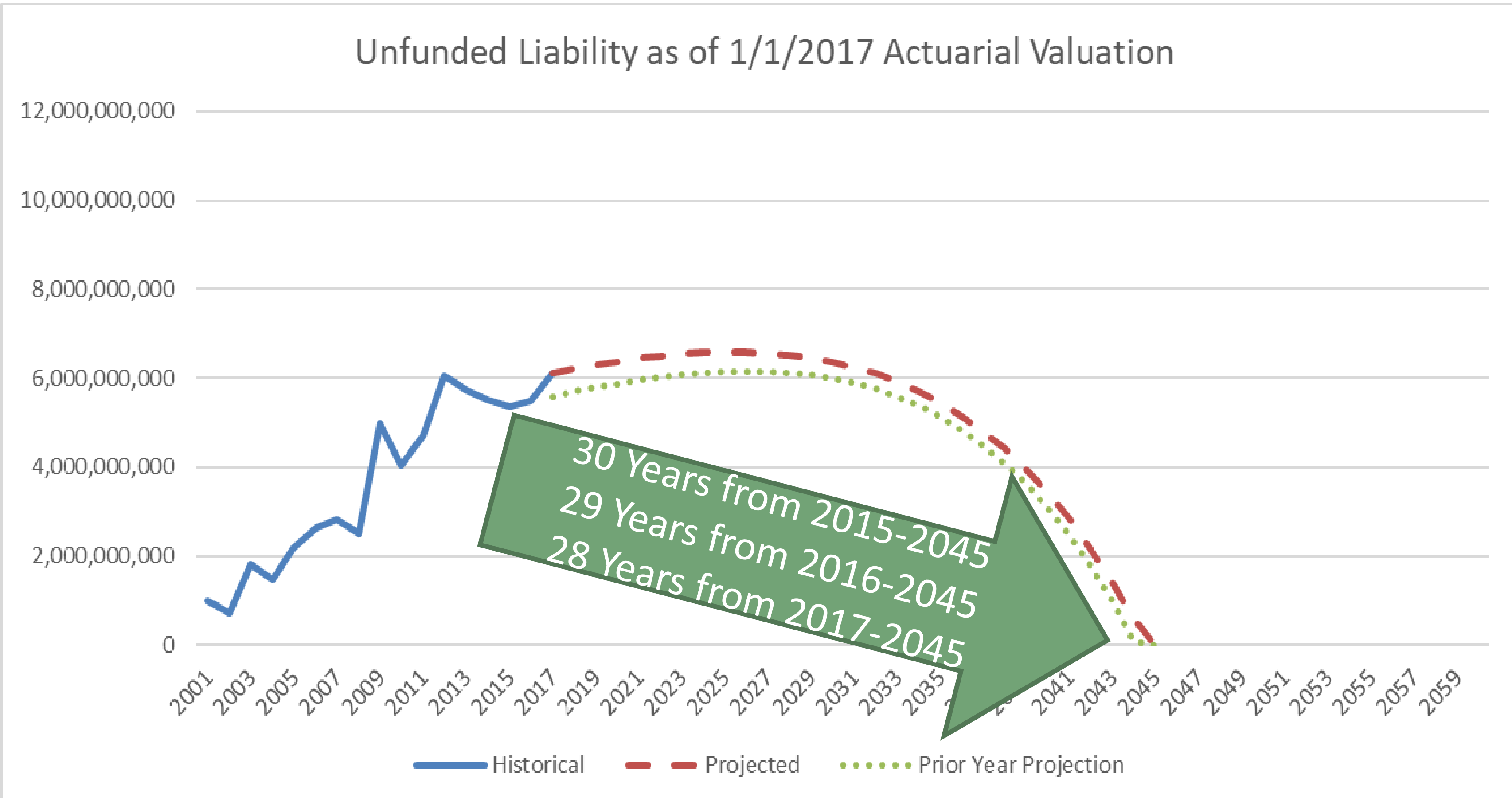
As of January 1, 2015 Actuarial Valuation, Requirement of 30 Years Was Met (2045)



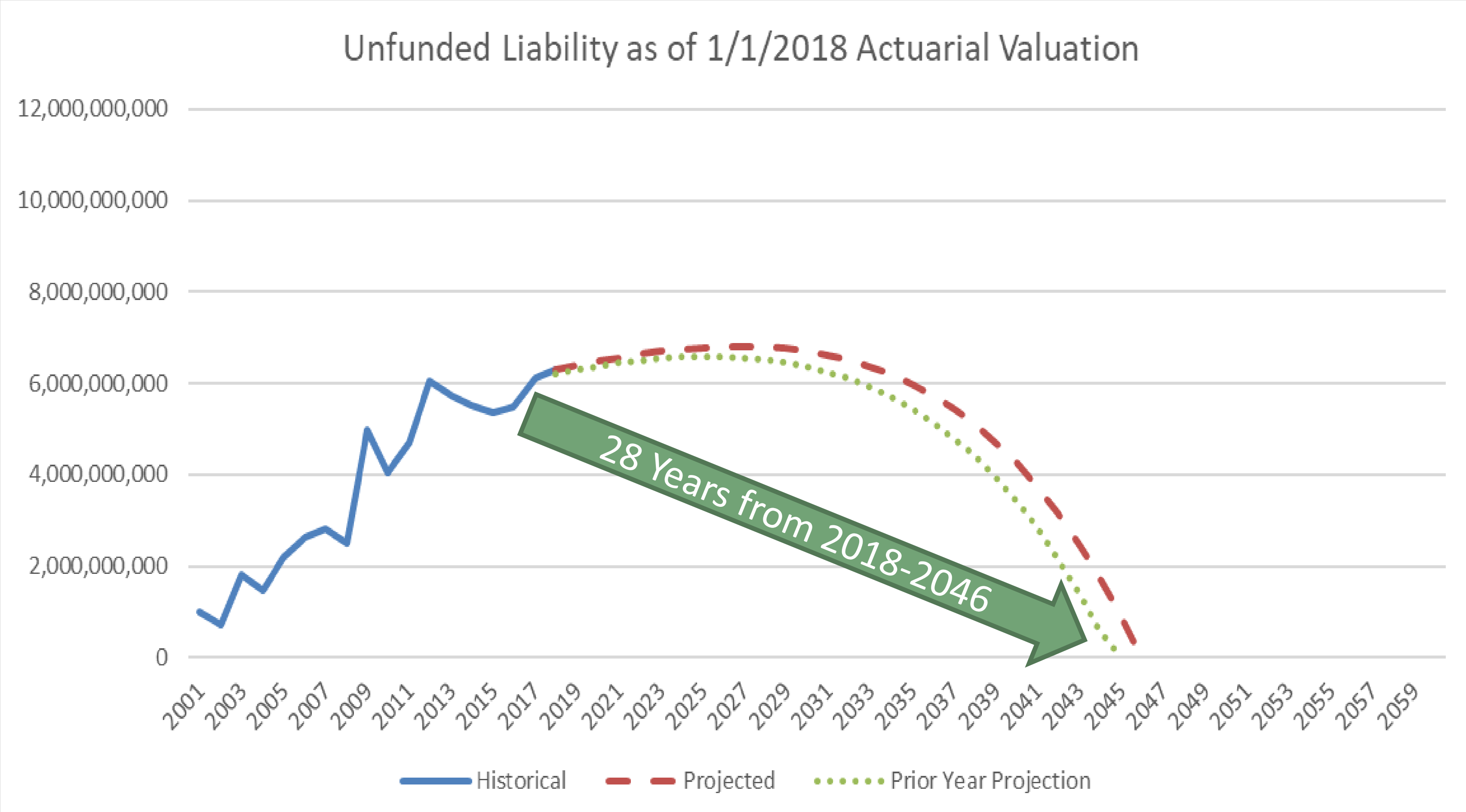
January 1, 2016 Actuarial Valuation, Came in as Expected – 30 dropped to 29 (2045)



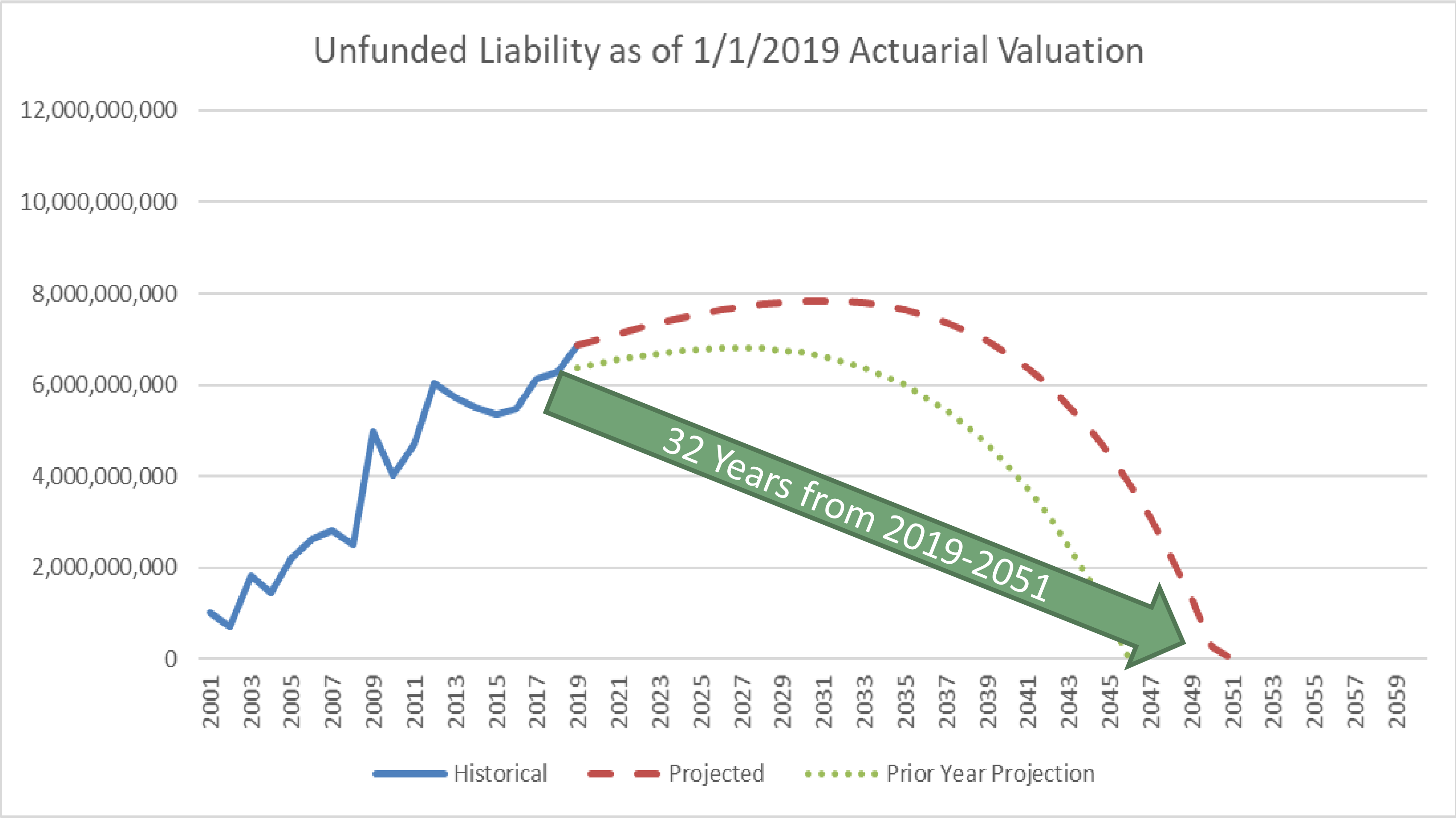
Continuing Through January 1, 2017 Actuarial Valuation, Still on Track for 2045



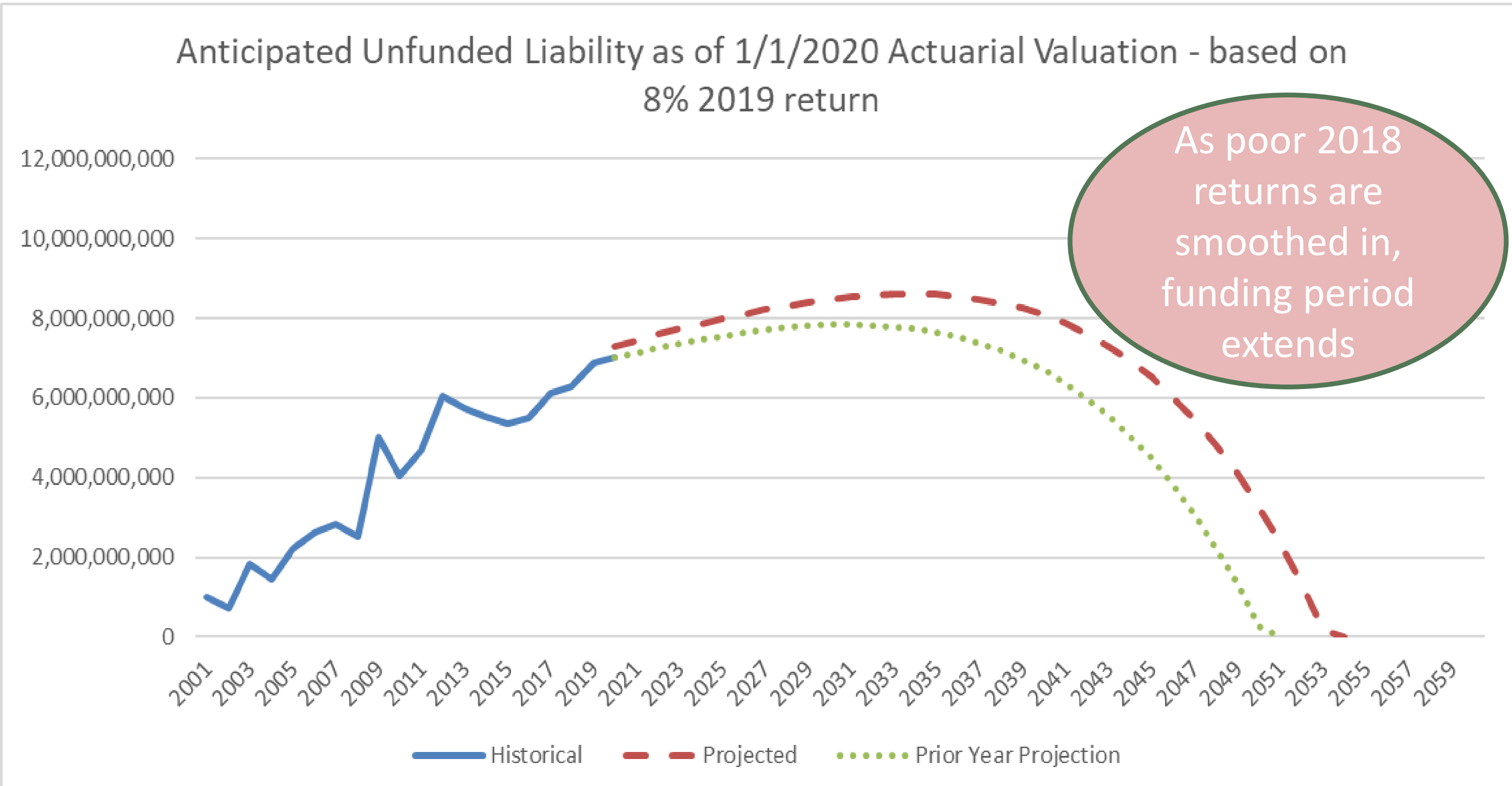
January 1, 2018 Results Slipped (2046), But Still Meets 30 Year Target



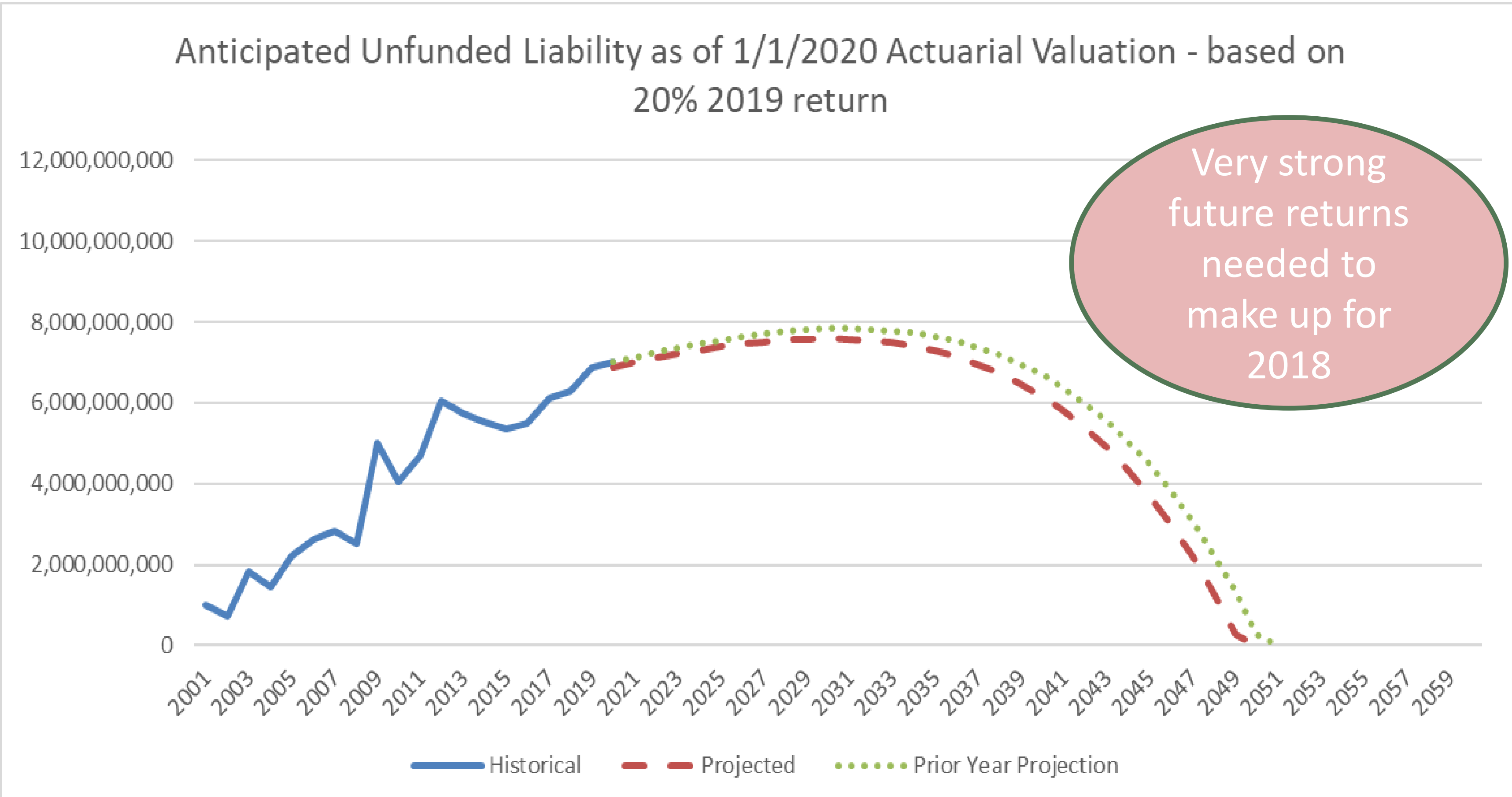
We Expect January 1, 2019 Results Not to Meet 30 Year Requirement (32 years – 2051)



With 8% 2019 Returns, Funding Position Anticipated to Deteriorate Further (2054)



Even 20% 2019 Returns Not Quite Expected to Meet 30 Year Requirement (2050)



Concerns with Discount Rate

- OP&F continues to assume 8.00% investment return on plan assets
- This is among the highest of US pensions
  - Used by only about 5% of plans
- Underlying inflation and bond returns continue to be low
- We would expect that OP&F will reduce this assumed rate, which would have substantial impact on funding period
  - Was lowered as of 2017 valuation, so possibly not until 2022 actuarial valuation, following five-year experience study

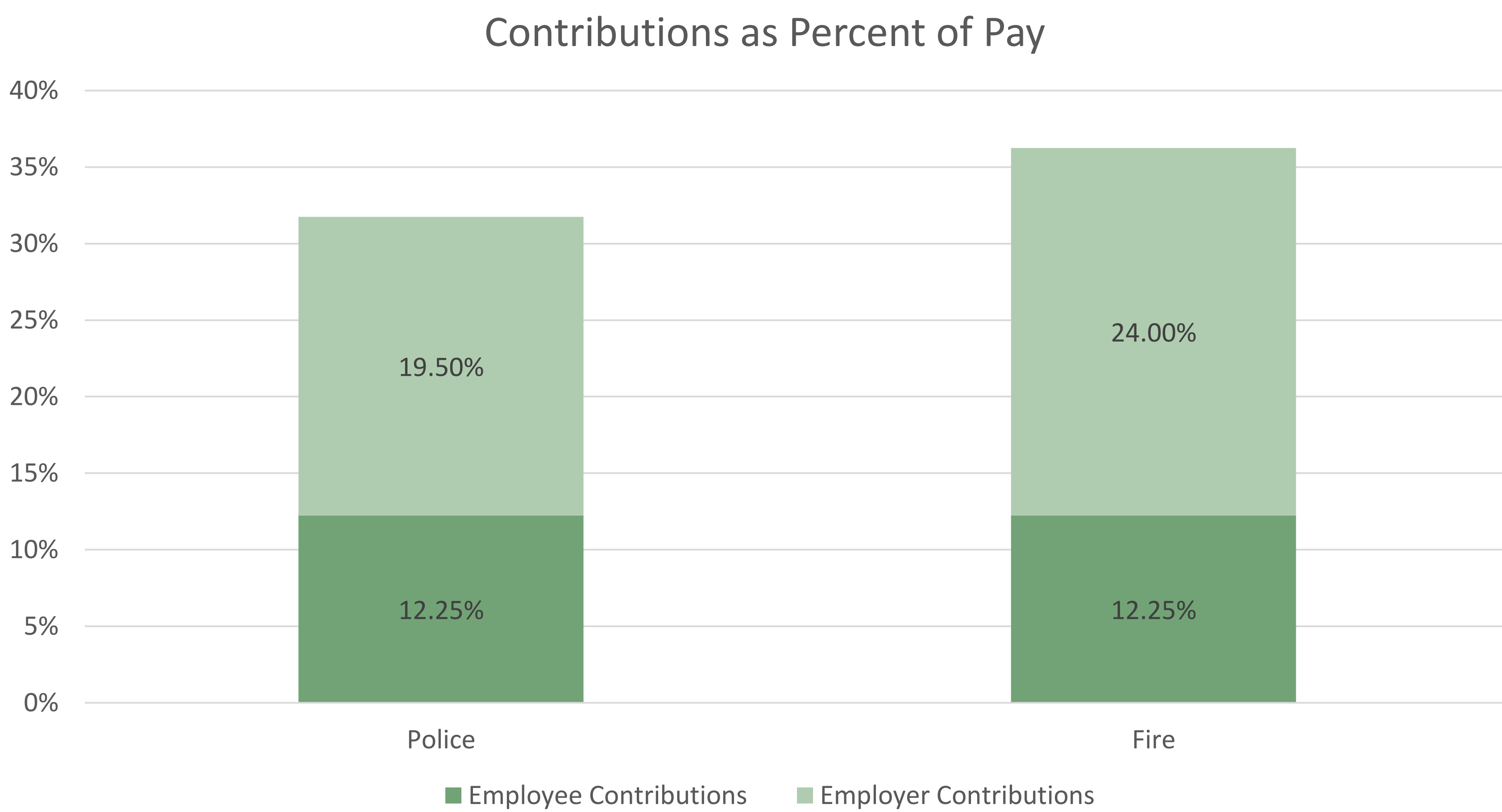
Likely Results of 2019 Actuarial Valuation

- Actuarial Valuations typically completed in October
  - Reported to ORSC by November 1

- Very likely that this will show that 30 year funding target no longer met

- OP&F Board may need to make difficult decisions

Note also Differences between Police and Fire Contribution Structure



Conclusions

- OP&F calculates that 30-year funding met as of January 1, 2018. We concur.

- We estimate that 2019 valuation will show that 30-year funding is not met.

- Even with strong 2019 investment return, 30-year funding not likely to be met as of year-end 2019.