Employees' Retirement Fund of the City of DALLAS

Stress Test of Plan Changes

- GRS performed a "Stress Test" on the proposed plan changes
- In a "Stress Test" several factors are analyzed to determine what scenario if any would result in an unsuccessful outcome
  - For our purposes an unsuccessful outcome would be the exhaustion of the Fund's assets
- In this stress test we have isolated the impact of two different assumptions
  - Investment Return
  - Payroll Growth
- It is important to understand that the actuarial model is built on a multitude of assumptions. While we have studied the impact of two of these assumptions, experience different than assumed for other assumptions could result in significantly different results.

Employees' Retirement Fund of the City of DALLAS

Stress Test of Plan Changes

- The following "Stress" items were studied
  - Lower long-term investment returns than assumed
  - Significantly lower short-term investment returns than assumed
  - Significant reduction in the projected future payroll (10% and 20%)
  - Impact if the Board lowers the investment return assumption
- We were also requested to look at the impact of significant increases in projected future payroll (10% and 20%)
  - These events would help the Fund and not add "Stress"

Employees' Retirement Fund of the City of DALLAS

Lower Long-term Investment Return Results

- We have modeled lower investment return results to determine the rate at which Fund's exhaustion occurs
- A 7.25% compound return over all future years would result in the exhaustion of the Fund's assets in approximately 100 years
  - Given the long time frame this should allow for future corrections before the Fund becomes insolvent
- A 7.00% compound return over all future years would result in the exhaustion of the Fund's assets in approximately 50 years
  - Shorter period before exhaustion may require more significant changes
  - Fund would be less than 50% funded when pension obligation bonds are paid off in 2035
- A 6.00% compound return over all future years would result in the exhaustion of the Fund's assets in approximately 30 years

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Lower Short-term Investment Return Results

- We have modeled significantly lower investment return results over the next 10 years to determine its impact on Fund
- The worst 10-year period in the funds history still resulted in a compound return over the 10 years of 5.4%
- We modeled a 5.4% return over the next 10 years with a return to the long-term rate of return of 8.00% for all years after 2025
  - The model shows the Fund would become exhausted in 2048
- The minimum rate of return over the next 10 years (with 8% thereafter) that does not exhaust the Fund is 6.65%
  - Funded ratio would be expected to continuously decline until bottoming out below 30% before turning upwards
  - This would not occur for more than 50 years

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Significant Reduction in Payroll

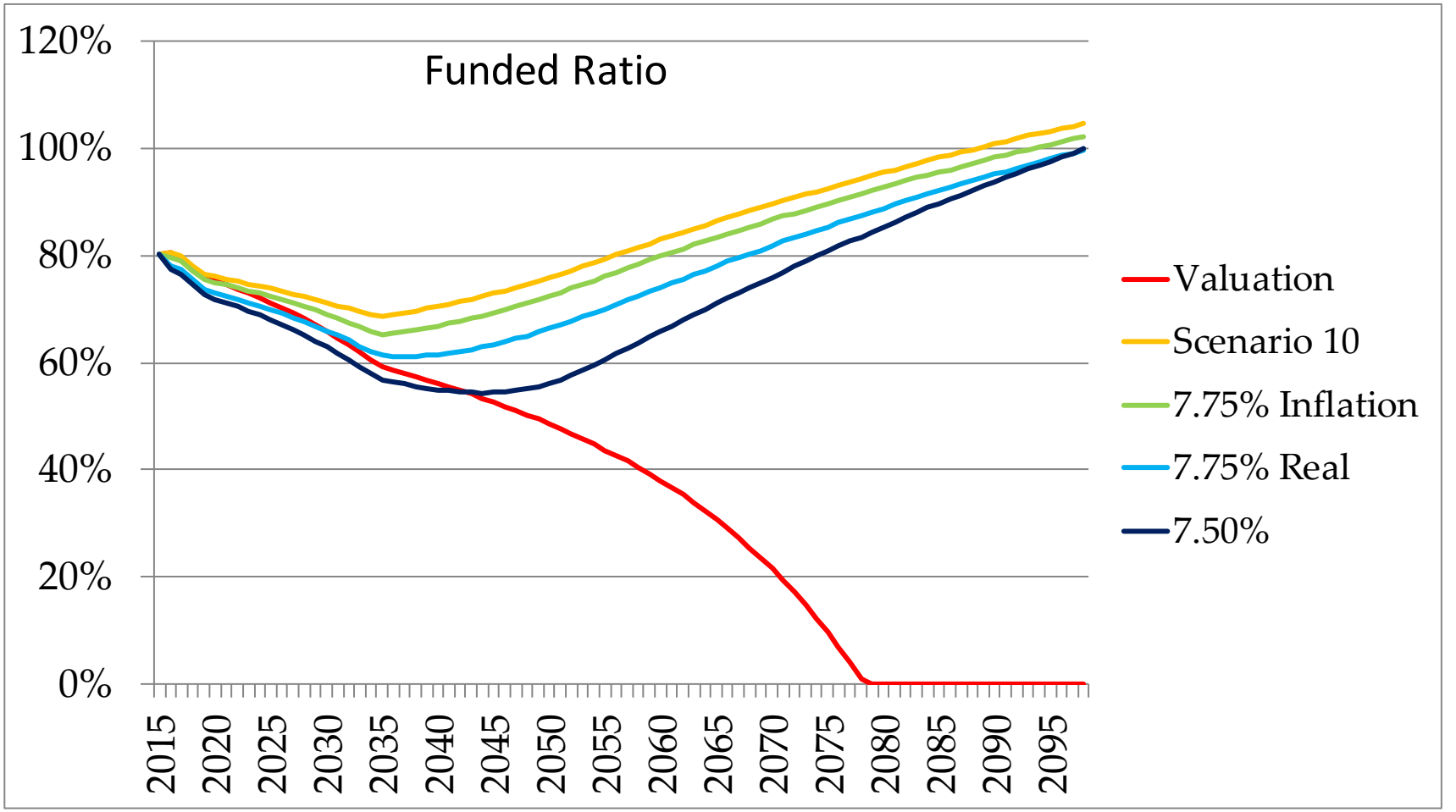
- We have modeled a significant reduction in the covered payroll of the Fund
- 20% reduction in the projected payroll three years from now was accomplished by assuming that members leaving would not be replaced for the next two years and that the active covered employee population would then stabilize at 5,800
  - Represents a 20% reduction in what the payroll was expected to be three years from now, not 20% from current payroll
- 20% reduction in payroll with normal growth thereafter would be expected to result in the Funds exhaustion in 2062
- 10% reduction in the projected payroll three years from now was accomplished by assuming that half of the members leaving would not be replaced for the next two years and that the active covered employee population would then stabilize at 6,640
- 10% reduction in payroll with normal growth thereafter would not be expected to result in the exhaustion of the Fund

Employees' Retirement Fund of the City of DALLAS

Impact of Lower Investment Return Assumption

- We have modeled three different scenarios where the Board lowers the investment return assumption effective with the next valuation
  - 7.75% return by decreasing the inflation assumption by 0.25% (2.75%)
  - 7.75% return by decreasing the real return assumption by 0.25% (4.75%)
  - 7.50% return by decreasing both the inflation assumption and the real return assumption by 0.25% (2.75% and 4.75% respectively)
  - These all reflect the benefit changes of Scenario 10
- The Fund is expected to remain solvent under all three scenarios if the assumed returns are met
- The following page has a chart showing the projected funded ratio for the current valuation results, the proposed plan changes with the current assumptions, and the three scenarios described above

Impact of Lower Investment Return Assumption



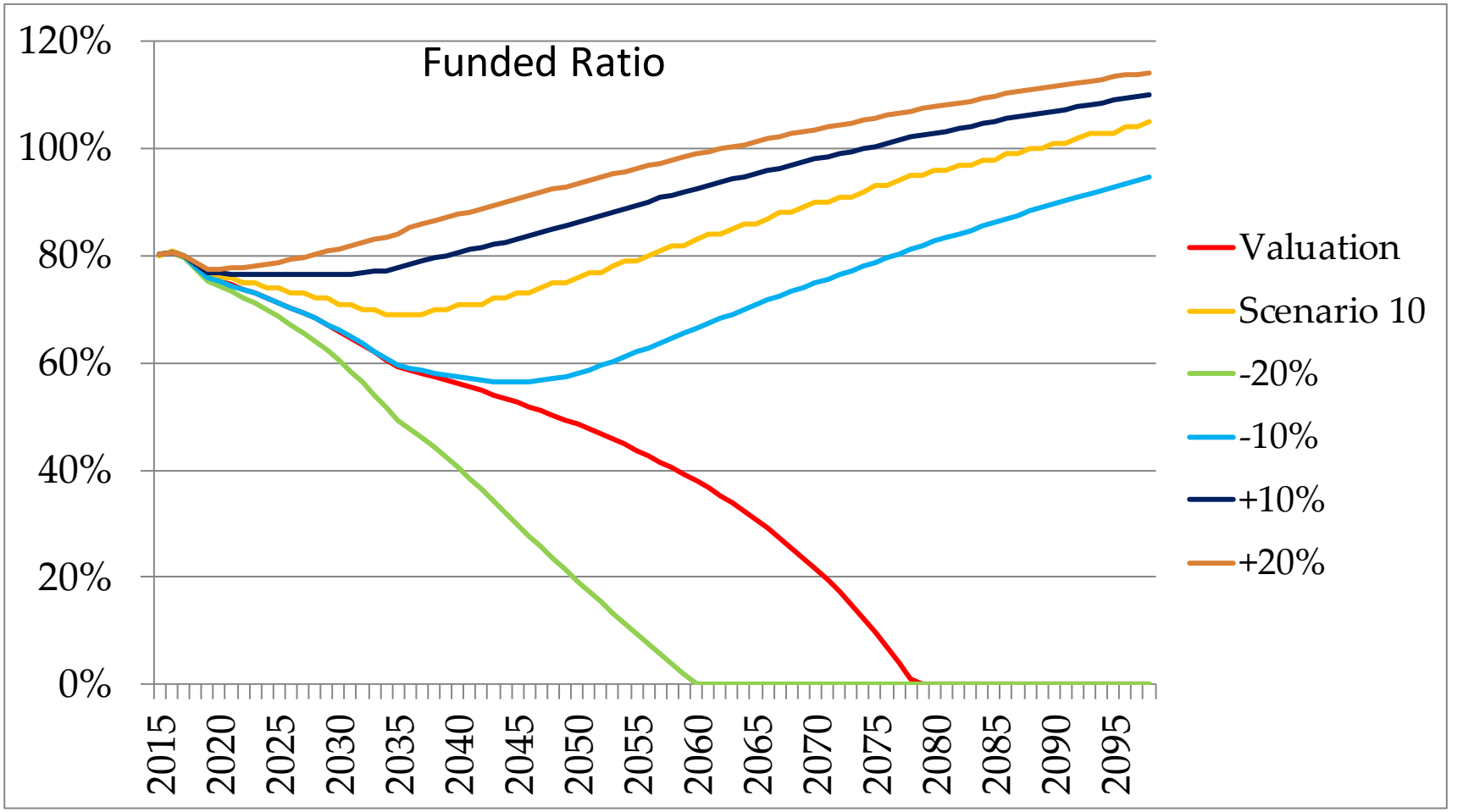
As of December 31st

Employees' Retirement Fund of the City of DALLAS

Significant Changes in Payroll

- As requested, we have modeled a significant increase in the covered payroll of the Fund
  - This would be beneficial to the Fund
- 20% increase in the projected payroll three years from now was accomplished by assuming that the number of active members would increase by 580 each of the next three years and the employee population would then stabilize at 9,200
- 10% increase in the projected payroll three years from now was accomplished by assuming that the number of active members would increase by 290 each of the next three years and the employee population would then stabilize at 8,350
- The following page has a chart showing the projected funded ratio for the current valuation results, the proposed plan changes with the current assumptions, and the two payroll reduction scenarios as well as the two payroll increase scenarios described above
- All of the payroll modeling is based on the benefit changes of Scenario 10

Impact of Significant Changes in Payroll



As of December 31st