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ERF Actuarial Valuation Audit Results

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Purpose & Scope

- Purpose: **Independent Review** of work performed by the retained actuary (GRS) for December 31, 2017 actuarial valuation
- Scope:
  - High-level review of member data used in valuation process
  - The results of the valuation including analysis of the accrued liabilities
  - The assumptions in use (Experience Study from 2015)
  - Proper application of the funding method
  - The results of QDRO (divorce) calculations performed by GRS

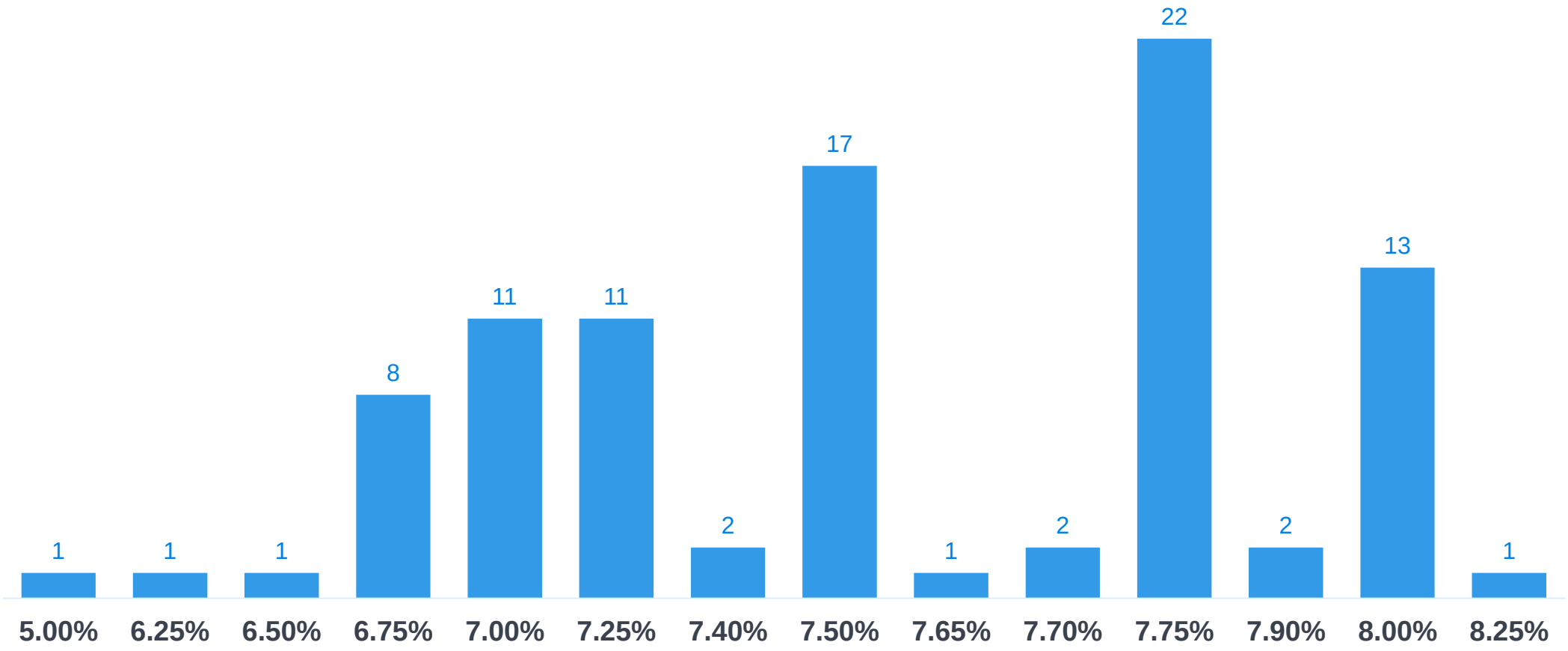
Bottom Line

- What you need to know
  - Valuation calculations generally consistent with report's methodology
  - Observations
    - UAAL not projected to be amortized within 30 years, if actual future experience matches assumptions
      - Combined effect of the 36% of payroll contribution cap, pension obligation bond (POB) payments, and the current calculation methodology for the Total Actuarial Contribution Rate
    - Investment rate of return assumption is above median of both Texas systems and national peers
  - Recommendations
    - Prepare long-term projections under varying scenarios to better understand impact of POB payments
    - Evaluate impact of lowering investment return assumption
    - Adopt an updated mortality assumption at the next experience study

Investment Return Assumptions – 93 Texas Public Plans

Median / Mean Assumption: **7.50% / 7.45%**

Source: Texas Pension Review Board (Dec. 2018)



Results of Sample Life Review

- GRS supplied us with detailed “sample life” liability development calculations for a diverse sample of active members
- Percentage of future disabilities assumed to be duty-related in assumed sample lives (35%) was different than the assumption stated in the valuation report (20%)
  - The difference in methodology on calculated liabilities is minor
  - GRS indicated that the change to the 20% assumption was recommended at the prior experience study, and that calculations in future valuations will reflect the 20% assumption

Results of QDRO Review

- GRS provided the five latest QDRO (divorce) calculations they had performed for ERF
- Milliman performed an independent replication of the GRS-calculated values based on assumptions stated in each QDRO letter
- Results:
  - Matched end result (benefit payable to alternate payee) within 0.15% for each calculation
  - Differences are very minor, and likely due to interpolation and rounding techniques

Review of Member Census Data

- Reviewed the raw member census data supplied by ERF to GRS
  - ERF-supplied census lacked survivor beneficiary data for approximately 850 retiree records
  - Liabilities were valued by GRS using an assumed birth date for those beneficiaries
    - Lacking that data, taking that approach should produce accurate liability results in our opinion
- Reviewed reconciled census data used in valuation calculations as supplied to us by GRS
  - GRS-supplied census lacked survivor beneficiary data provided for approximately 1,500 records where beneficiary data had been provided by the ERF
    - GRS indicated the data was inadvertently omitted in its data preparation process
  - Liabilities were valued by GRS using an assumed date of birth for those beneficiaries
    - The approach used in the 12/31/2017 valuation would still produce accurate liability results in our opinion
  - The GRS data's monthly benefits generally match the check register provided by ERF

Review of Mortality Assumption

- Retiree mortality assumption matches that used by the Texas Municipal Retirement System
  - The valuation report's listed assumption was the RP-2000 *annuitant* table, but the more conservative *combined* (employee and annuitant) table was used in the valuation
    - The sample mortality rates listed in the valuation report are for the more conservative (i.e., longer life expectancy) *combined* table, and that was the table approved for use by the ERF Board in the 2015 Experience Study
- Society of Actuaries has published new mortality material since the last ERF Experience Study
  - Public sector-specific "PUB-2010" base mortality tables issued within the last few months
  - Updated mortality improvement projection scales published annually (e.g., "MP-2018")
  - We would recommend adopting updated assumptions at the next Experience Study
    - Since the effective ERF plan funding rate for the next several years will be the 36% of payroll cap specified by Dallas City Code Chapter 40A less scheduled pension obligation bond debt service payments, the mortality assumption used will not affect actual fund contribution rates in the next several years

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Thank you

Caveats and Disclaimers

The findings presented in these materials detail our limited-scope audit review of the December 31, 2017 actuarial valuation performed by Gabriel, Roeder, Smith & Co. (“GRS”) for the Employees’ Retirement Fund of the City of Dallas (“ERF”).

All calculations and determinations are based on ERF’s actuarial valuation assumptions and methods as approved for use by the ERF Board and benefit provisions as specified by Dallas City Code. The plan provisions, assumptions and methods used in this presentation are the same as those disclosed in GRS’s December 31, 2017 valuation report. Due to the limited scope of this audit assignment, we did not perform a full replication valuation. We did review sample lives from the GRS valuation system for accuracy on a subset of individuals.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by ERF’s staff. This information includes, but is not limited to, benefit provisions, employee data, and financial information. In our examination of the data provided by the ERF on December 3, 2018, we found it to be reasonably consistent and comparable with data used for December 31, 2017 actuarial valuation as provided to us by GRS in December 2018. Since these audit results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our results may need to be revised.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, our findings are complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Code of Professional Conduct, amplifying Opinions, and supporting Recommendations of the American Academy of Actuaries.

Milliman's work product was prepared exclusively for the ERF for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning ERF’s operations, and uses ERF’s data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman’s advice is not intended to be a substitute for qualified legal or accounting counsel. The actuaries who prepared this presentation are independent of the ERF, and we are not aware of any relationship that would impair the objectivity of our work.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.