GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

Memorandum

Date: December 29, 2016

To: Board of Trustees of the Employees' Retirement Fund of the City of Dallas

From: Lewis Ward

cc: Ms. Cheryl D. Alston, Executive Director
Mark Randall, GRS

Re: Recommended Assumptions for Actuarial Equivalent

Background

As part of the revisions to the Dallas City Code Chapter 40A, which covers the Employees' Retirement Fund (ERF) of the City of Dallas, Chapter 40A-9 was modified to read as follows: ***"When an actuarial assumption is required under this chapter, all actuarial assumptions, interest rates, and mortality tables will be established and approved by the board from time to time***." Therefore, the Board of Trustees now needs to adopt the actuarial assumptions that will be used under Chapter 40A, as modified.

These assumptions will be used for determining the optional forms of benefit payment available to ERF members who choose to receive a monthly annuity in a form of payment other than the normal form of payment. For Tier A members this would be the 100% Joint and Survivor Option. For Tier B members this would include any Joint and Survivor Options. In addition, for Tier B members, these assumptions will be used to determine the early retirement reduction factors for members who retire prior to eligibility for an unreduced retirement benefit (please see the attached Table of early retirement factors). Finally, these assumptions will also be used for determining the amounts payable to any alternate payees (both tiers) under the terms of a Qualified Domestic Relations Order (QDRO).

For public sector pension plans, the most common approach for setting the actuarial equivalence assumptions is to use the annual investment return assumption adopted by the Board for valuation purposes and a blend of the current post-retirement non-disabled mortality assumptions. Typically, this is the methodology we recommend our public sector clients use when the Board of Trustees is tasked with adopting the assumptions for actuarial equivalence (some public retirement systems have the assumptions set in statute rather than allowing the Board the discretion to set the assumptions).

Proposed Assumptions for Actuarial Equivalent

In an ideal situation, the actuarial assumptions used for determining actuarial equivalent optional forms of payment should produce factors that are actuarially neutral to the ERF. The best way to accomplish this task is for the actuarial equivalent assumptions to be based upon the assumptions adopted by the Board for preparing the annual actuarial valuation. Therefore, GRS recommends the following:

Interest Rate Assumption: The recommended interest rate is the 8.00% annual investment return assumption from the valuation.

Mortality Assumption: For valuation purposes, the ERF uses different mortality assumptions based upon the member's gender. However, for actuarial equivalence, federal law requires the optional forms of payment factors be the same for both males and females (even though it is a fact that men and women of the same age have different life expectancies). Therefore, the ERF is required to use the same mortality assumption for both males and females when determining actuarial equivalent values for benefit purposes.

Our preferred approach for accomplishing this, given the requirement of the same mortality assumption for both males and females, is the blending of a male mortality table with a female mortality table and weighting the blending based upon the percentage of males and females in the active member population (future retirees).

Therefore, we recommend the Board of Trustees use a mortality assumption that is a blend of the separate valuation mortality assumptions utilized for each gender, weighted at 60% for males and 40% for females, which is the current approximate ratio of males to females for the active membership of ERF. There is also a similar 60/40 male to female ratio for the current retiree population (excluding beneficiaries).

In addition, the current mortality assumptions used in the valuation are "generational" in nature which means they are updated each calendar year given the assumption that future retirees will live longer in retirement than current retirees. Therefore, for the purposes of actuarial equivalence, one approach would be for the ERF to update the optional form factors each year to reflect the slight mortality improvement. For example, retirees retiring in 2017 would have their optional forms of benefit payment determined by the valuation mortality tables projected with mortality improvement to 2017, retirees retiring in 2018 would have their optional forms of benefit payment determined by the valuation mortality tables projected with mortality improvement to 2018, and so on. However, we believe this approach creates a significant administrative burden with very little practical benefit. Therefore, we are not recommending the ERF use this approach. Instead we are recommending a one-time projection of the proposed valuation mortality tables to the year 2026 (10 years into the future) and that this static mortality assumption be used for plan administration until the assumptions are reviewed at the next actuarial experience study. This actuarial experience investigation study is typically performed every five (5) years.

Therefore, our recommended mortality assumption for actuarial equivalence for ERF members is: the RP-2000 blue collar mortality table for males multiplied by 109% and the RP-2000 blue collar mortality table for females multiplied by 103%, both projected from 2000 to 2026 using mortality improvement scale BB for males and females, respectively. These projected mortality rates would then be blended with a 60% weighting of males and a 40% weighting of females. The mortality assumption for beneficiaries would be similar to the members' assumption but the blending would be the opposite of the members, which would be 40% male and 60% female.

Cost of Living Adjustment (COLA): Retired members are eligible for annual cost of living adjustments tied to actual inflation. These annual adjustments are capped at 5.00% for Tier A members and 3.00% for Tier B members. We currently assume that inflation will grow at the rate of 3.00% each year. However, this 3.00% rate is assumed to be an average increase with most individual years being above or below 3.00%. Because of this year-to-year volatility, it is possible for inflation to average the assumed rate of 3.00% over the long term but that the actual average COLA increases could be less than 3.00%, given the annual COLA caps as described above.

While it is possible that future COLAs of Tier A members could be capped at 5.00% in some years, we believe the likelihood of this occurring often is very remote. Therefore, we are recommending that the COLA assumption for Tier A members be set at our current inflation assumption of 3.00% per annum.

However, we do believe that it is likely that COLAs for Tier B members will be capped at 3.00% in some years. We have modeled the expected future volatility in our 3.00% inflation assumption and based on that projected modeling we are recommending a 2.50% COLA assumption for Tier B members, given the 3.00% COLA cap.

Other Technical Assumptions: There are other additional technical assumptions used in the development of optional forms of payment conversion factors. These are noted below for documentation purposes.

Payment timing is assumed to be the beginning of month. If members retire during the month they receive a partial payment for that month and then a partial payment in the month of death. We believe the most appropriate way to value this type of payment is to assume a full payment at the beginning of the month.

For ERF, the first annual COLA is granted for the January following retirement. However, the COLA is prorated based on the number of months the member was retired in the prior year. Based upon when the average member retires and the proration of the first year's COLA, we believe the most appropriate treatment would be to assume the member receives a full COLA at their first COLA but that it occurs 0.625 years after retirement.

If you have any questions, or need any additional or clarifying information, please do not hesitate contact me.

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Employees' Retirement Fund of the City of Dallas

Early Retirement Reduction Factors for Tier B Members

Age at Retirement	Reduction Factor
65	1.0000
64	0.8972
63	0.8066
62	0.7264
61	0.6553
60	0.5921
59	0.5358
58	0.4856
57	0.4406
56	0.4003
55	0.3641
54	0.3315
53	0.3022
52	0.2757
51	0.2518
50	0.2301
49	0.2105
48	0.1926
47	0.1764
46	0.1617
45	0.1483