



500 Plaza Drive  
Secaucus, New Jersey 07096

March 4, 2019

Mr. Ralph D. Marsh  
Executive Director  
Houston Firefighters' Relief and Retirement Fund  
4225 Interwood North Parkway  
Houston, Texas 77032

**Re: Cost analysis for a proposed adjustment to the Cost of Living Adjustment eligibility age**

Dear Ralph:

As requested, we have analyzed the potential cost impact of adjusting the Cost of Living Adjustment (COLA) eligibility age under Section 11(c) of Article 6243e.2(1), Revised Statutes for members who retired under one of the service retirement eligibilities prior to July 1, 2017 from age 55 to age 48.

The potential impact of the proposed change in the COLA eligibility age on the July 1, 2018 Risk Sharing Valuation Study (RSVS) is as follows:

| July 1, 2018 RSVS<br>(\$000)                          | Baseline    | Proposed<br>change in<br>COLA<br>eligibility<br>age <sup>1</sup> |
|---|-------------|--|
| Present Value of Future Benefits                      | \$5,742,810 | \$5,743,424  |
| Actuarial Accrued Liability                           | \$4,948,133 | \$4,948,747  |
| Actuarial Value of Assets                             | \$4,027,079 | \$4,027,079  |
| Unfunded Accrued Liability                            | \$921,054   | \$921,668  |
| Funded Ratio  | 81.4%       | 81.4%  |
| Pensionable Compensation                              | \$272,687   | \$272,687  |
| City Normal Cost Rate <sup>2</sup>                    | 17.09%      | 17.09%   |
| City Accrued Liability Rate                           | 20.07%      | 20.09%   |
| Total City Contribution Rate <sup>3</sup>             | 37.16%      | 37.18%   |
| Estimated City Contribution for following Fiscal Year | \$101,331   | \$101,385  |
| Employee Contribution Rate                            | 10.50%      | 10.50%   |

1. There are 17 non-disabled retired members as of the July 1, 2018 RSVS who would benefit from the proposal since they would be 48 years of age but not age 55 as of June 30, 2021.
2. Contains an allowance for administrative expenses equal to 1.25% of payroll.
3. As a percentage of pensionable compensation.



Please note, references to “funded ratio” and “unfunded accrued liability” are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e., purchase annuities) for a portion or all of its liabilities.

These results should be considered estimates of the likely pattern of emerging costs and liabilities resulting from the proposed change but should not be viewed as a guarantee of actual costs. Actual future funding obligations will be determined on the basis of Risk Sharing Valuation Studies made in future years and will likely differ from the estimates provided in this analysis.

Except where stated above, the calculations presented here are based on the data, methods and assumptions used in the July 1, 2018 Risk Sharing Valuation Study.

Future actuarial measurements may differ significantly from the current measurement presented in this analysis due to such factors as: plan experience different from that anticipated by the economic and demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law. An analysis of the potential range of such future measurements is beyond the scope of this study. Accordingly, the results contained in this analysis should only be viewed as an estimate of the potential impact of the Legislation.

Care should be exercised in communicating any results to third parties to ensure that the above caveats and underlying basis of the estimations are clearly communicated to any possible recipients.

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the Academy to render the actuarial opinions contained herein. This analysis has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Please let me know if you have any questions.

Very truly yours,

A handwritten signature in cursive script that reads "Aaron Shapiro".

Aaron Shapiro, FSA, EA, MAAA, FCA  
Principal, Consulting Actuary

AS:sn