Chapter 320

S.B. No. 2190

AN ACT

relating to the public retirement systems of certain municipalities.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

ARTICLE 1. FIREFIGHTERS' RELIEF AND RETIREMENT FUND

SECTION 1.01. Section 1, Article 6243e.2(1), Revised Statutes, is amended by amending Subdivisions (1-a), (1-b), (3), (13-a), (15-a), (15-b), and (16) and adding Subdivisions (1-c), (1-d), (1-e), (1-f), (1-g), (3-a), (3-b), (3-c), (3-d), (10-a), (10-b), (11-a), (12-a), (12-b), (12-c), (12-d), (12-e), (12-f), (12-g), (13-b), (13-c), (13-d), (13-e), (15-c), (15-d), (15-e), (15-f), (16-a), (16-b), (16-c), (16-d), (16-e), and (16-f) to read as follows:

(1-a) "Actuarial data" includes:

(A) the census data, assumption tables, disclosure of methods, and financial information that are routinely used by the fund actuary for the fund's valuation studies or an actuarial experience study under Section 13D of this article; and

(B) other data that is reasonably necessary to implement Sections 13A through 13F of this article. [~~"Average monthly salary" means one thirty-sixth of the member's salary as a firefighter for the member's highest 78 biweekly pay periods during the member's participation in the fund or, if the member has participated in the fund for less than three years, the total salary~~

~~paid to the member for the periods the member participated in the fund divided by the number of months the member has participated in the fund. If a member is not paid on the basis of biweekly pay periods, "average monthly salary" is determined on the basis of the number of pay periods under the payroll practices of the municipality sponsoring the fund that most closely correspond to 78 biweekly pay periods.~~]

(1-b) "Actuarial experience study" has the meaning assigned by Section 802.1014, Government Code [~~"Beneficiary adult child" means a child of a member by birth or adoption who:~~

[~~(A) is not an eligible child; and~~

[~~(B) is designated a beneficiary of a member's DROP account by valid designation under Section 5(j-1)~~].

(1-c) "Amortization period" means the time period necessary to fully pay a liability layer.

(1-d) "Amortization rate" means the sum of the scheduled amortization payments for a given fiscal year for the current liability layers divided by the projected pensionable payroll for that fiscal year.

(1-e) "Assumed rate of return" means the assumed market rate of return on fund assets, which is seven percent per annum unless adjusted as provided by this article.

(1-f) "Average monthly salary" means, if the member has participated in the fund for:

(A) three or more years, the total salary received by a member as a firefighter over the member's:

(i) highest 78 biweekly pay periods for a

<u>member hired before the year 2017 effective date, including a member who was hired before the year 2017 effective date and who involuntarily separated from service but was retroactively reinstated in accordance with an arbitration, civil service, or court ruling; or</u>

<u>(ii) last 78 biweekly pay periods ending before the earlier of the date the member terminates employment with the fire department, divided by 36, or the member began participation in the DROP, divided by 36; or</u>

<u>(B) fewer than three years, the total salary paid to the member for the periods the member participated in the fund divided by the number of months the member has participated in the fund.</u>

<u>If a member is not paid on the basis of biweekly pay periods, "average monthly salary" is determined on the basis of the number of pay periods under the payroll practices of the municipality sponsoring the fund that most closely correspond to 78 biweekly pay periods.</u>

<u>(1-g) "Beneficiary adult child" means a child of a member by birth or adoption who:</u>

<u>(A) is not an eligible child; and</u>

<u>(B) is designated a beneficiary of a member's DROP account by valid designation under Section 5(j-1).</u>

(3) "Code" means the federal Internal Revenue Code of 1986<u>, as amended</u>.

<u>(3-a) "Confidentiality agreement" means a letter agreement sent from the municipal actuary or an independent actuary</u>

in which the municipal actuary or the independent actuary, as applicable, agrees to comply with the confidentiality provisions of this article.

(3-b) "Corridor" means the range of municipal contribution rates that are:

(A) equal to or greater than the minimum contribution rate; and

(B) equal to or less than the maximum contribution rate.

(3-c) "Corridor margin" means five percentage points.

(3-d) "Corridor midpoint" means the projected municipal contribution rate specified for each fiscal year for 31 years in the initial risk sharing valuation study under Section 13C of this article, and as may be adjusted under Section 13E or 13F of this article, and in each case rounded to the nearest hundredths decimal place.

(10-a) "Employer normal cost rate" means the normal cost rate minus the member contribution rate.

(10-b) "Estimated municipal contribution rate" means the municipal contribution rate estimated in a final risk sharing valuation study under Section 13B or 13C of this article, as applicable, as required by Section 13B(a)(5) of this article.

(11-a) "Fiscal year," except as provided by Section 1B of this article, means a fiscal year beginning on July 1 and ending on June 30.

(12-a) "Funded ratio" means the ratio of the fund's actuarial value of assets divided by the fund's actuarial accrued liability.

(12-b) "Legacy liability" means the unfunded actuarial accrued liability:

(A) for the fiscal year ending June 30, 2016, reduced to reflect:

(i) changes to benefits or contributions under this article that took effect on the year 2017 effective date; and

(ii) payments by the municipality and earnings at the assumed rate of return allocated to the legacy liability from July 1, 2016, to July 1, 2017, excluding July 1, 2017; and

(B) for each subsequent fiscal year:

(i) reduced by the contributions for that year allocated to the amortization of the legacy liability; and

(ii) adjusted by the assumed rate of return.

(12-c) "Level percent of payroll method" means the amortization method that defines the amount of the liability layer recognized each fiscal year as a level percent of pensionable payroll until the amount of the liability layer remaining is reduced to zero.

(12-d) "Liability gain layer" means a liability layer that decreases the unfunded actuarial accrued liability.

(12-e) "Liability layer" means the legacy liability established in the initial risk sharing valuation study under Section 13C of this article and the unanticipated change as established in each subsequent risk sharing valuation study prepared under Section 13B of this article.

(12-f) "Liability loss layer" means a liability layer that increases the unfunded actuarial accrued liability. For purposes of this article, the legacy liability is a liability loss layer.

(12-g) "Maximum contribution rate" means the rate equal to the corridor midpoint plus the corridor margin.

(13-a) "Minimum contribution rate" means the rate equal to the corridor midpoint minus the corridor margin [~~"Normal retirement age" means the earlier of:~~

[~~(A) the age at which the member attains 20 years of service; or~~

[~~(B) the age at which the member first attains the age of at least 50 years and at least 10 years of service~~].

(13-b) "Municipality" means a municipality in this state having a population of more than 2 million.

(13-c) "Municipal contribution rate" means a percent of pensionable payroll that is the sum of the employer normal cost rate and the amortization rate for liability layers, except as determined otherwise under the express provisions of Sections 13E and 13F of this article.

(13-d) "Normal cost rate" means the salary weighted average of the individual normal cost rates determined for the current active population plus an allowance for projected administrative expenses. The allowance for projected administrative expenses equals the administrative expenses divided by the pensionable payroll for the previous fiscal year, provided the administrative allowance may not exceed 1.25 percent of the pensionable payroll for the current fiscal year unless agreed to by the municipality.

(13-e) "Normal retirement age" means:

(A) for a member, including a member who was hired before the year 2017 effective date and who involuntarily separated from service but has been retroactively reinstated in accordance with an arbitration, civil service, or court ruling, hired before the year 2017 effective date, the age at which the member attains 20 years of service; or

(B) except as provided by Paragraph (A) of this subdivision, for a member hired or rehired on or after the year 2017 effective date, the age at which the sum of the member's age, in years, and the member's years of participation in the fund equals at least 70.

(15-a) "Payoff year" means the year a liability layer is fully amortized under the amortization period. A payoff year may not be extended or accelerated for a period that is less than one month. [~~"PROP" means the post-retirement option plan under Section 5A of this article.~~]

(15-b) "Pensionable payroll" means the aggregate salary of all the firefighters on active service, including all firefighters participating in an alternative retirement plan established under Section 1C of this article, in an applicable fiscal year [~~"PROP account" means the notional account established to reflect the credits and contributions of a member or surviving~~

~~spouse who has made a PROP election in accordance with Section 5A of this article~~].

(15-c) "Price inflation assumption" means:

(A) the most recent headline consumer price index 10-year forecast published in the Federal Reserve Bank of Philadelphia Survey of Professional Forecasters; or

(B) if the forecast described by Paragraph (A) of this subdivision is not available, another standard as determined by mutual agreement between the municipality and the board.

(15-d) "Projected pensionable payroll" means the estimated pensionable payroll for the fiscal year beginning 12 months after the date of the risk sharing valuation study prepared under Section 13B of this article at the time of calculation by:

(A) projecting the prior fiscal year's pensionable payroll forward two years using the current payroll growth rate assumptions; and

(B) adjusting, if necessary, for changes in population or other known factors, provided those factors would have a material impact on the calculation, as determined by the board.

(15-e) "PROP" means the post-retirement option plan under Section 5A of this article.

(15-f) "PROP account" means the notional account established to reflect the credits and contributions of a member or surviving spouse who made a PROP election in accordance with Section 5A of this article before the year 2017 effective date.

(16) "Salary" means wages as defined by Section

3401(a) of the code, [~~the amounts includable in gross income of a member~~] plus any amount not includable in gross income under Section 104(a)(1), Section 125, Section 132(f), Section 402(g)(2) [~~402(e)(3) or (h)~~], Section 457 [~~403(b)~~], or Section 414(h)(2) [~~414(h)~~] of the code, except that with respect to amounts earned on or after the year 2017 effective date, salary excludes overtime pay received by a firefighter or the amount by which the salary earned by a firefighter on the basis of the firefighter's appointed position exceeds the salary of the firefighter's highest tested rank.

(16-a) "Third quarter line rate" means the corridor midpoint plus 2.5 percentage points.

(16-b) "Ultimate entry age normal" means an actuarial cost method under which a calculation is made to determine the average uniform and constant percentage rate of contributions that, if applied to the compensation of each member during the entire period of the member's anticipated covered service, would be required to meet the cost of all benefits payable on the member's behalf based on the benefits provisions for newly hired employees. For purposes of this definition, the actuarial accrued liability for each member is the difference between the member's present value of future benefits based on the tier of benefits that apply to the member and the member's present value of future normal costs determined using the normal cost rate.

(16-c) "Unfunded actuarial accrued liability" means the difference between the actuarial accrued liability and the actuarial value of assets. For purposes of this definition:

(A) "actuarial accrued liability" means the portion of the actuarial present value of projected benefits attributed to past periods of member service based on the cost method used in the risk sharing valuation study prepared under Section 13B or 13C of this article, as applicable; and

(B) "actuarial value of assets" means the value of fund investments as calculated using the asset smoothing method used in the risk sharing valuation study prepared under Section 13B or 13C of this article, as applicable.

(16-d) "Unanticipated change" means, with respect to the unfunded actuarial accrued liability in each subsequent risk sharing valuation study prepared under Section 13B of this article, the difference between:

(A) the remaining balance of all then-existing liability layers as of the date of the risk sharing valuation study; and

(B) the actual unfunded actuarial accrued liability as of the date of the risk sharing valuation study.

(16-e) "Unused leave pay" means the accrued value of unused leave time payable to an employee after separation from service in accordance with applicable law and agreements.

(16-f) "Year 2017 effective date" means the date on which S.B. No. 2190, Acts of the 85th Legislature, Regular Session, 2017, took effect.

SECTION 1.02. Article 6243e.2(1), Revised Statutes, is amended by adding Sections 1A, 1B, 1C, 1D, and 1E to read as follows:

Sec. 1A. INTERPRETATION OF ARTICLE. This article, including Sections 2(p) and (p-1) of this article, does not and may not be interpreted to:

(1) relieve the municipality, the board, or the fund of their respective obligations under Sections 13A through 13F of this article;

(2) reduce or modify the rights of the municipality, the board, or the fund, including any officer or employee of the municipality, board, or fund, to enforce obligations described by Subdivision (1) of this section;

(3) relieve the municipality, including any official or employee of the municipality, from:

(A) paying or directing to pay required contributions to the fund under Section 13 or 13A of this article or carrying out the provisions of Sections 13A through 13F of this article; or

(B) reducing or modifying the rights of the board and any officer or employee of the board or fund to enforce obligations described by Subdivision (1) of this section;

(4) relieve the board or fund, including any officer or employee of the board or fund, from any obligation to implement a benefit change or carry out the provisions of Sections 13A through 13F of this article; or

(5) reduce or modify the rights of the municipality and any officer or employee of the municipality to enforce an obligation described by Subdivision (4) of this section.

Sec. 1B. FISCAL YEAR. If either the fund or the municipality changes its respective fiscal year, the fund and the municipality may enter into a written agreement to change the fiscal year for purposes of this article. If the fund and municipality enter into an agreement described by this section, the parties shall, in the agreement, adjust the provisions of Sections 13A through 13F of this article to reflect that change.

Sec. 1C. ALTERNATIVE RETIREMENT PLANS. (a) In this section, "salary-based benefit plan" means a retirement plan provided by the fund under this article that provides member benefits calculated in accordance with a formula that is based on multiple factors, one of which is the member's salary at the time of the member's retirement.

(b) Notwithstanding any other law, including Section 13G of this article, the board and the municipality may enter into a written agreement to offer an alternative retirement plan or plans, including a cash balance retirement plan or plans, if both parties consider it appropriate.

(c) Notwithstanding any other law, including Section 13G of this article, if, beginning with the final risk sharing valuation study prepared under Section 13B of this article on or after July 1, 2021, either the funded ratio of the fund is less than 65 percent as determined in the final risk sharing valuation study without making any adjustments under Section 13E or 13F of this article, or the funded ratio of the fund is less than 65 percent as determined in a revised and restated risk sharing valuation study prepared under Section 13B(a)(7) of this article, the board and the municipality shall, as soon as practicable but not later than the 60th day after the date the determination is made:

(1) enter into a written agreement to establish a cash balance retirement plan that complies with Section 1D of this article; and

(2) require each firefighter first hired by the municipality on or after the 90th day after the date the cash balance retirement plan is established to participate in the cash balance retirement plan established under this subsection instead of participating in the salary-based benefit plan, provided the firefighter would have otherwise been eligible to participate in the salary-based benefit plan.

Sec. 1D. REQUIREMENTS FOR CERTAIN CASH BALANCE RETIREMENT PLANS. (a) In this section:

(1) "Cash balance plan participant" means a firefighter who participates in a cash balance retirement plan.

(2) "Cash balance retirement plan" means a cash balance retirement plan established by written agreement under Section 1C(b) or 1C(c) of this article.

(3) "Interest" means the interest credited to a cash balance plan participant's notional account, which may not:

(A) exceed a percentage rate equal to the cash balance retirement plan's most recent five fiscal years' smoothed rate of return; or

(B) be less than zero percent.

(4) "Salary-based benefit plan" has the meaning assigned by Section 1C of this article.

(b) The written agreement establishing a cash balance retirement plan must:

(1) provide for the administration of the cash balance retirement plan;

(2) provide for a closed amortization period not to exceed 20 years from the date an actuarial gain or loss is realized;

(3) provide for the crediting of municipal and cash balance plan participant contributions to each cash balance plan participant's notional account;

(4) provide for the crediting of interest to each cash balance plan participant's notional account;

(5) include a vesting schedule;

(6) include benefit options, including options for cash balance plan participants who separate from service prior to retirement;

(7) provide for death and disability benefits;

(8) allow a cash balance plan participant who is eligible to retire under the plan to elect to:

(A) receive a monthly annuity payable for the life of the cash balance plan participant in an amount actuarially determined on the date of the cash balance plan participant's retirement based on the cash balance plan participant's accumulated notional account balance annuitized in accordance with the actuarial assumptions and actuarial methods established in the most recent actuarial experience study conducted under Section 13D of this article, except that the assumed rate of return applied may not exceed the fund's assumed rate of return in the most recent risk sharing valuation study; or

(B) receive a single, partial lump-sum payment from the cash balance plan participant's accumulated notional account balance and a monthly annuity payable for life in an amount determined in accordance with Paragraph (A) of this subdivision based on the cash balance plan participant's notional account balance after receiving the partial lump-sum payment; and

(9) include any other provision determined necessary by:

(A) the board and the municipality; or

(B) the fund for purposes of maintaining the tax-qualified status of the fund under Section 401 of the code.

(c) Notwithstanding any other law, including Section 13 of this article, a firefighter who participates in a cash balance retirement plan:

(1) subject to Subsection (d) of this section, is not eligible to be a member of and may not participate in the fund's salary-based benefit plan; and

(2) may not accrue years of participation or establish service credit in the salary-based benefit plan during the period the firefighter is participating in the cash balance retirement plan.

(d) A cash balance plan participant is considered a member for purposes of Sections 13A through 13H of this article.

(e) At the time the cash balance retirement plan is implemented, the employer normal cost rate of the cash balance retirement plan may not exceed the employer normal cost rate for the salary-based benefit plan.

Sec. 1E. CONFLICT OF LAW. To the extent of a conflict between this article and any other law, this article prevails.

SECTION 1.03. Section 2, Article 6243e.2(1), Revised Statutes, is amended by amending Subsection (b) and adding Subsection (t) to read as follows:

(b) The board of trustees of the fund shall be known as the "(name of municipality) Firefighters' Relief and Retirement Fund Board of Trustees" and the fund shall be known as the "(name of municipality) Firefighters' Relief and Retirement Fund." The board consists of 10 trustees, including:

(1) the mayor or an appointed representative of the mayor;

(2) the director of finance or the director of finance's designee [~~treasurer~~] of the municipality or, if there is not a director of finance [~~treasurer~~], the highest ranking employee of the municipality, excluding elected officials, with predominately financial responsibilities, as determined by the mayor, or that employee's designee [~~secretary, clerk, or other person who by law, charter provision, or ordinance performs the duty of treasurer of the municipality~~];

(3) five firefighters who are members of the fund;

(4) one person who is a retired firefighter and a member of the fund with at least 20 years of participation; and

(5) two persons, each of whom is a registered voter of the municipality, has been a resident of the municipality for at least one year preceding the date of initial appointment, and is not a municipal officer or employee.

(t) The officers and employees of the municipality are fully protected and free of liability for any action taken or omission made or any action or omission suffered by them in good faith, objectively determined, in the performance of their duties related to the fund. The protection from liability provided by this subsection is cumulative of and in addition to any other constitutional, statutory, or common law official or governmental immunity, defense, and civil or procedural protection provided to the municipality as a governmental entity and to a municipal official or employee as an official or employee of a governmental entity. Except for a waiver expressly provided by this article, this article does not grant an implied waiver of any immunity.

SECTION 1.04. Article 6243e.2(1), Revised Statutes, is amended by adding Sections 2A and 2B to read as follows:

Sec. 2A. QUALIFICATIONS OF MUNICIPAL ACTUARY. (a) An actuary hired by the municipality for purposes of this article must be an actuary from a professional service firm who:

(1) is not already engaged by the fund or any other pension system authorized under Article 6243g-4, Revised Statutes, or Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), to provide actuarial services to the fund or pension system, as applicable;

(2) has a minimum of 10 years of professional actuarial experience; and

(3) is a fellow of the Society of Actuaries or a member of the American Academy of Actuaries and who, in carrying out duties

for the municipality, has met the applicable requirements to issue statements of actuarial opinion.

(b) Notwithstanding Subsection (a) of this section, the municipal actuary does not need to meet any greater qualifications than those required by the board for the fund actuary.

Sec. 2B. REPORT ON INVESTMENTS BY INDEPENDENT INVESTMENT CONSULTANT. At least once every three years, the board shall hire an independent investment consultant to conduct a review of fund investments and submit a report to the board and the municipality concerning the review or demonstrate in the fund's annual financial report that the review was conducted. The independent investment consultant shall review and report on at least the following:

(1) the fund's compliance with its investment policy statement, ethics policies, including policies concerning the acceptance of gifts, and policies concerning insider trading;

(2) the fund's asset allocation, including a review and discussion of the various risks, objectives, and expected future cash flows;

(3) the fund's portfolio structure, including the fund's need for liquidity, cash income, real return, and inflation protection and the active, passive, or index approaches for different portions of the portfolio;

(4) investment manager performance reviews and an evaluation of the processes used to retain and evaluate managers;

(5) benchmarks used for each asset class and individual manager;

(6) an evaluation of fees and trading costs;

(7) an evaluation of any leverage, foreign exchange, or other hedging transaction; and

(8) an evaluation of investment-related disclosures in the fund's annual reports.

SECTION 1.05. Section 3(d), Article 6243e.2(1), Revised Statutes, is amended to read as follows:

(d) The board may have an actuarial valuation performed each year, and for determining the municipality's contribution rate as provided by Section 13A [~~13(d)~~] of this article, the board may adopt a new actuarial valuation each year[~~, except that an actuarial valuation that will result in an increased municipal contribution rate that is above the statutory minimum may be adopted only once every three years, unless the governing body of the municipality consents to a more frequent increase~~].

SECTION 1.06. Article 6243e.2(1), Revised Statutes, is amended by adding Section 3A to read as follows:

Sec. 3A. CERTAIN ALTERATIONS BY LOCAL AGREEMENT. (a) Except as provided by Subsection (b) of this section, the board is authorized, on behalf of the members or beneficiaries of the fund, to alter benefit types or amounts, the means of determining contribution rates, or the contribution rates provided under this article if the alteration is included in a written agreement between the board and the municipality. An agreement entered into under this section:

(1) must:

(A) if the agreement concerns benefit increases, other than benefit increases that are the result of Section 13E of this article, adhere to the processes and standards set forth in Section 10 of this article; and

(B) operate prospectively only; and

(2) may not, except as provided by Sections 13A through 13F of this article, have the effect or result of increasing the unfunded liability of the fund.

(b) In a written agreement entered into between the municipality and the board under this section, the parties may not:

(1) alter Sections 13A through 13F of this article, except and only to the extent necessary to comply with federal law;

(2) increase the assumed rate of return to more than seven percent per year;

(3) extend the amortization period of a liability layer to more than 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability layer is first recognized; or

(4) allow a municipal contribution rate in any year that is less than or greater than the municipal contribution rate required under Section 13E or 13F of this article, as applicable.

(c) If the board is directed or authorized in Sections 13A through 13F of this article to effect an increase or decrease to benefits or contributions, this article delegates the authority to alter provisions concerning benefits and contributions otherwise stated in this article in accordance with the direction or authorization only to the extent the alteration is set forth in an order or other written instrument and is consistent with this section, the code, and other applicable federal law and regulations. The order or other written instrument must be included in each applicable risk sharing valuation study under Section 13B or 13C of this article, as applicable, adopted by the board, and published in a manner that makes the order or other written instrument accessible to the members.

SECTION 1.07. Section 4, Article 6243e.2(1), Revised Statutes, is amended by amending Subsections (a), (b), and (d) and adding Subsections (b-1) and (b-2) to read as follows:

(a) A member [~~with at least 20 years of participation~~] who terminates active service for any reason other than death is entitled to receive a service pension provided by this section if the member was:

(1) hired as a firefighter before the year 2017 effective date, including a member who was hired before the year 2017 effective date and who involuntarily separated from service but has been retroactively reinstated in accordance with an arbitration, civil service, or court ruling, at the age at which the member attains 20 years of service; and

(2) except as provided by Subdivision (1) of this subsection and subject to Subsection (b-2) of this section, hired or rehired as a firefighter on or after the year 2017 effective date, when the sum of the member's age in years and the member's years of participation in the fund equals at least 70.

(b) Except as otherwise provided by Subsection (d) of this section, the monthly service pension for a member described by:

(1) Subsection (a)(1) of this section is equal to the sum of:

(A) the member's accrued monthly service pension based on the member's years of participation before the year 2017 effective date, determined under the law in effect on the date immediately preceding the year 2017 effective date;

(B) 2.75 percent of the member's average monthly salary multiplied by the member's years of participation on or after the year 2017 effective date, for each year or partial year of participation of the member's first 20 years of participation; and

(C) two percent of the member's average monthly salary multiplied by the member's years of participation on or after the year 2017 effective date, for each year or partial year of participation on or after the year 2017 effective date that occurred after the 20 years of participation described by Paragraph (B) of this subdivision; and

(2) Subsection (a)(2) of this section is equal to the sum of:

(A) 2.25 percent of the member's average monthly salary multiplied by the member's years or partial years of participation for the member's first 20 years of participation; and

(B) two percent of the member's average monthly salary multiplied by the member's years or partial years of participation for all years of participation that occurred after the 20 years of participation described by Paragraph (A) of this subdivision.

(b-1) For purposes of Subsection (b) of this section, partial years shall be computed to the nearest one-twelfth of a year.

(b-2) A member's monthly service pension under Subsection (a)(2) of this section may not exceed 80 percent of the member's average monthly salary [~~A member who terminates active service on or after November 1, 1997, and who has completed at least 20 years of participation in the fund on the effective date of termination of service is entitled to a monthly service pension, beginning after the effective date of termination of active service, in an amount equal to 50 percent of the member's average monthly salary, plus three percent of the member's average monthly salary for each year of participation in excess of 20 years, but not in excess of 30 years of participation, for a maximum total benefit of 80 percent of the member's average monthly salary~~].

(d) The total monthly benefit payable to a retired or disabled member, other than a deferred retiree or active member who has elected the DROP under Section 5(b) of this article, or payable to an eligible survivor of a deceased member as provided by Section 7(a) or 7(b) of this article, shall be increased by the following amounts: by $100, beginning with the monthly payment made for July 1999; by $25, beginning with the monthly payment made for July, 2000; and by $25, beginning with the monthly payment made for July 2001. These additional benefits may not be increased under Section 11(c), (c-1), or (c-2) of this article.

SECTION 1.08. Section 5, Article 6243e.2(1), Revised Statutes, is amended by amending Subsections (a), (b), (c), (d), and (m) and adding Subsections (a-1), (b-1), (b-2), (d-1), (d-2), and (e-1) to read as follows:

(a) A member who is eligible to receive a service pension under Section 4(a)(1) [4] of this article and who remains in active service may elect to participate in the deferred retirement option plan provided by this section. A member who is eligible to receive a service pension under Section 4(a)(2) of this article may not elect to participate in the deferred retirement option plan provided by this section. On subsequently terminating active service, a member who elected the DROP may apply for a monthly service pension under Section 4 of this article, except that the effective date of the member's election to participate in the DROP will be considered the member's retirement date for determining the amount of the member's monthly service pension. The member may also apply for any DROP benefit provided under this section on terminating active service. An election to participate in the DROP, once approved by the board, is irrevocable.

(a-1) The monthly benefit of a [~~A~~] DROP participant who has at least 20 years of participation on the year 2017 effective date [~~participant's monthly benefit at retirement~~] is increased at retirement by two percent of the amount of the member's original benefit for every full year of participation in the DROP by the member for up to 10 years of participation in the DROP. For a member's final year of participation, but not beyond the member's 10th year in the DROP, if a full year of participation is not completed, the member shall receive a prorated increase of 0.166 percent of the member's original benefit for each month of participation in that year. An increase provided by this subsection does not apply to benefits payable under Subsection (l) of this section. An increase under this subsection is applied to the member's benefit at retirement and is not added to the member's DROP account. The total increase under this subsection may not exceed 20 percent for 10 years of participation in the DROP by the member.

(b) A member may elect to participate in the DROP by complying with the election process established by the board. The member's election may be made at any time beginning on the date the member has completed 20 years of participation in the fund and is otherwise eligible for a service pension under Section 4(a)(1) [~~4~~] of this article. [~~The election becomes effective on the first day of the month following the month in which the board approves the member's DROP election.~~] Beginning on the first day of the month following the month in which the member makes an election to participate in the DROP, subject to board approval, and ending on the year 2017 effective date [~~of the member's DROP election~~], amounts equal to the deductions made from the member's salary under Section 13(c) of this article shall be credited to the member's DROP account. Beginning after the year 2017 effective date, amounts equal to the deductions made from the member's salary under Section 13(c) of this article may not be credited to the member's DROP account.

(b-1) On or after the year 2017 effective date, an active [~~A~~] member may not participate in the DROP for more than 13 [~~10~~] years. If a DROP participant remains in active service after the 13th [~~10th~~] anniversary of the effective date of the member's DROP election:

(1) [~~,~~] subsequent deductions from the member's salary

under Section 13(c) of this article, except for unused leave pay, may not be credited to the member's DROP account; and

(2) the account shall continue to be credited with earnings in accordance with Subsection (d) of this section [~~and may not otherwise increase any benefit payable from the fund for the member's service~~].

(b-2) For a member who is a DROP participant, the fund shall credit to the member's DROP account, in accordance with Section 13(c-1) of this article, the amount of unused leave pay otherwise payable to the member and received as a contribution to the fund from the municipality.

(c) After a member's DROP election becomes effective, an amount equal to the monthly service pension the member would have received under Section 4 of this article [~~and Section 11(c) of this article~~], if applicable, had the member terminated active service on the effective date of the member's DROP election shall be credited to a DROP account maintained for the member. That monthly credit to the member's DROP account shall continue until the earlier of the date the member terminates active service or the 13th [~~10th~~] anniversary of the [~~effective~~] date of the first credit to the member's DROP account [~~election~~].

(d) A member's DROP account shall be credited with earnings at an annual rate equal to 65 percent of the compounded average annual return earned by the fund over the five years preceding, but not including, the year during which the credit is given. Notwithstanding the preceding, however, the credit to the member's DROP account shall be at an annual rate of not less than 2.5 [~~five~~]

percent [~~nor greater than 10 percent~~], irrespective of actual earnings.

(d-1) Earnings credited to a member's DROP account under Subsection (d) of this section [~~Those earnings~~] shall be computed and credited at a time and in a manner determined by the board, except that earnings shall be credited not less frequently than once in each 13-month period and shall take into account partial years of participation in the DROP[~~. If the member has not terminated active service, the member's DROP account may not be credited with earnings after the 10th anniversary of the effective date of the member's DROP election~~].

(d-2) A member may not roll over accumulated unused sick or vacation time paid to the member as a lump-sum payment after termination of active service into the member's DROP account.

(e-1) In lieu of receiving a lump-sum payment on termination from active service, a retired member who has been a DROP participant or, if termination from active service was due to the DROP participant's death, the surviving spouse of the DROP participant may elect to leave the retired member's DROP account with the fund and receive earnings credited to the DROP account in the manner described by Subsection (d) of this section.

(m) A DROP participant with a break in service may receive service credit within DROP for days worked after the regular expiration of the maximum [~~permitted~~] DROP participation period prescribed by this section. The service credit shall be limited to the number of days in which the participant experienced a break in service or the number of days required to constitute 13 [~~10~~] years of DROP participation, whichever is smaller. A retired member who previously participated in the DROP and who returns to active service is subject to the terms of this section in effect at the time of the member's return to active service.

SECTION 1.09. Section 5A, Article 6243e.2(1), Revised Statutes, is amended by adding Subsection (o) to read as follows:

(o) Notwithstanding any other provision of this article, on or after the year 2017 effective date:

(1) a PROP participant may not have any additional amounts that the participant would otherwise receive as a monthly service pension or other benefits under this article credited to the participant's PROP account; and

(2) a person, including a member or surviving spouse, may not elect to participate in the PROP.

SECTION 1.10. Section 8, Article 6243e.2(1), Revised Statutes, is amended to read as follows:

Sec. 8. DEFERRED PENSION AT AGE 50; REFUND OF CONTRIBUTIONS. (a) On or after the year 2017 effective date, a [~~A~~] member who is hired as a firefighter before the year 2017 effective date, including a member who was hired before the year 2017 effective date and who involuntarily separated from service but has been retroactively reinstated in accordance with an arbitration, civil service, or court ruling, terminates active service for any reason other than death with at least 10 years of participation, but less than 20 years of participation, is entitled to a monthly deferred pension benefit, beginning at age 50, in an amount equal to 1.7 percent of the member's average monthly salary multiplied by the amount of the member's years of participation.

(b) In lieu of the deferred pension benefit provided under Subsection (a) of this section, a member who terminates active service for any reason other than death with at least 10 years of participation, but less than 20 years of participation, may elect to receive a lump-sum refund of the member's contributions to the fund with interest computed at five percent, not compounded, for the member's contributions to the fund made before the year 2017 effective date and without interest for the member's contributions to the fund made on or after the year 2017 effective date. A member's election to receive a refund of contributions must be made on a form approved by the board. The member's refund shall be paid as soon as administratively practicable after the member's election is received.

(c) Except as provided by Subsection (a) of this section, a [~~A~~] member who is hired or rehired as a firefighter on or after the year 2017 effective date or a member who terminates employment for any reason other than death before the member has completed 10 years of participation is entitled only to a refund of the member's contributions without interest and is not entitled to a deferred pension benefit under this section or to any other benefit under this article. The member's refund shall be paid as soon as administratively practicable after the effective date of the member's termination of active service.

SECTION 1.11. Section 11, Article 6243e.2(1), Revised Statutes, is amended by amending Subsection (c) and adding Subsections (c-1), (c-2), (c-3), and (c-4) to read as follows:

(c) Subject to Subsection (c-3) of this section and except as provided by Subsection (c-4) of this section, beginning with the fiscal year ending June 30, 2021, the [~~The~~] benefits, including survivor benefits, payable based on the service of a member who has terminated active service and who is or would have been at least 55 [~~48~~] years old, received or is receiving an on-duty disability pension under Section 6(c) of this article, or died under the conditions described by Section 7(c) of this article, shall be increased [~~by three percent~~] in October of each year by a percentage rate equal to the most recent five fiscal years' smoothed return, as determined by the fund actuary, minus 475 basis points [~~and, if the benefit had not previously been subject to that adjustment, in the month of the member's 48th birthday~~].

(c-1) Subject to Subsection (c-3) of this section and except as provided by Subsection (c-4) of this section, for the fund's fiscal years ending June 30, 2018, and June 30, 2019, the benefits, including survivor benefits, payable based on the service of a member who is or would have been at least 70 years old and who received or is receiving a service pension under Section 4 of this article, received or is receiving an on-duty disability pension under Section 6(c) of this article, or died under the conditions described by Section 7(c) of this article, shall be adjusted in October of each applicable fiscal year by a percentage rate equal to the most recent five fiscal years' smoothed return, as determined by the fund actuary, minus 500 basis points.

(c-2) Subject to Subsection (c-3) of this section and except as provided by Subsection (c-4) of this section, for the fund's fiscal year ending June 30, 2020, members described by Subsection (c-1) of this section shall receive the increase provided under Subsection (c) of this section.

(c-3) The percentage rate prescribed by Subsections (c), (c-1), and (c-2) of this section may not be less than zero percent or more than four percent, irrespective of the return rate of the fund's investment portfolio.

(c-4) Each year after the year 2017 effective date, a member who elects to participate in the DROP under Section 5 of this article may not receive the increase provided under Subsection (c), (c-1), or (c-2) of this section in any October during which the member participates in the DROP.

SECTION 1.12. The heading to Section 13, Article 6243e.2(1), Revised Statutes, is amended to read as follows:

Sec. 13. MEMBERSHIP AND MEMBER CONTRIBUTIONS.

SECTION 1.13. Section 13, Article 6243e.2(1), Revised Statutes, is amended by amending Subsection (c) and adding Subsections (c-1) and (c-2) to read as follows:

(c) Subject to adjustments authorized by Section 13E or 13F of this article, each [~~Each~~] member in active service shall make contributions to the fund in an amount equal to 10.5 [~~8.35~~] percent of the member's salary at the time of the contribution[~~, and as of July 1, 2004, in an amount equal to nine percent of the member's salary at the time of the contribution~~].

(c-1) In addition to the contribution under Subsection (c) of this section, each DROP participant, as identified by the fund to the municipality for purposes of this subsection, shall contribute to the fund an amount equal to 100 percent of the participant's unused leave pay that would otherwise be payable to the member. The fund shall credit any unused leave pay amount contributed by a DROP participant to the participant's DROP account.

(c-2) The governing body of the municipality shall deduct from the salary of each member the contribution required by this section [~~the contributions from the member's salary~~] and shall forward the contributions to the fund as soon as practicable.

SECTION 1.14. Article 6243e.2(1), Revised Statutes, is amended by adding Sections 13A, 13B, 13C, 13D, 13E, 13F, 13G, and 13H to read as follows:

Sec. 13A. MUNICIPAL CONTRIBUTIONS. (a) Beginning with the year 2017 effective date, the municipality shall make contributions to the fund as provided by this section and Section 13B, 13C, 13E, or 13F of this article, as applicable. The municipality shall contribute:

(1) beginning with the year 2017 effective date and ending with the fiscal year ending June 30, 2018, an amount equal to the municipal contribution rate, as determined in the initial risk sharing valuation study conducted under Section 13C of this article and adjusted under Section 13E or 13F of this article, as applicable, multiplied by the pensionable payroll for the fiscal year; and

(2) for each fiscal year after the fiscal year ending June 30, 2018, an amount equal to the municipal contribution rate, as determined in a subsequent risk sharing valuation study conducted under Section 13B of this article and adjusted under

Section 13E or 13F of this article, as applicable, multiplied by the pensionable payroll for the applicable fiscal year.

(b) Except by written agreement between the municipality and the board providing for an earlier contribution date, at least biweekly, the municipality shall make the contributions required by Subsection (a) of this section by depositing with the fund an amount equal to the municipal contribution rate multiplied by the pensionable payroll for the applicable biweekly period.

(c) With respect to each fiscal year:

(1) the first contribution by the municipality under this section for the fiscal year shall be made not later than the date payment is made to firefighters for their first full biweekly pay period beginning on or after the first day of the fiscal year; and

(2) the final contribution by the municipality under this section for the fiscal year shall be made not later than the date payment is made to firefighters for the final biweekly pay period of the fiscal year.

(d) In addition to the amounts required under this section, the municipality may at any time contribute additional amounts for deposit in the fund by entering into a written agreement with the board.

(e) Notwithstanding any other law, the municipality may not issue a pension obligation bond to fund the municipal contribution rate under this section.

Sec. 13B. RISK SHARING VALUATION STUDIES. (a) The fund and the municipality shall separately cause their respective actuaries to prepare a risk sharing valuation study in accordance with this section and actuarial standards of practice. A risk sharing valuation study must:

(1) be dated as of the first day of the fiscal year in which the study is required to be prepared;

(2) be included in the fund's standard valuation study prepared annually for the fund;

(3) calculate the unfunded actuarial accrued liability of the fund;

(4) be based on actuarial data provided by the fund actuary or, if actuarial data is not provided, on estimates of actuarial data;

(5) estimate the municipal contribution rate, taking into account any adjustments required under Section 13E or 13F of this article for all applicable prior fiscal years;

(6) subject to Subsection (g) of this section, be based on the following assumptions and methods that are consistent with actuarial standards of practice:

(A) an ultimate entry age normal actuarial method;

(B) for purposes of determining the actuarial value of assets:

(i) except as provided by Subparagraph (ii) of this paragraph and Section 13E(c)(1) or 13F(c)(2) of this article, an asset smoothing method recognizing actuarial losses and gains over a five-year period applied prospectively beginning on the year 2017 effective date; and

(ii) for the initial risk sharing valuation study prepared under Section 13C of this article, a marked-to-market method applied as of June 30, 2016;

(C) closed layered amortization of liability layers to ensure that the amortization period for each layer begins 12 months after the date of the risk sharing valuation study in which the liability layer is first recognized;

(D) each liability layer is assigned an amortization period;

(E) each liability loss layer amortized over a period of 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized, except that the legacy liability must be amortized from July 1, 2016, for a 30-year period beginning July 1, 2017;

(F) the amortization period for each liability gain layer being:

(i) equal to the remaining amortization period on the largest remaining liability loss layer and the two layers must be treated as one layer such that if the payoff year of the liability loss layer is accelerated or extended, the payoff year of the liability gain layer is also accelerated or extended; or

(ii) if there is no liability loss layer, a period of 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability gain layer is first recognized;

(G) liability layers, including the legacy liability, funded according to the level percent of payroll method;

(H) the assumed rate of return, subject to adjustment under Section 13E(c)(2) of this article or, if Section 13C(g) of this article applies, adjustment in accordance with a written agreement, except the assumed rate of return may not exceed seven percent per annum;

(I) the price inflation assumption as of the most recent actuarial experience study, which may be reset by the board by plus or minus 50 basis points based on that actuarial experience study;

(J) projected salary increases and payroll growth rate set in consultation with the municipality's finance director; and

(K) payroll for purposes of determining the corridor midpoint and municipal contribution rate must be projected using the annual payroll growth rate assumption, which for purposes of preparing any amortization schedule may not exceed three percent; and

(7) be revised and restated, if appropriate, not later than:

(A) the date required by a written agreement entered into between the municipality and the board; or

(B) the 30th day after the date required action is taken by the board under Section 13E or 13F of this article to reflect any changes required by either section.

(b) As soon as practicable after the end of a fiscal year, the fund actuary at the direction of the fund and the municipal actuary at the direction of the municipality shall separately prepare a proposed risk sharing valuation study based on the fiscal year that just ended.

(c) Not later than September 30 following the end of the fiscal year, the fund shall provide to the municipal actuary, under a confidentiality agreement in which the municipal actuary agrees to comply with the confidentiality provisions of Section 17 of this article, the actuarial data described by Subsection (a)(4) of this section.

(d) Not later than the 150th day after the last day of the fiscal year:

(1) the fund actuary, at the direction of the fund, shall provide the proposed risk sharing valuation study prepared by the fund actuary under Subsection (b) of this section to the municipal actuary; and

(2) the municipal actuary, at the direction of the municipality, shall provide the proposed risk sharing valuation study prepared by the municipal actuary under Subsection (b) of this section to the fund actuary.

(e) Each actuary described by Subsection (d) of this section may provide copies of the proposed risk sharing valuation studies to the municipality or to the fund, as appropriate.

(f) If, after exchanging proposed risk sharing valuation studies under Subsection (d) of this section, it is found that the difference between the estimated municipal contribution rate recommended in the proposed risk sharing valuation study prepared by the fund actuary and the estimated municipal contribution rate recommended in the proposed risk sharing valuation study prepared by the municipal actuary for the corresponding fiscal year is:

(1) less than or equal to two percentage points, the estimated municipal contribution rate recommended by the fund actuary will be the estimated municipal contribution rate for purposes of Subsection (a)(5) of this section, and the proposed risk sharing valuation study prepared for the fund is considered to be the final risk sharing valuation study for the fiscal year for the purposes of this article; or

(2) greater than two percentage points, the municipal actuary and the fund actuary shall have 20 business days to reconcile the difference, provided that, without the mutual agreement of both actuaries, the difference in the estimated municipal contribution rate recommended by the municipal actuary and the estimated municipal contribution rate recommended by the fund actuary may not be further increased and:

(A) if, as a result of reconciliation efforts under this subdivision, the difference is reduced to less than or equal to two percentage points:

(i) subject to any adjustments under Section 13E or 13F of this article, as applicable, the estimated municipal contribution rate proposed under the reconciliation by the fund actuary will be the estimated municipal contribution rate for purposes of Subsection (a)(5) of this section; and

(ii) the fund's risk sharing valuation study is considered to be the final risk sharing valuation study for the fiscal year for the purposes of this article; or

(B) if, after 20 business days, the fund actuary and the municipal actuary are not able to reach a reconciliation that reduces the difference to an amount less than or equal to two percentage points, subject to any adjustments under Section 13E or 13F of this article, as applicable:

(i) the municipal actuary at the direction of the municipality and the fund actuary at the direction of the fund each shall deliver to the finance director of the municipality and the executive director of the fund a final risk sharing valuation study with any agreed-to changes, marked as the final risk sharing valuation study for each actuary; and

(ii) not later than the 90th day before the first day of the next fiscal year, the finance director and the executive director shall execute a joint addendum to the final risk sharing valuation study received under Subparagraph (i) of this paragraph that is a part of the final risk sharing valuation study for the fiscal year for all purposes and reflects the arithmetic average of the estimated municipal contribution rates for the fiscal year stated by the municipal actuary and the fund actuary in the final risk sharing valuation study for purposes of Subsection (a)(5) of this section.

(g) The assumptions and methods used and the types of actuarial data and financial information used to prepare the initial risk sharing valuation study under Section 13C of this article shall be used to prepare each subsequent risk sharing valuation study under this section, unless changed based on the actuarial experience study conducted under Section 13D of this article.

(h) The actuarial data provided under Subsection (a)(4) of this section may not include the identifying information of individual members.

Sec. 13C. INITIAL RISK SHARING VALUATION STUDIES; CORRIDOR MIDPOINT. (a) The fund and the municipality shall separately cause their respective actuaries to prepare an initial risk sharing valuation study that is dated as of July 1, 2016, in accordance with this section. An initial risk sharing valuation study must:

(1) except as otherwise provided by this section, be prepared in accordance with Section 13B of this article and, for purposes of Section 13B(a)(4) of this article, be based on actuarial data as of June 30, 2016, or, if actuarial data is not provided, on estimates of actuarial data; and

(2) project the corridor midpoint for 31 fiscal years beginning with the fiscal year beginning July 1, 2017.

(b) If the initial risk sharing valuation study has not been prepared consistent with this section before the year 2017 effective date, as soon as practicable after the year 2017 effective date:

(1) the fund shall provide to the municipal actuary, under a confidentiality agreement, the necessary actuarial data used by the fund actuary to prepare the proposed initial risk sharing valuation study; and

(2) not later than the 30th day after the date the municipal actuary receives the actuarial data:

(A) the municipal actuary, at the direction of the municipality, shall provide a proposed initial risk sharing valuation study to the fund actuary; and

(B) the fund actuary, at the direction of the fund, shall provide a proposed initial risk sharing valuation study to the municipal actuary.

(c) If, after exchanging proposed initial risk sharing valuation studies under Subsection (b)(2) of this section, it is determined that the difference between the estimated municipal contribution rate for any fiscal year recommended in the proposed initial risk sharing valuation study prepared by the fund actuary and the estimated municipal contribution rate for any fiscal year recommended in the proposed initial risk sharing valuation study prepared by the municipal actuary is:

(1) less than or equal to two percentage points, the estimated municipal contribution rate for that fiscal year recommended by the fund actuary will be the estimated municipal contribution rate for purposes of Section 13B(a)(5) of this article; or

(2) greater than two percentage points, the municipal actuary and the fund actuary shall have 20 business days to reconcile the difference and:

(A) if, as a result of reconciliation efforts under this subdivision, the difference in any fiscal year is reduced to less than or equal to two percentage points, the estimated municipal contribution rate recommended by the fund actuary for that fiscal year will be the estimated municipal contribution rate for purposes of Section 13B(a)(5) of this article; or

(B) if, after 20 business days, the municipal actuary and the fund actuary are not able to reach a reconciliation that reduces the difference to an amount less than or equal to two percentage points for any fiscal year:

(i) the municipal actuary at the direction of the municipality and the fund actuary at the direction of the fund each shall deliver to the finance director of the municipality and the executive director of the fund a final initial risk sharing valuation study with any agreed-to changes, marked as the final initial risk sharing valuation study for each actuary; and

(ii) the finance director and the executive director shall execute a joint addendum to the final initial risk sharing valuation study that is a part of each final initial risk sharing valuation study for all purposes and that reflects the arithmetic average of the estimated municipal contribution rate for each fiscal year in which the difference was greater than two percentage points for purposes of Section 13B(a)(5) of this article.

(d) In preparing the initial risk sharing valuation study, the municipal actuary and fund actuary shall:

(1) adjust the actuarial value of assets to be equal to the market value of assets as of July 1, 2016; and

(2) assume benefit and contribution changes under this article as of the year 2017 effective date.

(e) If the municipal actuary does not prepare an initial risk sharing valuation study for purposes of this section, the fund actuary's initial risk sharing valuation study will be used as the final risk sharing valuation study for purposes of this article unless the municipality did not prepare a proposed initial risk sharing valuation study because the fund actuary did not provide the necessary actuarial data in a timely manner. If the municipality did not prepare a proposed initial risk sharing valuation study because the fund actuary did not provide the necessary actuarial data in a timely manner, the municipal actuary shall have 60 days to prepare the proposed initial risk sharing valuation study on receipt of the necessary information.

(f) If the fund actuary does not prepare a proposed initial risk sharing valuation study for purposes of this section, the proposed initial risk sharing valuation study prepared by the municipal actuary will be the final risk sharing valuation study for purposes of this article.

(g) The municipality and the board may agree on a written transition plan for resetting the corridor midpoint:

(1) if at any time the funded ratio is equal to or greater than 100 percent; or

(2) for any fiscal year after the payoff year of the legacy liability.

(h) If the municipality and the board have not entered into an agreement described by Subsection (g) of this section in a given fiscal year, the corridor midpoint will be the corridor midpoint determined for the 31st fiscal year in the initial risk sharing valuation study prepared in accordance with this section.

(i) If the municipality makes a contribution to the fund of at least $5 million more than the amount that would be required by Section 13A(a) of this article, a liability gain layer with the same remaining amortization period as the legacy liability is created and the corridor midpoint shall be decreased by the amortized amount in each fiscal year covered by the liability gain layer produced divided by the projected pensionable payroll.

Sec. 13D. ACTUARIAL EXPERIENCE STUDIES. (a) At least once every four years, the fund actuary at the direction of the fund shall conduct an actuarial experience study in accordance with actuarial standards of practice. The actuarial experience study required by this subsection must be completed not later than September 30 of the year in which the study is required to be conducted.

(b) Except as otherwise expressly provided by Sections 13B(a)(6)(A)-(I) of this article, actuarial assumptions and methods used in the preparation of a risk sharing valuation study, other than the initial risk sharing valuation study, shall be based on the results of the most recent actuarial experience study.

(c) Not later than the 180th day before the date the board may consider adopting any assumptions and methods for purposes of Section 13B of this article, the fund shall provide the municipal actuary with a substantially final draft of the fund's actuarial experience study, including:

(1) all assumptions and methods recommended by the fund actuary; and

(2) summaries of the reconciled actuarial data used in creation of the actuarial experience study.

(d) Not later than the 60th day after the date the municipality receives the final draft of the fund's actuarial experience study under Subsection (c) of this section, the municipal actuary and fund actuary shall confer and cooperate on reconciling and producing a final actuarial experience study. During the period prescribed by this subsection, the fund actuary may modify the recommended assumptions in the draft actuarial experience study to reflect any changes to assumptions and methods to which the fund actuary and the municipal actuary agree.

(e) At the municipal actuary's written request, the fund shall provide additional actuarial data used by the fund actuary to prepare the draft actuarial experience study, provided that confidential data may only be provided subject to a confidentiality agreement in which the municipal actuary agrees to comply with the confidentiality provisions of Section 17 of this article.

(f) The municipal actuary at the direction of the municipality shall provide in writing to the fund actuary and the fund:

(1) any assumptions and methods recommended by the municipal actuary that differ from the assumptions and methods recommended by the fund actuary; and

(2) the municipal actuary's rationale for each method or assumption the actuary recommends and determines to be consistent with standards adopted by the Actuarial Standards Board.

(g) Not later than the 30th day after the date the fund actuary receives the municipal actuary's written recommended assumptions and methods and rationale under Subsection (f) of this section, the fund shall provide a written response to the municipality identifying any assumption or method recommended by the municipal actuary that the fund does not accept. If any assumption or method is not accepted, the fund shall recommend to the municipality the names of three independent actuaries for purposes of this section.

(h) An actuary may only be recommended, selected, or engaged by the fund as an independent actuary under this section if the person:

(1) is not already engaged by the municipality, the fund, or any other pension system authorized under Article 6243g-4, Revised Statutes, or Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), to provide actuarial services to the municipality, the fund, or another pension system referenced in this subdivision;

(2) is a member of the American Academy of Actuaries; and

(3) has at least five years of experience as an actuary working with one or more public retirement systems with assets in excess of $1 billion.

(i) Not later than the 20th day after the date the municipality receives the list of three independent actuaries under Subsection (g) of this section, the municipality shall identify and the fund shall hire one of the listed independent actuaries on terms acceptable to the municipality and the fund to perform a scope of work acceptable to the municipality and the fund. The municipality and the fund each shall pay 50 percent of the cost of the independent actuary engaged under this subsection. The municipality shall be provided the opportunity to participate in any communications between the independent actuary and the fund concerning the engagement, engagement terms, or performance of the terms of the engagement.

(j) The independent actuary engaged under Subsection (i) of this section shall receive on request from the municipality or the fund:

(1) the fund's draft actuarial experience study, including all assumptions and methods recommended by the fund actuary;

(2) summaries of the reconciled actuarial data used to prepare the draft actuarial experience study;

(3) the municipal actuary's specific recommended assumptions and methods together with the municipal actuary's written rationale for each recommendation;

(4) the fund actuary's written rationale for its recommendations; and

(5) if requested by the independent actuary and subject to a confidentiality agreement in which the independent actuary agrees to comply with the confidentiality provisions of Section 17 of this article, additional confidential actuarial data.

(k) Not later than the 30th day after the date the independent actuary receives all the requested information under Subsection (j) of this section, the independent actuary shall advise the fund and the municipality whether it agrees with the assumption or method recommended by the municipal actuary or the corresponding method or assumption recommended by the fund actuary, together with the independent actuary's rationale for making the determination. During the period prescribed by this subsection, the independent actuary may discuss recommendations in simultaneous consultation with the fund actuary and the municipal actuary.

(l) The fund and the municipality may not seek any information from any prospective independent actuary about possible outcomes of the independent actuary's review.

(m) If an independent actuary has questions or concerns regarding an engagement entered into under this section, the independent actuary shall simultaneously consult with both the municipal actuary and the fund actuary regarding the questions or concerns. This subsection does not limit the fund's authorization to take appropriate steps to complete the engagement of the independent actuary on terms acceptable to both the fund and the municipality or to enter into a confidentiality agreement with the independent actuary, if needed.

(n) If the board does not adopt an assumption or method recommended by the municipal actuary to which the independent actuary agrees, or recommended by the fund actuary, the municipal actuary is authorized to use that recommended assumption or method in connection with preparation of a subsequent risk sharing valuation study under Section 13B of this article until the next actuarial experience study is conducted.

Sec. 13E. MUNICIPAL CONTRIBUTION RATE WHEN ESTIMATED MUNICIPAL CONTRIBUTION RATE LOWER THAN CORRIDOR MIDPOINT;

AUTHORIZATION FOR CERTAIN ADJUSTMENTS. (a) This section governs the determination of the municipal contribution rate applicable in a fiscal year if the estimated municipal contribution rate is lower than the corridor midpoint.

(b) If the funded ratio is:

(1) less than 90 percent, the municipal contribution rate for the fiscal year equals the corridor midpoint; or

(2) equal to or greater than 90 percent and the municipal contribution rate is:

(A) equal to or greater than the minimum contribution rate, the estimated municipal contribution rate is the municipal contribution rate for the fiscal year; or

(B) except as provided by Subsection (e) of this section, less than the minimum contribution rate for the corresponding fiscal year, the municipal contribution rate for the fiscal year equals the minimum contribution rate achieved in accordance with Subsection (c) of this section.

(c) For purposes of Subsection (b)(2)(B) of this section, the following adjustments shall be applied sequentially to the extent required to increase the estimated municipal contribution rate to equal the minimum contribution rate:

(1) first, adjust the actuarial value of assets equal to the current market value of assets, if making the adjustment causes the municipal contribution rate to increase;

(2) second, under a written agreement between the municipality and the board entered into not later than April 30 before the first day of the next fiscal year, reduce the assumed

rate of return;

(3) third, under a written agreement between the municipality and the board entered into not later than April 30 before the first day of the next fiscal year, prospectively restore all or part of any benefit reductions or reduce increased employee contributions, in each case made after the year 2017 effective date; and

(4) fourth, accelerate the payoff year of the existing liability loss layers, including the legacy liability, by accelerating the oldest liability loss layers first, to an amortization period that is not less than 10 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized.

(d) If the funded ratio is:

(1) equal to or greater than 100 percent:

(A) all existing liability layers, including the legacy liability, are considered fully amortized and paid;

(B) the applicable fiscal year is the payoff year for the legacy liability; and

(C) for each fiscal year subsequent to the fiscal year described by Paragraph (B) of this subdivision, the corridor midpoint shall be determined as provided by Section 13C(g) of this article; and

(2) greater than 100 percent in a written agreement between the municipality and the fund, the fund may reduce member contributions or increase pension benefits if, as a result of the

action:

(A) the funded ratio is not less than 100 percent; and

(B) the municipal contribution rate is not more than the minimum contribution rate.

(e) Except as provided by Subsection (f) of this section, if an agreement under Subsection (d) of this section is not reached on or before April 30 before the first day of the next fiscal year, before the first day of the next fiscal year the board shall reduce member contributions and implement or increase cost-of-living adjustments, but only to the extent that the municipal contribution rate is set at or below the minimum contribution rate and the funded ratio is not less than 100 percent.

(f) If any member contribution reduction or benefit increase under Subsection (e) of this section has occurred within the previous three fiscal years, the board may not make additional adjustments to benefits, and the municipal contribution rate must be set to equal the minimum contribution rate.

Sec. 13F. MUNICIPAL CONTRIBUTION RATE WHEN ESTIMATED MUNICIPAL CONTRIBUTION RATE EQUAL TO OR GREATER THAN CORRIDOR MIDPOINT; AUTHORIZATION FOR CERTAIN ADJUSTMENTS. (a) This section governs the determination of the municipal contribution rate in a fiscal year when the estimated municipal contribution rate is equal to or greater than the corridor midpoint.

(b) If the estimated municipal contribution rate is:

(1) less than or equal to the maximum contribution rate for the corresponding fiscal year, the estimated municipal

contribution rate is the municipal contribution rate; or

(2) except as provided by Subsection (d) or (e) of this section, greater than the maximum contribution rate for the corresponding fiscal year, the municipal contribution rate equals the corridor midpoint achieved in accordance with Subsection (c) of this section.

(c) For purposes of Subsection (b)(2) of this section, the following adjustments shall be applied sequentially to the extent required to decrease the estimated municipal contribution rate to equal the corridor midpoint:

(1) first, if the payoff year of the legacy liability was accelerated under Section 13E(c) of this article, extend the payoff year of existing liability loss layers, by extending the most recent loss layers first, to a payoff year not later than 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized; and

(2) second, adjust the actuarial value of assets to the current market value of assets, if making the adjustment causes the municipal contribution rate to decrease.

(d) If the municipal contribution rate after adjustment under Subsection (c) of this section is greater than the third quarter line rate:

(1) the municipal contribution rate equals the third quarter line rate; and

(2) to the extent necessary to comply with Subdivision (1) of this subsection, the municipality and the board shall enter

into a written agreement to increase member contributions and make other benefit or plan changes not otherwise prohibited by applicable federal law or regulations.

(e) If an agreement under Subsection (d)(2) of this section is not reached on or before April 30 before the first day of the next fiscal year, before the start of the next fiscal year to which the municipal contribution rate would apply, the board, to the extent necessary to set the municipal contribution rate equal to the third quarter line rate, shall:

(1) increase member contributions and decrease cost-of-living adjustments;

(2) increase the normal retirement age; or

(3) take any combination of actions authorized under Subdivisions (1) and (2) of this subsection.

(f) If the municipal contribution rate remains greater than the corridor midpoint in the third fiscal year after adjustments are made in accordance with Subsection (d)(2) of this section, in that fiscal year the municipal contribution rate equals the corridor midpoint achieved in accordance with Subsection (g) of this section.

(g) The municipal contribution rate must be set at the corridor midpoint under Subsection (f) of this section by:

(1) in the risk sharing valuation study for the third fiscal year described by Subsection (f) of this section, adjusting the actuarial value of assets to equal the current market value of assets, if making the adjustment causes the municipal contribution rate to decrease; and

(2) under a written agreement entered into between the municipality and the board:

(A) increasing member contributions; and

(B) making any other benefit or plan changes not otherwise prohibited by applicable federal law or regulations.

(h) If an agreement under Subsection (g)(2) of this section is not reached on or before April 30 before the first day of the next fiscal year, before the start of the next fiscal year, the board, to the extent necessary to set the municipal contribution rate equal to the corridor midpoint, shall:

(1) increase member contributions and decrease cost-of-living adjustments;

(2) increase the normal retirement age; or

(3) take any combination of actions authorized under Subdivisions (1) and (2) of this subsection.

Sec. 13G. INTERPRETATION OF CERTAIN RISK SHARING PROVISIONS; UNILATERAL DECISIONS AND ACTIONS PROHIBITED. (a) Nothing in this article, including Section 2(p) or (p-1) of this article and any authority of the board to construe and interpret this article, to determine any fact, to take any action, or to interpret any terms used in Sections 13A through 13F of this article, may alter or change Sections 13A through 13F of this article.

(b) No unilateral decision or action by the board is binding on the municipality and no unilateral decision or action by the municipality is binding on the fund with respect to the application of Sections 13A through 13F of this article unless expressly provided by a provision of those sections. Nothing in this subsection is intended to limit the powers or authority of the board.

(c) Section 10 of this article does not apply to a benefit increase under Section 13E of this article, and Section 10 of this article is suspended while Sections 13A through 13F of this article are in effect.

Sec. 13H. STATE PENSION REVIEW BOARD; REPORT. (a) After preparing a final risk sharing valuation study under Section 13B or 13C of this article, the fund and the municipality shall jointly submit a copy of the study or studies, as appropriate, to the State Pension Review Board for a determination that the fund and municipality are in compliance with this article.

(b) Not later than the 30th day after the date an action is taken under Section 13E or 13F of this article, the fund shall submit a report to the State Pension Review Board regarding any actions taken under those sections.

(c) The State Pension Review Board shall notify the governor, the lieutenant governor, the speaker of the house of representatives, and the legislative committees having principal jurisdiction over legislation governing public retirement systems if the State Pension Review Board determines the fund or the municipality is not in compliance with Sections 13A through 13G of this article.

SECTION 1.15. Section 17, Article 6243e.2(1), Revised Statutes, is amended by adding Subsections (f), (g), (h), (i), and (j) to read as follows:

(f) To carry out the provisions of Sections 13A through 13F of this article, the board and the fund must provide the municipal actuary under a confidentiality agreement the actuarial data used by the fund actuary for the fund's actuarial valuations or valuation studies and other data as agreed to between the municipality and the fund that the municipal actuary determines is reasonably necessary for the municipal actuary to perform the studies required by Sections 13A through 13F of this article. Actuarial data described by this subsection does not include information described by Subsection (a) of this section.

(g) A risk sharing valuation study prepared by either the municipal actuary or the fund actuary under Sections 13A through 13F of this article may not:

(1) include information described by Subsection (a) of this section; or

(2) provide confidential or private information regarding specific individuals or be grouped in a manner that allows confidential or private information regarding a specific individual to be discerned.

(h) The information, data, and document exchanges under Sections 13A through 13F of this article have all the protections afforded by applicable law and are expressly exempt from the disclosure requirements under Chapter 552, Government Code, except as may be agreed to by the municipality and fund in a written agreement.

(i) Subsection (h) of this section does not apply to:

(1) a proposed risk sharing valuation study prepared

by the fund actuary and provided to the municipal actuary or prepared by the municipal actuary and provided to the fund actuary under Section 13B(d) or 13C(b)(2); or

(2) a final risk sharing valuation study prepared under Section 13B or 13C of this article.

(j) Before a union contract is approved by the municipality, the mayor of the municipality shall cause the municipal actuaries to deliver to the mayor a report estimating the impact of the proposed union contract on fund costs.

SECTION 1.16. Sections 13(d) and (e), Article 6243e.2(1), Revised Statutes, are repealed.

SECTION 1.17. The firefighters' relief and retirement fund established under Article 6243e.2(1), Revised Statutes, shall require the fund actuary to prepare the first actuarial experience study required under Section 13D, Article 6243e.2(1), Revised Statutes, as added by this Act, not later than September 30, 2020.

ARTICLE 2. POLICE OFFICERS' PENSION SYSTEM

SECTION 2.01. Section 1, Article 6243g-4, Revised Statutes, is amended to read as follows:

Sec. 1. PURPOSE. The purpose of this article is to restate and amend the provisions of former law creating and governing a police officers pension system in each city in this state having a population of two [~~1.5~~] million or more, according to the most recent federal decennial census, and to reflect changes agreed to by the city and the board of trustees of the pension system under Section 27 of this article. The pension system shall continue to operate regardless of whether the city's population falls below two

[~~1.5~~] million.

SECTION 2.02. Article 6243g-4, Revised Statutes, is amended by adding Section 1A to read as follows:

Sec. 1A. INTERPRETATION OF ARTICLE. This article does not and may not be interpreted to:

(1) relieve the city, the board, or the pension system of their respective obligations under Sections 9 through 9E of this article;

(2) reduce or modify the rights of the city, the board, or the pension system, including any officer or employee of the city, board, or pension system, to enforce obligations described by Subdivision (1) of this section;

(3) relieve the city, including any official or employee of the city, from:

(A) paying or directing to pay required contributions to the pension system under Section 8 or 9 of this article or carrying out the provisions of Sections 9 through 9E of this article; or

(B) reducing or modifying the rights of the board and any officer or employee of the board or pension system to enforce obligations described by Subdivision (1) of this section;

(4) relieve the pension system or board, including any officer or employee of the pension system or board, from any obligation to implement a benefit change or carry out the provisions of Sections 9 through 9E of this article; or

(5) reduce or modify the rights of the city and any officer or employee of the city to enforce an obligation described

by Subdivision (4) of this section.

SECTION 2.03. Section 2, Article 6243g-4, Revised Statutes, is amended by amending Subdivisions (1), (2), (3), (4-a), (11), (13), (14-a), (17), (17-a), and (22) and adding Subdivisions (1-a), (1-b), (1-c), (4-b), (4-c), (4-d), (5-a), (5-b), (5-c), (10-a), (10-b), (10-c), (10-d), (12-a), (13-a), (13-b), (13-c), (13-d), (13-e), (13-f), (14-b), (14-c), (15-a), (15-b), (16-a), (16-b), (17-b), (17-c), (17-d), (17-e), (24), (25), (26), (27), (28), and (29) to read as follows:

(1) "Active member" means an employee of the city within [~~a person employed as a classified police officer by~~] the police department of a city subject to this article, in a classified or appointed position, except for a person in an appointed position who opts out of the plan, a person who is a part-time, seasonal, or temporary employee, or a person who elected to remain a member of a pension system described by Chapter 88, Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes). The term does not include a person who is a member of another pension system of the same city, except to the extent provided by Section [~~15(j) or~~] 18 of this article.

(1-a) "Actuarial data" includes:

(A) the census data, assumption tables, disclosure of methods, and financial information that are routinely used by the pension system actuary for the pension system's valuation studies or an actuarial experience study under Section 9C of this article; and

(B) other data that is reasonably necessary to implement Sections 9 through 9E of this article, as agreed to by the city and the board.

(1-b) "Actuarial experience study" has the meaning assigned by Section 802.1014, Government Code.

(1-c) "Amortization period" means the time period necessary to fully pay a liability layer.

(2) "Amortization rate" means the sum of the scheduled amortization payments for a given fiscal year for the current liability layers divided by the projected pensionable payroll for that fiscal year. [~~"Average total direct pay" means an amount determined by dividing the following sum by 12:~~

[~~(A) the highest biweekly pay received by a member for any single pay period in the last 26 pay periods in which the member worked full-time, considering only items of total direct pay that are included in each paycheck, multiplied by 26; plus~~

[~~(B) the total direct pay, excluding all items of the type included in Paragraph (A) received during the same last 26 biweekly pay periods.~~]

(3) "Assumed rate of return" means the assumed market rate of return on pension system assets, which is seven percent per annum unless adjusted as provided by this article [~~"Base salary" means the monthly base pay provided for the classified position in the police department held by the member~~].

(4-a) "Catastrophic injury" means a sudden, violent, life-threatening, duty-related injury sustained by an active member that is due to an externally caused motor vehicle accident, gunshot wound, aggravated assault, or other external event or events and results, as supported by evidence, in one of the following conditions:

(A) <u>total, complete, and permanent</u> loss of sight in one or both eyes;

(B) <u>total, complete, and permanent</u> loss of <u>the use of</u> one or both feet at or above the ankle;

(C) <u>total, complete, and permanent</u> loss of <u>the use of</u> one or both hands at or above the wrist;

(D) injury to the spine that results in <u>a total,</u> permanent<u>,</u> and complete paralysis of both arms, both legs, or one arm and one leg; or

(E) an externally caused physical traumatic injury to the brain rendering the member physically or mentally unable to perform the member's duties as a police officer.

<u>(4-b) "City" means a city subject to this article.</u>

<u>(4-c) "City contribution rate" means a percent of pensionable payroll that is the sum of the employer normal cost rate and the amortization rate for liability layers, except as determined otherwise under the express provisions of Sections 9D and 9E of this article.</u>

<u>(4-d) "Classified" means any person classified by the city as a police officer.</u>

<u>(5-a) "Corridor" means the range of city contribution rates that are:</u>

<u>(A) equal to or greater than the minimum contribution rate; and</u>

<u>(B) equal to or less than the maximum</u>

contribution rate.

(5-b) "Corridor margin" means five percentage points.

(5-c) "Corridor midpoint" means the projected city contribution rate specified for each fiscal year for 31 years in the initial risk sharing valuation study under Section 9B of this article, as may be adjusted under Section 9D or 9E of this article, and in each case rounded to the nearest hundredths decimal place.

(10-a) "Employer normal cost rate" means the normal cost rate minus the member contribution rate.

(10-b) "Estimated city contribution rate" means the city contribution rate estimated in a final risk sharing valuation study under Section 9A or 9B of this article, as applicable, as required by Section 9A(a)(5) of this article.

(10-c) "Fiscal year," except as provided by Section 2A of this article, means a fiscal year beginning July 1 and ending June 30.

(10-d) "Final average pay" means the pay received by a member over the last 78 biweekly pay periods ending before the earlier of:

(A) the date the member terminates employment with the police department, divided by 36; or

(B) the date the member began participation in DROP, divided by 36.

(11) "Former member" means a person who was once an active member, eligible for benefits [~~vested~~] or not, but who terminated active member status and received a refund of member contributions.

(12-a) "Funded ratio" means the ratio of the pension system's actuarial value of assets divided by the pension system's actuarial accrued liability.

(13) "Inactive member" means a person who has separated from service and is eligible to receive [~~has a vested right to~~] a service pension from the pension system but is not eligible for an immediate service pension. The term does not include a former member.

(13-a) "Legacy liability" means the unfunded actuarial accrued liability as of June 30, 2016, as reduced to reflect:

(A) changes to benefits and contributions under this article that took effect on the year 2017 effective date;

(B) the deposit of pension obligation bond proceeds on December 31, 2017, in accordance with Section 9B(j)(2) of this article;

(C) payments by the city and earnings at the assumed rate of return allocated to the legacy liability from July 1, 2016, to July 1, 2017, excluding July 1, 2017; and

(D) for each subsequent fiscal year, contributions for that year allocated to the amortization of the legacy liability and adjusted by the assumed rate of return.

(13-b) "Level percent of payroll method" means the amortization method that defines the amount of the liability layer recognized each fiscal year as a level percent of pensionable payroll until the amount of the liability layer remaining is reduced to zero.

(13-c) "Liability gain layer" means a liability layer that decreases the unfunded actuarial accrued liability.

(13-d) "Liability layer" means the legacy liability established in the initial risk sharing valuation study under Section 9B of this article and the unanticipated change as established in each subsequent risk sharing valuation study prepared under Section 9A of this article.

(13-e) "Liability loss layer" means a liability layer that increases the unfunded actuarial accrued liability. For purposes of this article, the legacy liability is a liability loss layer.

(13-f) "Maximum contribution rate" means the rate equal to the corridor midpoint plus the corridor margin.

(14-a) "Minimum contribution rate" means the rate equal to the corridor midpoint minus the corridor margin.

(14-b) "Normal cost rate" means the salary weighted average of the individual normal cost rates determined for the current active population plus an allowance for projected administrative expenses. The allowance for projected administrative expenses equals the administrative expenses divided by the pensionable payroll for the previous fiscal year, provided the administrative allowance may not exceed one percent of pensionable payroll for the current fiscal year unless agreed to by the city.

(14-c) "Normal retirement age" means:

(A) for a member hired before October 9, 2004, including a member hired before October 9, 2004, who involuntarily separated from service but was retroactively reinstated under an arbitration, civil service, or court ruling after October 9, 2004, the earlier of:

(i) [~~(A)~~] the age at which the member attains 20 years of service; or

(ii) [~~(B)~~] the age at which the member first attains both the age of at least 60 and at least 10 years of service; or

(B) except as provided by Paragraph (A) of this subdivision, for a member hired or rehired on or after October 9, 2004, the age at which the sum of the member's age in years and years of service equals at least 70.

(15-a) "Pay," unless the context requires otherwise, means wages as defined by Section 3401(a) of the code, plus any amounts that are not included in gross income by reason of Section 104(a)(1), 125, 132(f), 402(g)(2), 457, or 414(h)(2) of the code, less any pay received for overtime work, exempt time pay, strategic officer staffing program pay, motorcycle allowance, clothing allowance, or mentor pay. The definition of "pay" for purposes of this article may only be amended by written agreement of the board and the city under Section 27 of this article.

(15-b) "Payoff year" means the year a liability layer is fully amortized under the amortization period. A payoff year may not be extended or accelerated for a period that is less than one month.

(16-a) "Pension obligation bond" means a bond issued in accordance with Chapter 107, Local Government Code.

(16-b) "Pensionable payroll" means the combined salaries, in an applicable fiscal year, paid to all:

(A) active members; and

(B) if applicable, participants in any alternative retirement plan established under Section 2B of this article, including a cash balance retirement plan established under that section.

(17) "Pension system" or "system," unless the context requires otherwise, means the retirement and disability plan for employees of any police department subject to this article.

(17-a) "Police department" means one or more law enforcement agencies designated as a police department by a city.

(17-b) "Price inflation assumption" means:

(A) the most recent headline consumer price index 10-year forecast published in the Federal Reserve Bank of Philadelphia Survey of Professional Forecasters; or

(B) if the forecast described by Paragraph (A) of this subdivision is not available, another standard as determined by mutual agreement between the city and the board entered into under Section 27 of this article.

(17-c) "Projected pensionable payroll" means the estimated pensionable payroll for the fiscal year beginning 12 months after the date of the risk sharing valuation study prepared under Section 9A of this article, as applicable, at the time of calculation by:

(A) projecting the prior fiscal year's pensionable payroll projected forward two years by using the current payroll growth rate assumptions; and

(B) adjusting, if necessary, for changes in population or other known factors, provided those factors would have a material impact on the calculation, as determined by the board.

(17-d) "Retired member" means a member who has separated from service and who is eligible to receive an immediate service or disability pension under this article.

(17-e) "Salary" means pay provided for the classified position in the police department held by the employee.

(22) "Surviving spouse" means a person who was married to an active, inactive, or retired member at the time of the member's death and, in the case of a marriage or remarriage after the member's retirement, [~~an inactive or retired member, before the member's separation from service or~~] for a period of at least five consecutive years [~~before the retired or inactive member's death~~].

(24) "Third quarter line rate" means the corridor midpoint plus 2.5 percentage points.

(25) "Trustee" means a member of the board.

(26) "Ultimate entry age normal" means an actuarial cost method under which a calculation is made to determine the average uniform and constant percentage rate of contributions that, if applied to the compensation of each member during the entire period of the member's anticipated covered service, would be required to meet the cost of all benefits payable on the member's behalf based on the benefits provisions for newly hired employees. For purposes of this definition, the actuarial accrued liability

for each member is the difference between the member's present value of future benefits based on the tier of benefits that apply to the member and the member's present value of future normal costs determined using the normal cost rate.

(27) "Unfunded actuarial accrued liability" means the difference between the actuarial accrued liability and the actuarial value of assets. For purposes of this definition:

(A) "actuarial accrued liability" means the portion of the actuarial present value of projected benefits attributed to past periods of member service based on the cost method used in the risk sharing valuation study prepared under Section 9A or 9B of this article, as applicable; and

(B) "actuarial value of assets" means the value of pension system investments as calculated using the asset smoothing method used in the risk sharing valuation study prepared under Section 9A or 9B of this article, as applicable.

(28) "Unanticipated change" means, with respect to the unfunded actuarial accrued liability in each subsequent risk sharing valuation study prepared under Section 9A of this article, the difference between:

(A) the remaining balance of all then-existing liability layers as of the date of the risk sharing valuation study; and

(B) the actual unfunded actuarial accrued liability as of the date of the risk sharing valuation study.

(29) "Year 2017 effective date" means the date on which S.B. No. 2190, Acts of the 85th Legislature, Regular Session,

2017, took effect.

SECTION 2.04. Article 6243g-4, Revised Statutes, is amended by adding Sections 2A, 2B, 2C, and 2D to read as follows:

Sec. 2A. FISCAL YEAR. If either the pension system or the city changes its respective fiscal year, the pension system and the city shall enter into a written agreement under Section 27 of this article to adjust the provisions of Sections 9 through 9E of this article to reflect that change for purposes of this article.

Sec. 2B. ALTERNATIVE RETIREMENT PLANS. (a) In this section, "salary-based benefit plan" means a retirement plan provided by the pension system under this article that provides member benefits calculated in accordance with a formula that is based on multiple factors, one of which is the member's salary at the time of the member's retirement.

(b) Notwithstanding any other law, including Section 9F of this article, and except as provided by Subsection (c) of this section, the board and the city may enter into a written agreement under Section 27 of this article to offer an alternative retirement plan or plans, including a cash balance retirement plan or plans, if both parties consider it appropriate.

(c) Notwithstanding any other law, including Section 9F of this article, and except as provided by Subsection (d) of this section, if, beginning with the final risk sharing valuation study prepared under Section 9A of this article on or after July 1, 2021, either the funded ratio of the pension system is less than 65 percent as determined in the final risk sharing valuation study without making any adjustments under Section 9D or 9E of this article, or the funded ratio of the pension system is less than 65 percent as determined in a revised and restated risk sharing valuation study prepared under Section 9A(a)(7) of this article, the board and the city shall, as soon as practicable but not later than the 60th day after the date the determination is made:

(1) enter into a written agreement under Section 27 of this article to establish a cash balance retirement plan that complies with Section 2C of this article; and

(2) require each employee first hired by the city on or after the 90th day after the date the cash balance retirement plan is established to participate in the cash balance retirement plan established under this subsection instead of participating in the salary-based benefit plan, provided the employee would have otherwise been eligible to participate in the salary-based benefit plan.

(d) If the city fails to deliver the proceeds of the pension obligation bonds described by Section 9B(j)(1) of this article within the time prescribed by that subdivision, notwithstanding the funded ratio of the pension system, the board and the city may not establish a cash balance retirement plan under Subsection (c) of this section.

Sec. 2C. REQUIREMENTS FOR CERTAIN CASH BALANCE RETIREMENT PLANS. (a) In this section:

(1) "Cash balance plan participant" means an employee who participates in a cash balance retirement plan.

(2) "Cash balance retirement plan" means a cash balance retirement plan established by written agreement under

<u>Section 2B(b) of this article or Section 2B(c) of this article.</u>

<u>(3) "Interest" means the interest credited to a cash balance plan participant's notional account, which may not:</u>

<u>(A) exceed a percentage rate equal to the cash balance retirement plan's most recent five fiscal years' smoothed rate of return; or</u>

<u>(B) be less than zero percent.</u>

<u>(4) "Salary-based benefit plan" has the meaning assigned by Section 2B of this article.</u>

<u>(b) The written agreement establishing a cash balance retirement plan must:</u>

<u>(1) provide for the administration of the cash balance retirement plan;</u>

<u>(2) provide for a closed amortization period not to exceed 20 years from the date an actuarial gain or loss is realized;</u>

<u>(3) provide for the crediting of city and cash balance plan participant contributions to each cash balance plan participant's notional account;</u>

<u>(4) provide for the crediting of interest to each cash balance plan participant's notional account;</u>

<u>(5) include a vesting schedule;</u>

<u>(6) include benefit options, including options for cash balance plan participants who separate from service prior to retirement;</u>

<u>(7) provide for death and disability benefits;</u>

<u>(8) allow a cash balance plan participant who is eligible to retire under the plan to elect to:</u>

(A) receive a monthly annuity payable for the life of the cash balance plan participant in an amount actuarially determined on the date of the cash balance plan participant's retirement based on the cash balance plan participant's accumulated notional account balance annuitized in accordance with the actuarial assumptions and actuarial methods established in the most recent actuarial experience study conducted under Section 9C of this article, except that the assumed rate of return applied may not exceed the pension system's assumed rate of return in the most recent risk sharing valuation study; or

(B) receive a single, partial lump-sum payment from the cash balance plan participant's accumulated account balance and a monthly annuity payable for life in an amount determined in accordance with Paragraph (A) of this subdivision based on the cash balance plan participant's notional account balance after receiving the partial lump-sum payment; and

(9) include any other provision determined necessary by:

(A) the board and the city; or

(B) the pension system for purposes of maintaining the tax-qualified status of the pension system under Section 401 of the code.

(c) Notwithstanding any other law, including Sections 2(1), 11, and 12 of this article, an employee who participates in a cash balance retirement plan:

(1) subject to Subsection (d) of this section, is not eligible to be an active member of and may not participate in the

salary-based benefit plan; and

(2) may not accrue years of service or establish service credit in the salary-based benefit plan during the period the employee is participating in the cash balance retirement plan.

(d) A cash balance plan participant is considered an active member for purposes of Sections 9 through 9G of this article.

(e) At the time of implementation of the cash balance retirement plan, the employer normal cost rate of the cash balance retirement plan may not exceed the employer normal cost rate of the salary-based benefit plan.

Sec. 2D. CONFLICT OF LAW. To the extent of a conflict between this article and any other law, this article prevails.

SECTION 2.05. Section 3, Article 6243g-4, Revised Statutes, is amended by amending Subsection (b) and adding Subsections (i) and (j) to read as follows:

(b) The board is composed of seven members as follows:

(1) the administrative head of the city or the administrative head's authorized representative;

(2) three employees of the police department having membership in the pension system, elected by the active, inactive, and retired members of the pension system;

(3) two retired members who are receiving pensions from the system, who are elected by the active, inactive, and retired members of the pension system, and who are not:

(A) officers or employees of the city; or

(B) current or former employees of any other fund or pension system authorized under:

(i) Article 6243e.2(1), Revised Statutes; or

(ii) Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes)[~~, elected by the active, inactive, and retired members of the pension system~~]; and

(4) the director of finance [~~treasurer~~] of the city or the person discharging the duties of the director of finance, or the director's designee [~~city treasurer~~].

(i) If a candidate for either an active or retired board member position does not receive a majority vote for that position, a runoff election for that position shall be held. The board shall establish a policy for general and runoff elections for purposes of this subsection.

(j) Beginning with the year 2017 effective date:

(1) the term of office for a board member in the phase-down program A or B shall be one year; and

(2) a board member who subsequently enters phase-down program A or B and has served at least one year of the member's current term shall vacate the member's seat and may run for reelection.

SECTION 2.06. Section 4, Article 6243g-4, Revised Statutes, is amended to read as follows:

Sec. 4. BOARD MEMBER LEAVE AND COMPENSATION. (a) The city shall allow active members who are trustees to promptly attend all board and committee meetings. The city shall allow trustees the time required to travel to and attend educational workshops and legislative hearings and to attend to other pension system business, including meetings regarding proposed amendments to this article, if attendance is consistent with a trustee's duty to the board [~~Elected members of the board who are employees of the city's police department are entitled to leave from their employer to attend to the official business of the pension system and are not required to report to the city or any other governmental entity regarding travel or the official business of the pension system, except when on city business~~].

(b) [~~If the city employing an elected board member would withhold any portion of the salary of the member who is attending to official business of the pension system, the pension system may elect to adequately compensate the city for the loss of service of the member. If the board, by an affirmative vote of at least four board members, makes this election, the amounts shall be remitted from the fund to the city, and the city shall pay the board member's salary as if no loss of service had occurred.~~

[~~(c)~~] The board, by an affirmative vote of at least four board members, may elect to reimburse board members who are not employees of the city for their time while attending to official business of the pension system. The amount of any reimbursement may not exceed $750 [~~$350~~] a month for each affected board member.

SECTION 2.07. Article 6243g-4, Revised Statutes, is amended by adding Sections 5A and 5B to read as follows:

Sec. 5A. QUALIFICATIONS OF CITY ACTUARY. (a) An actuary hired by the city for purposes of this article must be an actuary from a professional service firm who:

(1) is not already engaged by the pension system or any other fund or pension system authorized under Article 6243e.2(1), Revised Statutes, or Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), to provide actuarial services to the pension system or other fund or pension system, as applicable;

(2) has a minimum of 10 years of professional actuarial experience; and

(3) is a member of the American Academy of Actuaries or a fellow of the Society of Actuaries and meets the applicable requirements to issue statements of actuarial opinion.

(b) Notwithstanding Subsection (a) of this section, the city actuary must at least meet the qualifications required by the board for the pension system actuary. The city actuary is not required to have greater qualifications than those of the pension system actuary.

Sec. 5B. LIABILITY OF CERTAIN PERSONS. (a) The trustees, executive director, and employees of the pension system are fully protected from and free of liability for any action taken or suffered by them that were performed in good faith and in reliance on an actuary, accountant, counsel, or other professional service provider, or in reliance on records provided by the city.

(b) The officers and employees of the city are fully protected and free of liability for any action taken or suffered by the officer or employee, as applicable, in good faith and on reliance on an actuary, accountant, counsel, or other professional service provider.

(c) The protection from liability provided by this section is cumulative of and in addition to any other constitutional, statutory, or common law official or governmental immunity, defense, and civil or procedural protection provided to the city or pension system as a governmental entity and to a city or pension system official or employee as an official or employee of a governmental entity. Except for a waiver expressly provided by this article, this article does not grant an implied waiver of any immunity.

SECTION 2.08. Section 6, Article 6243g-4, Revised Statutes, is amended by amending Subsections (f) and (g) and adding Subsections (f-1), (i), and (j) to read as follows:

(f) The board has full discretion and authority to:

(1) administer the pension system;

(2) [~~, to~~] construe and interpret this article and any summary plan descriptions or benefits procedures;

(3) subject to Section 9F of this article, correct any defect, supply any omission, and reconcile any inconsistency that appears in this article;[~~,~~] and

(4) take [~~to do~~] all other acts necessary to carry out the purpose of this article in a manner and to the extent that the board considers expedient to administer this article for the greatest benefit of all members.

(f-1) Except as provided by Section 9F of this article, all [~~All~~] decisions of the board under Subsection (f) of this section are final and binding on all affected parties.

(g) The board, if reasonably necessary in the course of performing a board function, may issue process or subpoena a witness or the production of a book, record, or other document as to any matter affecting retirement, disability, or death benefits under any pension plan provided by the pension system. The presiding officer of the board may issue, in the name of the board, a subpoena only if a majority of the board approves. The presiding officer of the board, or the presiding officer's designee, shall administer an oath to each witness. A peace officer shall serve a subpoena issued by the board. If the person to whom a subpoena is directed fails to comply, the board may bring suit to enforce the subpoena in a district court of the county in which the person resides or in the county in which the book, record, or other document is located. If the district court finds that good cause exists for issuance of the subpoena, the court shall order compliance. The district court may modify the requirements of a subpoena that the court finds are unreasonable. Failure to obey the order of the district court is punishable as contempt.

(i) If the board or its designee determines that any person to whom a payment under this article is due is a minor or is unable to care for the person's affairs because of a physical or mental disability, and if the board or its designee, as applicable, determines the person does not have a guardian or other legal representative and that the estate of the person is insufficient to justify the expense of establishing a guardianship, or continuing a guardianship after letters of guardianship have expired, then until current letters of guardianship are filed with the pension system, the board or its designee, as applicable, may make the payment:

(1) to the spouse of the person, as trustee for the person;

(2) to an individual or entity actually providing for the needs of and caring for the person, as trustee for the person; or

(3) to a public agency or private charitable organization providing assistance or services to the aged or incapacitated that agrees to accept and manage the payment for the benefit of the person as a trustee.

(j) The board or its designee is not responsible for overseeing how a person to whom payment is made under Subsection (i) of this section uses or otherwise applies the payments. Payments made under Subsection (i) of this section constitute a complete discharge of the pension system's liability and obligation to the person on behalf of whom payment is made.

SECTION 2.09. Section 8(a), Article 6243g-4, Revised Statutes, is amended to read as follows:

(a) Subject to adjustments authorized by Section 9D or 9E of this article, each [~~Each~~] active member of the pension system shall pay into the system each month 10.5 [~~8-3/4~~] percent of the member's [~~total direct~~] pay. The payments shall be deducted by the city from the salary of each active member each payroll period and paid to the pension system. Except for the repayment of withdrawn contributions under Section 17(f) [~~or 18(c)(3)~~] of this article and rollovers permitted by Section 17(h) of this article, a person may not be required or permitted to make any payments into the pension system after the person separates from service.

SECTION 2.10. Section 9, Article 6243g-4, Revised Statutes, is amended to read as follows:

Sec. 9. CONTRIBUTIONS BY THE CITY. (a) Beginning with the year 2017 effective date, the city shall make contributions to the pension system for deposit into the fund as provided by this section and Section 9A, 9B, 9D, or 9E of this article, as applicable. The city shall contribute:

(1) beginning with the year 2017 effective date and ending with the fiscal year ending June 30, 2018, an amount equal to the city contribution rate, as determined in the initial risk sharing valuation study conducted under Section 9B of this article and adjusted under Section 9D or 9E of this article, as applicable, multiplied by the pensionable payroll for the fiscal year; and

(2) for each fiscal year after the fiscal year ending June 30, 2018, an amount equal to the city contribution rate, as determined in a subsequent risk sharing valuation study conducted under Section 9A of this article and adjusted under Section 9D or 9E of this article, as applicable, multiplied by the pensionable payroll for the applicable fiscal year.

(b) Except by written agreement between the city and the board under Section 27 of this article providing for an earlier contribution date, at least biweekly, the city shall make the contributions required by Subsection (a) of this section by depositing with the pension system an amount equal to the city contribution rate multiplied by the pensionable payroll for the biweekly period.

(c) With respect to each fiscal year:

(1) the first contribution by the city under this section for the fiscal year shall be made not later than the date payment is made to employees for their first full biweekly pay period beginning on or after the first day of the fiscal year; and

(2) the final contribution by the city under this section for the fiscal year shall be made not later than the date payment is made to employees for the final biweekly pay period of the fiscal year.

(d) In addition to the amounts required under this section, the city may at any time contribute additional amounts to the pension system for deposit in the pension fund by entering into a written agreement with the board in accordance with Section 27 of this article [~~The city shall make substantially equal contributions to the fund as soon as administratively feasible after each payroll period. For each fiscal year ending after June 30, 2005, the city's minimum contribution shall be the greater of 16 percent of the members' total direct pay or the level percentage of salary payment required to amortize the unfunded actuarial liability over a constant period of 30 years computed on the basis of an acceptable actuarial reserve funding method approved by the board. However, for the fiscal year ending June 30, 2002, the city's contribution shall be $32,645,000, for the fiscal year ending June 30, 2003, the city's contribution shall be $34,645,000, for the fiscal year ending June 30, 2004, the city's contribution shall be $36,645,000, and for the fiscal year ending June 30, 2005, the city's contribution shall be 16 percent of the members' total direct pay~~].

(e) [~~(c)~~] The governing body of a city to which this article applies by ordinance or resolution may provide that the city pick up active member contributions required by Section 8 of this article so that the contributions of all active members of the pension system qualify as picked-up contributions under Section 414(h)(2) of the code. If the governing body of a city adopts an ordinance or resolution under this section, the city, the board, and any other necessary party shall implement the action as soon as practicable. Contributions picked up as provided by this subsection shall be included in the determination of an active member's [~~total direct~~] pay, deposited to the individual account of the active member on whose behalf they are made, and treated for all purposes, other than federal tax purposes, in the same manner and with like effect as if they had been deducted from the salary of, and made by, the active member.

(f) Only amounts paid by the city to the pension system shall be credited against any amortization schedule of payments due to the pension system under this article.

(g) Subsection (f) of this section does not affect changes to an amortization schedule of a liability layer under Section 9A(a)(6)(F), 9B(i), or 9D(c)(4) of this article.

(h) Notwithstanding any other law and except for the pension obligation bond assumed under Section 9B(d)(2) of this article, the city may not issue a pension obligation bond to fund the city contribution rate under this section.

SECTION 2.11. Article 6243g-4, Revised Statutes, is amended by adding Sections 9A, 9B, 9C, 9D, 9E, 9F, and 9G to read as follows:

Sec. 9A. RISK SHARING VALUATION STUDIES. (a) The pension system and the city shall separately cause their respective actuaries to prepare a risk sharing valuation study in accordance with this section and actuarial standards of practice. A risk sharing valuation study must:

(1) be dated as of the first day of the fiscal year in which the study is required to be prepared;

(2) be included in the pension system's standard valuation study prepared annually for the pension system;

(3) calculate the unfunded actuarial accrued liability of the pension system;

(4) be based on actuarial data provided by the pension system actuary or, if actuarial data is not provided, on estimates of actuarial data;

(5) estimate the city contribution rate, taking into account any adjustments required under Section 9D or 9E of this article for all applicable prior fiscal years;

(6) subject to Subsection (g) of this section, be based on the following assumptions and methods that are consistent with actuarial standards of practice:

(A) an ultimate entry age normal actuarial method;

(B) for purposes of determining the actuarial value of assets:

(i) except as provided by Subparagraph (ii) of this paragraph and Section 9D(c)(1) or 9E(c)(2) of this article, an asset smoothing method recognizing actuarial losses and gains over a five-year period applied prospectively beginning on the year

2017 effective date; and

(ii) for the initial risk sharing valuation study prepared under Section 9B of this article, a marked-to-market method applied as of June 30, 2016;

(C) closed layered amortization of liability layers to ensure that the amortization period for each layer begins 12 months after the date of the risk sharing valuation study in which the liability layer is first recognized;

(D) each liability layer is assigned an amortization period;

(E) each liability loss layer amortized over a period of 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized, except that the legacy liability must be amortized from July 1, 2016, for a 30-year period beginning July 1, 2017;

(F) the amortization period for each liability gain layer being:

(i) equal to the remaining amortization period on the largest remaining liability loss layer and the two layers must be treated as one layer such that if the payoff year of the liability loss layer is accelerated or extended, the payoff year of the liability gain layer is also accelerated or extended; or

(ii) if there is no liability loss layer, a period of 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability gain layer is first recognized;

(G) liability layers, including the legacy liability, funded according to the level percent of payroll method;

(H) the assumed rate of return, subject to adjustment under Section 9D(c)(2) of this article or, if Section 9B(g) of this article applies, adjustment in accordance with a written agreement entered into under Section 27 of this article, except the assumed rate of return may not exceed seven percent per annum;

(I) the price inflation assumption as of the most recent actuarial experience study, which may be reset by the board by plus or minus 50 basis points based on that actuarial experience study;

(J) projected salary increases and payroll growth rate set in consultation with the city's finance director; and

(K) payroll for purposes of determining the corridor midpoint and city contribution rate must be projected using the annual payroll growth rate assumption, which for purposes of preparing any amortization schedule may not exceed three percent; and

(7) be revised and restated, if appropriate, not later than:

(A) the date required by a written agreement entered into between the city and the board; or

(B) the 30th day after the date required action is taken by the board under Section 9D or 9E of this article to reflect any changes required by either section.

(b) As soon as practicable after the end of a fiscal year, the pension system actuary at the direction of the pension system and the city actuary at the direction of the city shall separately prepare a proposed risk sharing valuation study based on the fiscal year that just ended.

(c) Not later than September 30 following the end of the fiscal year, the pension system shall provide to the city actuary, under a confidentiality agreement with the board in which the city actuary agrees to comply with the confidentiality provisions of Section 29 of this article, the actuarial data described by Subsection (a)(4) of this section.

(d) Not later than the 150th day after the last day of the fiscal year:

(1) the pension system actuary, at the direction of the pension system, shall provide the proposed risk sharing valuation study prepared by the pension system actuary under Subsection (b) of this section to the city actuary; and

(2) the city actuary, at the direction of the city, shall provide the proposed risk sharing valuation study prepared by the city actuary under Subsection (b) of this section to the pension system actuary.

(e) Each actuary described by Subsection (d) of this section may provide copies of the proposed risk sharing valuation studies to the city or to the pension system, as appropriate.

(f) If, after exchanging proposed risk sharing valuation studies under Subsection (d) of this section, it is found that the difference between the estimated city contribution rate recommended in the proposed risk sharing valuation study prepared by the pension system actuary and the estimated city contribution rate recommended in the proposed risk sharing valuation study prepared by the city actuary for the corresponding fiscal year is:

(1) less than or equal to two percentage points, the estimated city contribution rate recommended by the pension system actuary will be the estimated city contribution rate for purposes of Subsection (a)(5) of this section, and the proposed risk sharing valuation study prepared for the pension system is considered to be the final risk sharing valuation study for the fiscal year for the purposes of this article; or

(2) greater than two percentage points, the city actuary and the pension system actuary shall have 20 business days to reconcile the difference, provided that without the mutual agreement of both actuaries, the difference in the estimated city contribution rate recommended by the city actuary and the estimated city contribution rate recommended by the pension system actuary may not be further increased and:

(A) if, as a result of reconciliation efforts under this subdivision, the difference is reduced to less than or equal to two percentage points:

(i) the estimated city contribution rate proposed under the reconciliation by the pension system actuary will be the estimated city contribution rate for purposes of Subsection (a)(5) of this section; and

(ii) the pension system's risk sharing valuation study is considered to be the final risk sharing valuation study for the fiscal year for the purposes of this article; or

(B) if, after 20 business days, the pension system actuary and the city actuary are not able to reach a reconciliation that reduces the difference to an amount less than or equal to two percentage points:

(i) the city actuary at the direction of the city and the pension system actuary at the direction of the pension system each shall deliver to the finance director of the city and the executive director of the pension system a final risk sharing valuation study with any agreed-to changes, marked as the final risk sharing valuation study for each actuary; and

(ii) not later than the 90th day before the first day of the next fiscal year, the finance director and the executive director shall execute a joint addendum to the final risk sharing valuation study received by them under Subparagraph (i) of this paragraph that is a part of the final risk sharing valuation study for the fiscal year for all purposes and reflects the arithmetic average of the estimated city contribution rates for the fiscal year stated by the city actuary and the pension system actuary in the final risk sharing valuation study for purposes of Subsection (a)(5) of this section, and for reporting purposes the pension system may treat the pension system actuary's risk sharing valuation study with the addendum as the final risk sharing valuation study.

(g) The assumptions and methods used and the types of actuarial data and financial information used to prepare the initial risk sharing valuation study under Section 9B of this article shall be used to prepare each subsequent risk sharing valuation study under this section, unless changed based on the actuarial experience study conducted under Section 9C of this article.

(h) The actuarial data provided under Subsection (a)(4) of this section may not include the identifying information of individual members.

Sec. 9B. INITIAL RISK SHARING VALUATION STUDIES; CORRIDOR MIDPOINT. (a) The pension system and the city shall separately cause their respective actuaries to prepare an initial risk sharing valuation study that is dated as of July 1, 2016, in accordance with this section. An initial risk sharing valuation study must:

(1) except as otherwise provided by this section, be prepared in accordance with Section 9A of this article and, for purposes of Section 9A(a)(4) of this article, be based on actuarial data as of June 30, 2016, or, if actuarial data is not provided, on estimates of actuarial data; and

(2) project the corridor midpoint for 31 fiscal years beginning with the fiscal year beginning July 1, 2017.

(b) If the initial risk sharing valuation study has not been prepared consistent with this section before the year 2017 effective date, as soon as practicable after the year 2017 effective date:

(1) the pension system shall provide to the city actuary, under a confidentiality agreement, the necessary actuarial data used by the pension system actuary to prepare the

proposed initial risk sharing valuation study; and

(2) not later than the 30th day after the date the city's actuary receives the actuarial data:

(A) the city actuary, at the direction of the city, shall provide a proposed initial risk sharing valuation study to the pension system actuary; and

(B) the pension system actuary, at the direction of the pension system, shall provide a proposed initial risk sharing valuation study to the city actuary.

(c) If, after exchanging proposed initial risk sharing valuation studies under Subsection (b)(2) of this section, it is determined that the difference between the estimated city contribution rate for any fiscal year recommended in the proposed initial risk sharing valuation study prepared by the pension system actuary and in the proposed initial risk sharing valuation study prepared by the city actuary is:

(1) less than or equal to two percentage points, the estimated city contribution rate for that fiscal year recommended by the pension system actuary will be the estimated city contribution rate for purposes of Section 9A(a)(5) of this article; or

(2) greater than two percentage points, the city actuary and the pension system actuary shall have 20 business days to reconcile the difference and:

(A) if, as a result of reconciliation efforts under this subdivision, the difference in any fiscal year is reduced to less than or equal to two percentage points, the

<u>estimated city contribution rate recommended by the pension system actuary for that fiscal year will be the estimated city contribution rate for purposes of Section 9A(a)(5) of this article; or</u>

<u>(B) if, after 20 business days, the city actuary and the pension system actuary are not able to reach a reconciliation that reduces the difference to an amount less than or equal to two percentage points for any fiscal year:</u>

<u>(i) the city actuary at the direction of the city and the pension system actuary at the direction of the pension system each shall deliver to the finance director of the city and the executive director of the pension system a final initial risk sharing valuation study with any agreed-to changes, marked as the final initial risk sharing valuation study for each actuary; and</u>

<u>(ii) the finance director and the executive director shall execute a joint addendum to the final initial risk sharing valuation study that is a part of each final initial risk sharing valuation study for all purposes and that reflects the arithmetic average of the estimated city contribution rate for each fiscal year in which the difference was greater than two percentage points for purposes of Section 9A(a)(5) of this article, and for reporting purposes the pension system may treat the pension system actuary's initial risk sharing valuation study with the addendum as the final initial risk sharing valuation study.</u>

<u>(d) In preparing the initial risk sharing valuation study, the city actuary and pension system actuary shall:</u>

<u>(1) adjust the actuarial value of assets to be equal to</u>

the market value of assets as of July 1, 2016;

(2) assume the issuance of planned pension obligation bonds by December 31, 2017, in accordance with Subsection (j)(2) of this section; and

(3) assume benefit and contribution changes contemplated by this article as of the year 2017 effective date.

(e) If the city actuary does not prepare an initial risk sharing valuation study for purposes of this section, the pension system actuary's initial risk sharing valuation study will be used as the final risk sharing valuation study for purposes of this article unless the city did not prepare a proposed initial risk sharing valuation study because the pension system actuary did not provide the necessary actuarial data in a timely manner. If the city did not prepare a proposed initial risk sharing valuation study because the pension system actuary did not provide the necessary actuarial data in a timely manner, the city actuary shall have 60 days to prepare the proposed initial risk sharing valuation study on receipt of the necessary information.

(f) If the pension system actuary does not prepare a proposed initial risk sharing valuation study for purposes of this section, the proposed initial risk sharing valuation study prepared by the city actuary will be the final risk sharing valuation study for purposes of this article.

(g) The city and the board may agree on a written transition plan for resetting the corridor midpoint:

(1) if at any time the funded ratio is equal to or greater than 100 percent; or

(2) for any fiscal year after the payoff year of the legacy liability.

(h) If the city and the board have not entered into an agreement described by Subsection (g) of this section in a given fiscal year, the corridor midpoint will be the corridor midpoint determined for the 31st fiscal year in the initial risk sharing valuation study prepared in accordance with this section.

(i) If the city makes a contribution to the pension system of at least $5 million more than the amount that would be required by Section 9(a) of this article, a liability gain layer with the same remaining amortization period as the legacy liability is created and the corridor midpoint shall be decreased by the amortized amount in each fiscal year covered by the liability gain layer produced divided by the projected pensionable payroll.

(j) Notwithstanding any other provision of this article, including Section 9F of this article:

(1) if the city fails to deliver the proceeds of pension obligation bonds totaling $750 million on or before March 31, 2018, the board shall:

(A) except as provided by Paragraph (B) of this subdivision, immediately rescind, prospectively, any or all benefit changes made effective under S.B. No. 2190, Acts of the 85th Legislature, Regular Session, 2017, as of the year 2017 effective date; or

(B) reestablish the deadline for the delivery of pension obligation bond proceeds, which may not be later than May 31, 2018, reserving the right to rescind the benefit changes authorized by this subdivision if the bond proceeds are not delivered by the reestablished deadline; and

(2) subject to Subsection (k) of this section, if the board rescinds benefit changes under Subdivision (1) of this subsection or pension obligation bond proceeds are not delivered on or before December 31, 2017, the initial risk sharing valuation study shall be prepared again and restated without assuming the delivery of the pension obligation bond proceeds, the later delivery of pension obligation bond proceeds, or the rescinded benefit changes, as applicable, and the resulting city contribution rate will become effective in the fiscal year following the completion of the restated initial risk sharing valuation study.

(k) The restated initial risk sharing valuation study required under Subsection (j)(2) of this section must be completed at least 30 days before the start of the fiscal year:

(1) ending June 30, 2019, if the board does not reestablish the deadline under Subsection (j)(1) of this section; or

(2) immediately following the reestablished deadline, if the board reestablishes the deadline under Subsection (j)(1) of this section and the city fails to deliver the pension obligation bond proceeds described by Subsection (j)(1) of this section by the reestablished deadline.

Sec. 9C. ACTUARIAL EXPERIENCE STUDIES. (a) At least once every four years, the pension system actuary at the direction of the pension system shall conduct an actuarial experience study in accordance with actuarial standards of practice. The actuarial experience study required by this subsection must be completed not later than September 30 of the year in which the study is required to be conducted.

(b) Except as otherwise expressly provided by Sections 9A(a)(6)(A)-(I) of this article, actuarial assumptions and methods used in the preparation of a risk sharing valuation study, other than the initial risk sharing valuation study, shall be based on the results of the most recent actuarial experience study.

(c) Not later than the 180th day before the date the board may consider adopting any assumptions and methods for purposes of Section 9A of this article, the pension system shall provide the city actuary with a substantially final draft of the pension system's actuarial experience study, including:

(1) all assumptions and methods recommended by the pension system's actuary; and

(2) summaries of the reconciled actuarial data used in creation of the actuarial experience study.

(d) Not later than the 60th day after the date the city receives the final draft of the pension system's actuarial experience study under Subsection (c) of this section, the city actuary and pension system actuary shall confer and cooperate on reconciling and producing a final actuarial experience study. During the period prescribed by this subsection, the pension system actuary may modify the recommended assumptions in the draft actuarial experience study to reflect any changes to assumptions and methods to which the pension system actuary and the city actuary agree.

(e) At the city actuary's written request, the pension system shall provide additional actuarial data used by the pension system actuary to prepare the draft actuarial experience study, provided that confidential data may only be provided subject to a confidentiality agreement in which the city actuary agrees to comply with the confidentiality provisions of Section 29 of this article.

(f) The city actuary at the direction of the city shall provide in writing to the pension system actuary and the pension system:

(1) any assumptions and methods recommended by the city actuary that differ from the assumptions and methods recommended by the pension system actuary; and

(2) the city actuary's rationale for each method or assumption the actuary recommends and determines to be consistent with standards adopted by the Actuarial Standards Board.

(g) Not later than the 30th day after the date the pension system actuary receives the city actuary's written recommended assumptions and methods and rationale under Subsection (f) of this section, the pension system shall provide a written response to the city identifying any assumption or method recommended by the city actuary that the pension system does not accept. If any assumption or method is not accepted, the pension system shall recommend to the city the names of three independent actuaries for purposes of this section.

(h) An actuary may only be recommended, selected, or engaged by the pension system as an independent actuary under this section if the person:

(1) is not already engaged by the city, the pension system, or any other fund or pension system authorized under Article 6243e.2(1), Revised Statutes, or Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), to provide actuarial services to the city, the pension system, or another fund or pension system referenced in this subdivision;

(2) is a member of the American Academy of Actuaries; and

(3) has at least five years of experience as an actuary working with one or more public retirement systems with assets in excess of $1 billion.

(i) Not later than the 20th day after the date the city receives the list of three independent actuaries under Subsection (g) of this section, the city shall identify and the pension system shall hire one of the listed independent actuaries on terms acceptable to the city and the pension system to perform a scope of work acceptable to the city and the pension system. The city and the pension system each shall pay 50 percent of the cost of the independent actuary engaged under this subsection. The city shall be provided the opportunity to participate in any communications between the independent actuary and the pension system concerning the engagement, engagement terms, or performance of the terms of the engagement.

(j) The independent actuary engaged under Subsection (i) of this section shall receive on request from the city or the pension system:

(1) the pension system's draft actuarial experience study, including all assumptions and methods recommended by the pension system actuary;

(2) summaries of the reconciled actuarial data used to prepare the draft actuarial experience study;

(3) the city actuary's specific recommended assumptions and methods together with the city actuary's written rationale for each recommendation;

(4) the pension system actuary's written rationale for its recommendations; and

(5) if requested by the independent actuary and subject to a confidentiality agreement in which the independent actuary agrees to comply with the confidentiality provisions of this article, additional confidential actuarial data.

(k) Not later than the 30th day after the date the independent actuary receives all the requested information under Subsection (j) of this section, the independent actuary shall advise the pension system and the city whether it agrees with either the assumption or method recommended by the city actuary or the corresponding method or assumption recommended by the pension system actuary, together with the independent actuary's rationale for making the determination. During the period prescribed by this subsection, the independent actuary may discuss recommendations in simultaneous consultation with the pension system actuary and the city actuary.

(l) The pension system and the city may not seek any information from any prospective independent actuary about possible outcomes of the independent actuary's review.

(m) If an independent actuary has questions or concerns regarding an engagement entered into under this section, the independent actuary shall simultaneously consult with both the city actuary and the pension system actuary regarding the questions or concerns. This subsection does not limit the pension system's authorization to take appropriate steps to complete the engagement of the independent actuary on terms acceptable to both the pension system and the city or to enter into a confidentiality agreement with the independent actuary, if needed.

(n) If the board does not adopt an assumption or method recommended by the city actuary to which the independent actuary agrees, or recommended by the pension system actuary, the city actuary is authorized to use that recommended assumption or method in connection with preparation of a subsequent risk sharing valuation study under Section 9A of this article until the next actuarial experience study is conducted.

Sec. 9D. CITY CONTRIBUTION RATE WHEN ESTIMATED CITY CONTRIBUTION RATE LOWER THAN CORRIDOR MIDPOINT; AUTHORIZATION FOR CERTAIN ADJUSTMENTS. (a) This section governs the determination of the city contribution rate applicable in a fiscal year if the estimated city contribution rate is lower than the corridor midpoint.

(b) If the funded ratio is:

(1) less than 90 percent, the city contribution rate for the fiscal year equals the corridor midpoint; or

(2) equal to or greater than 90 percent and the city contribution rate is:

(A) equal to or greater than the minimum contribution rate, the estimated city contribution rate is the city contribution rate for the fiscal year; or

(B) except as provided by Subsection (e) of this section, less than the minimum contribution rate for the corresponding fiscal year, the city contribution rate for the fiscal year equals the minimum contribution rate achieved in accordance with Subsection (c) of this section.

(c) For purposes of Subsection (b)(2)(B) of this section, the following adjustments shall be applied sequentially to the extent required to increase the estimated city contribution rate to equal the minimum contribution rate:

(1) first, adjust the actuarial value of assets equal to the current market value of assets, if making the adjustment causes the city contribution rate to increase;

(2) second, under a written agreement between the city and the board entered into under Section 27 of this article not later than April 30 before the first day of the next fiscal year, reduce the assumed rate of return;

(3) third, under a written agreement between the city and the board entered into under Section 27 of this article no later than April 30 before the first day of the next fiscal year, prospectively restore all or part of any benefit reductions or reduce increased employee contributions, in each case made after the year 2017 effective date; and

(4) fourth, accelerate the payoff year of the existing liability loss layers, including the legacy liability, by accelerating the oldest liability loss layers first, to an amortization period that is not less than 10 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized.

(d) If the funded ratio is:

(1) equal to or greater than 100 percent:

(A) all existing liability layers, including the legacy liability, are considered fully amortized and paid;

(B) the applicable fiscal year is the payoff year for the legacy liability; and

(C) for each fiscal year subsequent to the fiscal year described by Paragraph (B) of this subdivision, the corridor midpoint shall be determined as provided by Section 9B(g) of this article; and

(2) greater than 100 percent in a written agreement between the city and the pension system under Section 27 of this article, the pension system may reduce member contributions or increase pension benefits if, as a result of the action:

(A) the funded ratio is not less than 100 percent; and

(B) the city contribution rate is not more than the minimum contribution rate.

(e) Except as provided by Subsection (f) of this section, if an agreement under Subsection (d) of this section is not reached on or before April 30 before the first day of the next fiscal year, before the first day of the next fiscal year the board shall reduce member contributions and implement or increase cost of living adjustments, but only to the extent that the city contribution rate is set at or below the minimum contribution rate and the funded ratio is not less than 100 percent.

(f) If any member contribution reduction or benefit increase under Subsection (e) of this section has occurred within the previous three fiscal years, the board may not make additional adjustments to benefits, and the city contribution rate must be set to equal the minimum contribution rate.

Sec. 9E. CITY CONTRIBUTION RATE WHEN ESTIMATED CITY CONTRIBUTION RATE EQUAL TO OR GREATER THAN CORRIDOR MIDPOINT; AUTHORIZATION FOR CERTAIN ADJUSTMENTS. (a) This section governs the determination of the city contribution rate in a fiscal year when the estimated city contribution rate is equal to or greater than the corridor midpoint.

(b) If the estimated city contribution rate is:

(1) less than or equal to the maximum contribution rate for the corresponding fiscal year, the estimated city contribution rate is the city contribution rate; or

(2) except as provided by Subsection (d) or (e) of this section, greater than the maximum contribution rate for the corresponding fiscal year, the city contribution rate equals the corridor midpoint achieved in accordance with Subsection (c) of this section.

(c) For purposes of Subsection (b)(2) of this section, the following adjustments shall be applied sequentially to the extent required to decrease the estimated city contribution rate to equal the corridor midpoint:

(1) first, if the payoff year of the legacy liability was accelerated under Section 9D(c) of this article, extend the payoff year of existing liability loss layers, by extending the most recent loss layers first, to a payoff year not later than 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized; and

(2) second, adjust the actuarial value of assets to the current market value of assets, if making the adjustment causes the city contribution rate to decrease.

(d) If the city contribution rate after adjustment under Subsection (c) of this section is greater than the third quarter line rate:

(1) the city contribution rate equals the third quarter line rate; and

(2) to the extent necessary to comply with Subdivision (1) of this subsection, the city and the board shall enter into a written agreement under Section 27 of this article to increase member contributions and make other benefits or plan changes not otherwise prohibited by applicable federal law or regulations.

(e) If an agreement under Subsection (d)(2) of this section is not reached on or before April 30 before the first day of the next fiscal year, before the start of the next fiscal year to which the city contribution rate would apply, the board, to the extent necessary to set the city contribution rate equal to the third quarter line rate, shall:

(1) increase member contributions and decrease cost-of-living adjustments;

(2) increase the normal retirement age; or

(3) take any combination of the actions authorized under Subdivisions (1) and (2) of this subsection.

(f) If the city contribution rate remains greater than the corridor midpoint in the third fiscal year after adjustments are made in accordance with an agreement under Subsection (d)(2) of this section, in that fiscal year the city contribution rate equals the corridor midpoint achieved in accordance with Subsection (g) of this section.

(g) The city contribution rate must be set at the corridor midpoint under Subsection (f) of this section by:

(1) in the risk sharing valuation study for the third fiscal year described by Subsection (f) of this section, adjusting the actuarial value of assets to equal the current market value of assets, if making the adjustment causes the city contribution rate to decrease; and

(2) under a written agreement entered into between the city and the board under Section 27 of this article:

(A) increasing member contributions; and

(B) making any other benefits or plan changes not otherwise prohibited by applicable federal law or regulations.

(h) If an agreement under Subsection (g)(2) of this section is not reached on or before April 30 before the first day of the next fiscal year, before the start of the next fiscal year, the board, to the extent necessary to set the city contribution rate equal to the corridor midpoint, shall:

(1) increase member contributions and decrease cost-of-living adjustments;

(2) increase the normal retirement age; or

(3) take any combination of the actions authorized under Subdivisions (1) and (2) of this subsection.

Sec. 9F. UNILATERAL DECISIONS AND ACTIONS PROHIBITED. (a) Notwithstanding Section 6(f) or 5B of this article, the board may not change, terminate, or modify Sections 9 through 9E of this article.

(b) No unilateral decision or action by the board is binding on the city and no unilateral decision or action by the city is binding on the pension system with respect to the application of Sections 9 through 9E of this article unless expressly provided by a provision of those sections. Nothing in this subsection is intended to limit the powers or authority of the board.

Sec. 9G. STATE PENSION REVIEW BOARD; REPORT. (a) After preparing a final risk sharing valuation study under Section 9A or 9B of this article, the pension system and the city shall jointly submit a copy of the study or studies, as appropriate, to the State Pension Review Board for a determination that the pension system and city are in compliance with this article.

(b) Not later than the 30th day after the date an action is taken under Section 9D or 9E of this article, the pension system shall submit a report to the State Pension Review Board regarding any actions taken under those sections.

(c) The State Pension Review Board shall notify the governor, the lieutenant governor, the speaker of the house of representatives, and the legislative committees having principal jurisdiction over legislation governing public retirement systems if the State Pension Review Board determines the pension system or the city is not in compliance with Sections 9 through 9F of this article.

SECTION 2.12. Article 6243g-4, Revised Statutes, is amended by adding Section 10A to read as follows:

Sec. 10A. REPORT ON INVESTMENTS BY INDEPENDENT INVESTMENT CONSULTANT. (a) At least once every three years, the board shall hire an independent investment consultant, including an independent investment consulting firm, to conduct a review of pension system investments and submit a report to the board and the city concerning that review. The independent investment consultant shall review and report on at least the following:

(1) the pension system's compliance with its investment policy statement, ethics policies, including policies concerning the acceptance of gifts, and policies concerning insider trading;

(2) the pension system's asset allocation, including a review and discussion of the various risks, objectives, and expected future cash flows;

(3) the pension system's portfolio structure, including the system's need for liquidity, cash income, real return, and inflation protection and the active, passive, or index

approaches for different portions of the portfolio;

(4) investment manager performance reviews and an evaluation of the processes used to retain and evaluate managers;

(5) benchmarks used for each asset class and individual manager;

(6) evaluation of fees and trading costs;

(7) evaluation of any leverage, foreign exchange, or other hedging transaction; and

(8) an evaluation of investment-related disclosures in the pension system's annual reports.

(b) When the board retains an independent investment consultant under this section, the pension system may require the consultant to agree in writing to maintain the confidentiality of:

(1) information provided to the consultant that is reasonably necessary to conduct a review under this section; and

(2) any nonpublic information provided for the pension system for the review.

(c) The costs for the investment report required by this section must be paid from the fund.

SECTION 2.13. Sections 11(a) and (c), Article 6243g-4, Revised Statutes, are amended to read as follows:

(a) A member who returns to service after an interruption in service is eligible for [~~entitled to~~] credit for the previous service to the extent provided by Section 17 or 19 of this article.

(c) A member may not have any service credited for unused sick leave, vacation pay, [~~or~~] accumulated overtime, or equivalent types of pay until the date the member retires, at which time the member may apply some or all of the service to satisfy the requirements for retirement, although the member otherwise could not meet the service requirement without the credit.

SECTION 2.14. Section 12, Article 6243g-4, Revised Statutes, is amended by amending Subsections (a), (b), (c), (d), (e), (h), and (i) and adding Subsections (b-1), (b-2), (b-3), (c-1), (c-2), (j), (k), (l), and (m) to read as follows:

(a) A member who separates from service after attaining normal retirement age [~~earning 20 or more years of service~~] is eligible to receive a monthly service pension, beginning in the month of separation from service. A member who separates from service as a classified police officer with the city after November 23, 1998, after earning 10 or more but less than 20 years of service in [~~any of~~] the [~~city's~~] pension system [~~systems~~] and who complies with all applicable requirements of Section 19 of this article is eligible to receive a monthly service pension, beginning in the month the individual attains normal retirement [~~60 years of~~] age. An individual may not receive a pension under this article while still an active member[~~, except as provided by Subsection (f) of this section~~]. All service pensions end with the month in which the retired member dies. The city shall supply all personnel, financial, and payroll records necessary to establish the member's eligibility for a benefit, the member's credited service, and the amount of the benefit. The city must provide those records in the format specified by the pension system.

(b) Except as otherwise provided by this section, including Subsection (b-3) of this section, the monthly service pension of a member who:

(1) is hired before October 9, 2004, including a member hired before October 9, 2004, who involuntarily separated from service but has been retroactively reinstated under arbitration, civil service, or a court ruling, [~~that becomes due after May 1, 2001,~~] is equal to the sum of:

(A) 2.75 percent of the member's final average [~~total direct~~] pay multiplied by the member's years or partial years of service [~~or, if the member retired before November 24, 1998, 2.75 percent of the member's base salary,~~] for [~~each of~~] the member's first 20 years of service; and

(B) [~~, plus an additional~~] two percent of the member's final average [~~total direct~~] pay multiplied by the member's years or partial years of service for the member's years of service in excess of the 20 years of service described by Paragraph (A) of this subdivision; or

(2) except as provided by Subdivision (1) of this subsection and subject to Subsection (b-3) of this section, is hired or rehired as an active member on or after October 9, 2004, is equal to the sum of:

(A) 2.25 percent of the member's final average pay multiplied by the member's years or partial years of service for the member's first 20 years of service; and

(B) two percent of the member's final average pay multiplied by the member's years or partial years of service in excess of 20 years of service described by Paragraph (A) of this subdivision [~~for each of the member's subsequent years of service,~~

~~computed to the nearest one-twelfth of a year~~].

(b-1) A member who [~~separates from service after November 23, 1998, including a member who was a DROP participant, and~~] begins to receive a monthly service pension under Subsection (b)(1) of this section shall also receive a one-time lump-sum payment of $5,000 at the same time the first monthly pension payment is made. The lump-sum payment under this subsection is not available to a member who has previously received a $5,000 payment under this section or Section 16 of this article. A member described by Subsection (b)(2) of this section may not receive the lump-sum payment described by this subsection.

(b-2) For purposes of Subsections (b) and (b-1) of this section, partial years shall be computed to the nearest one-twelfth of a year.

(b-3) A member's monthly service pension determined under Subsection (b)(2) of this section may not exceed 80 percent of the member's final average pay.

(c) Subject to Subsection (c-2) of this section, beginning with the fiscal year ending June 30, 2021, the [~~The~~] pension payable to a [~~each~~] retired member or survivor who is 55 years of age or older as of April 1 of the applicable fiscal year, a member or survivor who received benefits or survivor benefits before June 8, 1995, or a survivor of an active member who dies from a cause connected with the performance of the member's duties [~~of the pension system~~] shall be adjusted annually, effective April 1 of each year, upward at a rate equal to the most recent five fiscal years' smoothed return, as determined by the pension system actuary, minus 500 basis points [~~two-thirds of any percentage increase in the Consumer Price Index for All Urban Consumers for the preceding year. The amount of the annual adjustment may not be less than three percent or more than eight percent of the pension being paid immediately before the adjustment, notwithstanding a greater or lesser increase in the consumer price index~~].

(c-1) Subject to Subsection (c-2) of this section, for the pension system's fiscal years ending June 30, 2018, June 30, 2019, and June 30, 2020, the pension payable to each retired member or survivor who is 70 years of age or older shall be adjusted annually, effective April 1 of each year, upward at a rate equal to the most recent five fiscal years' smoothed return, as determined by the pension system actuary, minus 500 basis points.

(c-2) The percentage rate prescribed by Subsections (c) and (c-1) of this section may not be less than zero percent or more than four percent, irrespective of the return rate of the pension system's investment portfolio.

(d) A retired member who receives a service pension under this article is eligible [~~entitled~~] to receive an additional amount each month equal to $150, beginning on the later of the date the retired member's pension begins or the date the first monthly payment becomes due after June 18, 2001, and continuing until the end of the month in which the retired member dies. This amount is intended to defray the retired member's group medical insurance costs and will be paid directly by the fund to the retired member for the retired member's lifetime.

(e) At the end of each calendar year beginning after 1998, and subject to the conditions provided by this subsection, the pension system shall make a 13th benefit payment to each member or survivor who is hired or rehired before October 9, 2004, including a member hired or rehired before October 9, 2004, who was reinstated under arbitration, civil service, or a court ruling after that date, and [~~person~~] who is receiving a service pension. The amount of the 13th payment shall be the same as the last monthly payment received by the retiree or survivor before issuance of the payment, except the payment received by any person who has been in pay status for less than 12 months shall be for a prorated amount determined by dividing the amount of the last payment received by 12 and multiplying this amount by the number of months the person has been in pay status. The 13th payment may be made only for those calendar years in which the pension system's funded ratio is 120 percent or greater[~~:~~

[~~(1) the assets held by the fund will equal or exceed its liabilities after the 13th payment is made;~~

[~~(2) the rate of return on the fund's assets exceeded 9.25 percent for the last fiscal year ending before the payment; and~~

[~~(3) the payment will not cause an increase in the contribution the city would have been required to make if the 13th payment had not been made~~].

(h) Final average [~~Average total direct~~] pay for a member who retires after participating in a phase-down program in which the member receives a periodic payment that is generated from the member's accumulated sick time, vacation time, and overtime balances shall be based on the final average pay the member received on the earlier of the date:

(1) immediately preceding the date the member began phase-down participation; or

(2) if the member began DROP participation on or after the year 2017 effective date, the member began participation in DROP [~~highest pay period, excluding any pay for overtime work, in the periods during which the member worked full-time before participating in the phase-down program~~].

(i) The computation of final average [~~total direct~~] pay shall be made in accordance with procedures and policies adopted by the board.

(j) A member participating in the phase-down program, defined in the 2011 labor agreement between the city and the police officers' union, who has separated from service is eligible to receive a monthly service pension as if the member had attained normal retirement age. Notwithstanding any other law, a member participating in option A or B of the phase-down program whose effective date of entry into DROP is on or before the year 2017 effective date is, on exiting the phase-down program and separating from service, eligible to receive a monthly service pension equal to the amount credited to the member's DROP account under Section 14(d) of this article immediately before the member separated from service.

(k) If a member is hired on or after October 9, 2004, the member may elect to receive a partial lump-sum optional payment equal to not more than 20 percent of the actuarial value of the member's accrued pension at retirement. The lump-sum payment under this subsection shall be actuarially neutral. Notwithstanding any other law, if a member elects to receive a lump-sum payment under this subsection, the value of the member's monthly service pension shall be reduced actuarially to reflect the lump-sum payment.

(l) A member who is receiving workers' compensation payments or who has received workers' compensation and subsequently retires or begins participation in DROP will have the member's pension or DROP benefit, as applicable, calculated on the pay that the member would have received had the member not been receiving workers' compensation benefits.

(m) For a member who is promoted or appointed to a position above the rank of captain on or after the year 2017 effective date, the member's monthly service pension and member contributions shall be based on, as determined by the board:

(1) the member's pay for the position the member held immediately before being promoted or appointed; or

(2) the pay of the highest civil rank for classified police officers for those members who have no prior service with the city, which pay must be calculated based on the three-year average prior to retirement.

SECTION 2.15. Section 14, Article 6243g-4, Revised Statutes, is amended by amending Subsections (b), (c), (d), (e), (f-1), (h), (i), (k), and (l) and adding Subsections (c-1) and (c-2) to read as follows:

(b) An active member who was hired before October 9, 2004, including a member hired before October 9, 2004, who has been reinstated under arbitration, civil service, or a court ruling after that date, and has at least 20 years of service with the police department may file with the pension system an election to participate in DROP and receive a DROP benefit instead of the standard form of pension provided by this article as of the date the active member attained 20 years of service. The election may be made, under procedures established by the board, by an eligible active member who has attained the required years of service. A DROP election that is made and accepted by the board may not be revoked [~~before the member's separation from service~~].

(c) The monthly service pension or [~~and~~] death benefits of an active member who is a DROP participant that were accrued under this article as it existed immediately before the year 2017 effective date remain accrued.

(c-1) The monthly service pension or death benefits of an active member who becomes a DROP participant on or after the year 2017 effective date will be determined as if the [~~active~~] member had separated from service and begun receiving a pension on the effective date of the member's DROP election and the[~~. The active~~] member does not retire but does not accrue additional service credit beginning on the effective date of the member's entry into DROP.

(c-2) For a member who exits DROP on or after the year 2017 effective date:

(1) any [~~the election, and~~] increases in the member's pay that occur on or after the effective date of the member's entry into DROP [~~that date~~] may not be used in computing the [~~active~~] member's monthly service pension; and

(2) any[~~, except as provided by Subsection (1) of this section, but~~] cost-of-living adjustments that occur on or after the effective date of the member's entry into DROP [~~that date~~] and that otherwise would be applicable to the pension will not be made during the time the member participates in DROP.

(d) The member's DROP benefit is determined as provided by this subsection and Subsection (e) of this section. Each month an amount equal to the monthly service pension the active member would have been eligible [~~entitled~~] to receive if the active member had separated from service on the effective date of entry into DROP, less any amount that is intended to help defray the active member's group medical insurance costs as described by Section 12(d) of this article, shall be credited to a notional DROP account for the active member[~~, and each month an amount equal to the monthly contributions the active member makes to the fund on and after the effective date of entry into DROP also shall be credited to the same notional DROP account~~]. In any year in which a 13th payment is made to retired members under Section 12(e) of this article, an amount equal to the amount of the 13th payment that would have been made to the DROP participant if the DROP participant had retired on the date of DROP entry will be credited to the DROP account.

(e) As of the end of each month an amount is credited to each active member's notional DROP account at the rate of one-twelfth of a hypothetical earnings rate on amounts in the account. The hypothetical earnings rate is determined for each calendar year based on the compounded average of the aggregate annual rate of return on investments of the pension system for the five consecutive fiscal years ending June 30 preceding the calendar year to which the earnings rate applies, multiplied by 65 percent. The hypothetical earnings rate may not be less than 2.5 percent [~~zero~~].

(f-1) If a DROP participant separates from service due to death, [~~and~~] the participant's surviving spouse is eligible [~~person entitled~~] to receive benefits under Sections 16 and 16A of this article and the surviving spouse may elect to receive [~~does not revoke the DROP election,~~] the DROP benefit [~~may be received~~] in the form of an additional annuity over the life expectancy of the surviving spouse.

(h) Instead of beginning to receive a service pension on separation from service in accordance with Section 12 of this article, a retired member who is a DROP participant may elect to have part or all of the amount that would otherwise be paid as a monthly service pension, less any amount required to pay the retired member's share of group medical insurance costs, credited to a DROP account, in which case the additional amounts will become eligible to be credited with hypothetical earnings in the same manner as the amounts described by Subsection (g) of this section. On and after the year 2017 effective date, additional amounts may not be credited to a DROP account under this subsection. Any amounts credited under this subsection before the year 2017 effective date shall remain accrued in a retired member's DROP account.

(i) A retired member who has not attained age 70-1/2, whether or not a DROP participant before retirement, may elect to have part or all of an amount equal to the monthly service pension the retired member would otherwise be entitled to receive, less any amount required to pay the retired member's share of group medical insurance costs, credited to a DROP account, in which case the amounts will become eligible to be credited with hypothetical earnings in the same manner as the amounts described by Subsection (g) of this section. On and after the year 2017 effective date, additional amounts may not be credited to a DROP account under this subsection. Any amounts credited under this subsection before the year 2017 effective date shall remain accrued in a retired member's DROP account [~~A retired member who has elected to have monthly service pension benefits credited to a DROP account under this subsection or Subsection (h) of this section may direct that the credits stop and the monthly service pension resume at any time. However, a retired member who stops the credits at any time after September 1, 1999, may not later resume the credits~~].

(k) If a retired member who is [~~or was~~] a DROP participant is rehired as an employee of the police department, any pension or DROP distribution that was being paid shall be suspended and the monthly amount described by Subsection (d) of this section will again begin to be credited to the DROP account while the member continues to be an employee. If the member's DROP account has been completely distributed, a new notional account may not [~~will~~] be created and the monthly amount described by Subsection (d) of this section may not be credited to a DROP account on behalf of the member [~~to receive the member's monthly credits. If a retired member who was never a DROP participant is rehired as an employee of the police department, that member shall be eligible to elect participation in~~

~~DROP on the same basis as any other member~~].

(l) The maximum number of years an active member may participate in DROP is 20 years. Except as provided by this subsection, after the DROP participant has reached the maximum number of years of DROP participation prescribed by this subsection, including DROP participants with 20 years or more in DROP on or before the year 2017 effective date, the DROP participant may not receive the monthly service pension that was credited to a notional DROP account but may receive the hypothetical earnings rate stated in Subsection (e) of this section. Notwithstanding the preceding, a member's DROP account balance before the year 2017 effective date may not be reduced under the preceding provisions of this subsection [~~The DROP account of each DROP participant who was an active member on May 1, 2001, shall be recomputed and adjusted, effective on that date, to reflect the amount that would have been credited to the account if the member's pension had been computed based on 2.75 percent of the member's average total direct pay, or base pay if applicable, for each of the member's first 20 years of service. The DROP account adjustment shall also include the assumed earnings that would have been credited to the account if the 2.75 percent multiplier for the first 20 years of service had been in effect from the time the member became a DROP participant~~].

SECTION 2.16. Section 15, Article 6243g-4, Revised Statutes, is amended by amending Subsections (a), (b), (c), (d), (e), and (i) and adding Subsections (a-1), (c-1), (l), (m), and (n) to read as follows:

(a) An active member who becomes totally and permanently incapacitated for the performance of the member's duties as a result of a bodily injury received in, or illness caused by, the performance of those duties shall, on presentation to the board of proof of total and permanent incapacity, be retired and shall receive an immediate duty-connected disability pension equal to:

(1) for members hired or rehired before October 9, 2004, the greater of 55 percent of the member's final average [~~total direct~~] pay at the time of retirement or the member's accrued service pension; or

(2) for members hired or rehired on or after October 9, 2004, the greater of 45 percent of the member's:

(A) final average pay at the time of retirement; or

(B) accrued service pension.

(a-1) If the injury or illness described by Subsection (a) of this section involves a traumatic event that directly causes an immediate cardiovascular condition resulting in a total disability, the member is eligible for a duty-connected disability pension. A disability pension granted by the board shall be paid to the member for the remainder of the member's life, [~~or for~~] as long as the incapacity remains, subject to Subsection (e) of this section. If a member is a DROP participant at the commencement of the member's disability, the member shall have the option of receiving the DROP balance in any manner that is approved by the board and that satisfies the requirements of Section 401(a)(9) of the code and Treasury Regulation Section 1.104-1(b) (26 C.F.R. Section 1.104-1) and is otherwise available to any other member under this article.

(b) A member [~~with 10 years or more of credited service~~] who becomes totally and permanently incapacitated for the performance of the member's duties and is not eligible for either an immediate service pension or a duty-connected disability pension is eligible for an immediate monthly pension computed in the same manner as a service retirement pension but based on final average [~~total direct~~] pay and service accrued to the date of the disability. The pension under this subsection may not be less than:

(1) for members hired before October 9, 2004, including a member who involuntarily separated from service but has been retroactively reinstated under arbitration, civil service, or a court ruling, 27.5 percent of the member's final average [~~total direct~~] pay; or

(2) except as provided by Subdivision (1) of this subsection, for members hired or rehired on or after October 9, 2004, 22.5 percent of the member's final average pay.

(c) A member hired or rehired before October 9, 2004, who becomes eligible [~~entitled~~] to receive a disability pension after November 23, 1998, is eligible [~~entitled~~] to receive:

(1) subject to Subsection (c-1) of this section, a one-time lump-sum payment of $5,000 at the same time the first monthly disability pension payment is made, but only if the member has not previously received a $5,000 payment under this section or Section 12 of this article; and

(2) [~~. The retired member shall also receive~~] an additional amount each month equal to $150, beginning on the later

of the date the pension begins or the date the first monthly payment becomes due after June 18, 2001, and continuing as long as the disability pension continues, to help defray the cost of group medical insurance.

(c-1) For any year in which a 13th payment is made to retired members under Section 12(e) of this article, a 13th payment, computed in the same manner and subject to the same conditions, shall also be paid to members who have retired under this section.

(d) A person may not receive a disability pension unless the person files with the board an application for a disability pension not later than 180 days after the date of separation from service, at which time the board shall have the person examined, not later than the 90th day after the date the member files the application, by a physician or physicians chosen and compensated by the board. The physician shall make a report and recommendations to the board regarding the extent of any disability and whether any disability that is diagnosed is a duty-connected disability. Except as provided by Subsection (j) of this section, a person may not receive a disability pension for an injury received or illness incurred after separation from service. In accordance with Section 6(g) of this article, the board may, through its presiding officer, issue process, administer oaths, examine witnesses, and compel witnesses to testify as to any matter affecting retirement, disability, or death benefits under any pension plan within the pension system.

(e) A retired member who has been retired for disability is subject at all times to reexamination by a physician chosen and compensated by the board and shall submit to further examination as the board may require. If a retired member refuses to submit to an examination, the board shall [~~may~~] order the payments stopped. If a retired member who has been receiving a disability pension under this section recovers so that in the opinion of the board the retired member is able to perform the usual and customary duties formerly performed for the police department, and the retired member is reinstated or offered reinstatement to the position, or hired by another law enforcement agency to a comparable position [~~reasonably comparable in rank and responsibility to the position, held at the time of separation from service~~], the board shall order the member's disability pension stopped. A member may apply for a normal pension benefit, if eligible, if the member's disability benefit payments are stopped by the board under this subsection.

(i) Effective for payments that become due after April 30, 2000, and instead of the disability benefit provided by Subsection (a) or[~~,~~] (b)[~~, or (h)~~] of this section, a member who suffers a catastrophic injury shall receive a monthly benefit equal to 100 percent of the member's final average [~~total direct~~] pay determined as of the date of retirement, and the member's DROP balance, if any.

(l) A disability pension may not be paid to a member for any disability if:

(1) the disability resulted from an intentionally self-inflicted injury or a chronic illness resulting from:

(A) an addiction by the member through a protracted course of non-coerced ingestion of alcohol, narcotics, or prescription drugs not prescribed to the member; or

(B) other substance abuse; or

(2) except as provided by Subsection (m) of this section, the disability was a result of the member's commission of a felony.

(m) The board may waive Subsection (l)(2) of this section if the board determines that facts exist that mitigate denying the member's application for a disability pension.

(n) A person who fraudulently applies for or receives a disability pension may be subject to criminal and civil prosecution.

SECTION 2.17. Section 16, Article 6243g-4, Revised Statutes, is amended to read as follows:

Sec. 16. RIGHTS OF SURVIVORS. (a) For purposes of this article, a marriage is considered to exist only if the couple is lawfully married under the laws of a state, the District of Columbia, a United States territory, or a foreign jurisdiction and the marriage would be recognized as a marriage under the laws of at least one state, possession, or territory of the United States, regardless of domicile [~~marriage is recorded in the records of the recorder's office in the county in which the marriage ceremony was performed~~]. In the case of a common-law marriage, a marriage declaration must be signed by the member and the member's common-law spouse before a notary public or similar official and recorded in the records of the applicable jurisdiction [~~county clerk's office in the county~~] in which the couple resides at the commencement of the marriage. In addition, a marriage that is evidenced by a declaration of common-law marriage signed before a notary public or similar official after December 31, 1999, may not be treated as effective earlier than the date on which it was signed before the notary public or similar official.

(b) If a retired member dies after becoming eligible for [~~entitled to~~] a service or disability pension, the board shall pay an immediate monthly benefit as follows:

(1) to the surviving spouse for life, if there is a surviving spouse, a sum equal to the pension that was being received by the retired member at the time of death;

(2) to the guardian of any dependent child under 18 years of age or a child with a disability as long as the dependent child complies with the definition of dependent child under Section 2(7) of this article [~~children~~], on behalf of the dependent child [~~children~~], or directly to a dependent child described by Section 2(7)(B) of this article, and if there is no spouse eligible for [~~entitled to~~] an allowance, the sum a surviving spouse would have received, to be divided equally among all [~~the~~] dependent children if there is more than one dependent child; or

(3) to any dependent parents for life if no spouse or dependent child is eligible for [~~entitled to~~] an allowance, the sum the spouse would have received, to be divided equally between the two parents if there are two dependent parents.

(c) If an active [~~a~~] member of the pension system who has not completed 20 [~~10~~] years of service in the police department is killed or dies from any cause growing out of or in consequence of any act clearly not in the actual performance of the member's official duty, the member's surviving spouse, dependent child or children, or dependent parent or parents are eligible [~~entitled~~] to receive an immediate benefit. The benefit is computed in the same manner as a service retirement pension but is based on the deceased member's service and final average [~~total direct~~] pay at the time of death. The monthly benefit may not be less than:

(1) 27.5 percent of the member's final average [~~total direct~~] pay for members hired before October 9, 2004, including a member who involuntarily separated from service but has been retroactively reinstated under arbitration, civil service, or a court ruling; or

(2) 22.5 percent of the member's final average pay for members hired or rehired on or after October 9, 2004.

(e) If any active member is killed or dies from any cause growing out of or in consequence of the performance of the member's duty, the member's surviving spouse, dependent child or children, or dependent parent or parents are eligible [~~entitled~~] to receive immediate benefits computed in accordance with Subsection (b) of this section, except that the benefit [~~payable to the spouse, or to the guardian of the dependent child or children if there is no surviving spouse, or the dependent parent or parents if there is no surviving spouse or dependent child,~~] is equal to 100 percent of the member's final average [~~total direct~~] pay, computed as of the date of death.

(f) A surviving spouse who receives a survivor's benefit under this article is eligible [~~entitled~~] to receive an additional amount each month equal to $150, beginning with the later of the date the first payment of the survivor's benefit is due or the date the first monthly payment becomes due after June 18, 2001, and continuing until the end of the month in which the surviving spouse dies.

(g) A surviving spouse or dependent who becomes eligible to receive benefits with respect to an active member who was hired or rehired before October 9, 2004, who dies in active service after November 23, 1998, is eligible [~~entitled~~] to receive a one-time lump-sum payment of $5,000 at the time the first monthly pension benefit is paid, if the member has not already received a $5,000 lump-sum payment under Section 12 or 15(c) of this article. If more than one dependent is eligible to receive a payment under this subsection, the $5,000 shall be divided equally among the eligible dependents. This payment has no effect on the amount of the surviving spouse's or dependents' monthly pension and may not be paid more than once.

(h) The monthly benefits of surviving spouses or dependents provided under this section, except the $150 monthly payments described by Subsection (f) of this section, shall be increased annually at the same time and by the same percentage as the pensions of retired members are increased in accordance with Section 12(c) or 12(c-1) of this article. Also, for any year in which a 13th payment is made pursuant to Section 12(e) of this article, a 13th payment, computed in the same manner and subject to the same conditions, shall also be made to the survivor [~~survivors~~] who is eligible [~~are entitled~~] to receive death benefits at that time if the member would have been entitled to a 13th payment, if living.

(i) If a member or individual receiving a survivor's pension dies before monthly payments have been made for at least five years, leaving no person otherwise eligible [~~entitled~~] to receive further monthly payments with respect to the member, the monthly payments shall continue to be made [~~to the designated beneficiary of the member or survivor, or to the estate of the member or survivor if a beneficiary was not designated,~~] in the same amount as the last monthly payment made to the member or[~~,~~] survivor[~~, or estate,~~] until payments have been made for five years with respect to the member. The payments shall be made to the spouse of the member, if living, and if no spouse is living, to the natural or adopted children of the member, to be divided equally among the children if the member has more than one child. If the member has no spouse or children who are living, the benefit may not be paid. If the member dies after becoming eligible to receive benefits [~~vested~~] but before payments begin, leaving no survivors eligible for benefits, the amount of each monthly payment over the five-year period shall be the same as the monthly payment the member would have received if the member had taken disability retirement on the date of the member's death and shall be paid to the member's spouse or children in the manner provided by this subsection. If the member has no spouse or children who are living, then the benefit may not be paid [~~A member may designate a beneficiary in lieu of the member's estate to receive the remaining payments in the event the member and all survivors die before payments have been received for five years~~]. The member's estate or a beneficiary who is not a survivor or dependent is not eligible [~~entitled~~] to receive the payment described by Subsection (g) of this section.

(j) A benefit payment made in accordance with this section on behalf of a minor or other person under a legal disability fully discharges the pension system's obligation to that person.

(k) A retired member or surviving spouse may designate a beneficiary on a form prescribed by the pension system to receive the final monthly payment owed but not received before the member's or surviving spouse's death.

(l) The board may at any time require a person receiving death benefits as a disabled child under this article to undergo a medical examination by a physician appointed or selected by the board for that purpose.

SECTION 2.18. Section 16A, Article 6243g-4, Revised Statutes, is amended to read as follows:

Sec. 16A. BENEFICIARY DESIGNATION FOR DROP. (a) Except for the marriage requirement described by Section 16(a) of this article, the [~~The~~] provisions of Section 16 of this article pertaining to rights of survivors do not apply to an amount held in a member's DROP account. A member who participates in DROP may designate a beneficiary in the form and manner prescribed by or on behalf of the board to receive the balance of the member's DROP account in the event of the member's death, as permitted by Section 401(a)(9) of the code and the board's policies. A member who is married is considered to have designated the member's spouse as the member's beneficiary unless the spouse consents, in a notarized writing delivered to the board, to the designation of another person as beneficiary. If no designated beneficiary survives the member, the board shall [~~may~~] pay the balance of the member's DROP account to the member's beneficiaries in the following order:

(1) to the member's spouse;

(2) if the member does not have a spouse, to each natural or adopted child of the member, or to the guardian of the child if the child is a minor or has a disability, in equal shares;

(3) if the member does not have a spouse or any children, to each surviving parent of the member in equal shares; or

(4) if the member has no beneficiaries described by Subdivisions (1), (2), and (3) of this subsection, to the estate of the member.

(b) If a member names a spouse as a beneficiary and is subsequently divorced from that spouse, the divorce voids the designation of the divorced spouse as the member's beneficiary. A designation of a divorced spouse will cause the board to pay any balance remaining in the member's DROP account in the order prescribed by Subsection (a) of this section.

(c) The surviving spouse may designate a beneficiary on a form prescribed by the pension system to receive the balance of the DROP account owed but not received before the surviving spouse's death.

(d) Payment of the balance of the member's DROP account made in accordance with this section on behalf of a minor or other person under a legal disability fully discharges the pension system's obligation to that person.

SECTION 2.19. Section 17, Article 6243g-4, Revised Statutes, is amended by amending Subsections (b), (d), and (e) and adding Subsection (i) to read as follows:

(b) A member of the pension system who has not completed 20 years of service at the time of separation from service with the police department is <u>eligible for</u> [~~entitled to~~] a refund of the total of the contributions the member made to the pension system, plus any amount that was contributed for the member by the city and not applied in accordance with this section to provide the member with 10 years of service. The refund does not include interest, and neither the city nor the member is <u>eligible for</u> [~~entitled to~~] a refund of the contributions the city made on the member's behalf, except as expressly provided by this subsection. By receiving the refund, the member forfeits any service earned before separation from service, even if it is otherwise nonforfeitable.

(d) A member must apply to the board for a refund within one year after the date of separation from service. Failure to apply for the refund within the one-year period results in a forfeiture of the right to the refund except for an inactive member <u>who is eligible for a pension</u> [~~whose right to a pension is nonforfeitable~~]. However, the board may reinstate any amount forfeited and allow the refund on application by the former member.

(e) Heirs, executors, administrators, personal representatives, or assignees are not <u>eligible</u> [~~entitled~~] to apply for and receive the refund authorized by this section [~~except as provided by Section 16(c) of this article~~].

<u>(i) Former members reemployed on or after October 9, 2004, or current members who left service after October 9, 2004, if reemployed by the city, may purchase prior service credit at a rate of interest equal to 2.25 percent per year. Active members hired before October 9, 2004, who have not yet purchased prior service</u>

credit or members hired before October 9, 2004, who involuntarily separated from service but have been retroactively reinstated under arbitration, civil service, or a court ruling may purchase prior service credit at a rate of interest equal to 2.75 percent per year. The board may adopt rules necessary to implement this section.

SECTION 2.20. Section 18(a), Article 6243g-4, Revised Statutes, is amended to read as follows:

(a) Except as provided by this section:

(1) credit may not be allowed to any person for service with any department in the city other than the police department; [~~and~~]

(2) a person's service will be computed from the date of entry into the service of the police department as a classified police officer until the date of separation from service with the police department; and

(3) a member who received service credit for service with any department in the city other than the police department and who is receiving a monthly pension benefit or who began participation in DROP before the year 2017 effective date shall continue to have the service credit apply.

SECTION 2.21. Sections 19(b) and (d), Article 6243g-4, Revised Statutes, are amended to read as follows:

(b) A person who rejoins the pension system under this section is eligible [~~entitled~~] to receive service credit for each day of service and work performed by the person in a classified position in the police department, except for any period during which the person is a DROP participant. The board shall add service earned after the transfer to the prior service the active member accrued in a classified position in the police department. However, the active member may not receive service credit under this article, except to the extent provided by Section 18, for service performed for the city other than in a classified position in the police department.

(d) When a member who has transferred as described by this section subsequently retires, the retired member is eligible for [~~entitled to~~] a pension computed on the basis of the combined service described by Subsection (b) of this section, after deducting any period in which the member was suspended from duty without pay, on leave of absence without pay, separated from service, or employed by the city in a capacity other than in a classified position in the police department.

SECTION 2.22. Section 21, Article 6243g-4, Revised Statutes, is amended to read as follows:

Sec. 21. DETERMINATION OF BENEFITS; PROVISION OF INFORMATION. (a) The board may require any member, survivor, or other person or entity to furnish information the board requires for the determination of benefits under this article. If a person or entity does not cooperate in the furnishing or obtaining of information required as provided by this section, the board may withhold payment of the pension or other benefits dependent on the information.

(b) The city, not later than the 14th day after the date the city receives a request by or on behalf of the board, shall, unless otherwise prohibited by law, supply the pension system with personnel, payroll, and financial records in the city's possession that the pension system determines necessary to provide pension administrative and fiduciary services under this section, to establish beneficiaries' eligibility for any benefit, or to determine a member's credited service or the amount of any benefits, including disability benefits, and such other information the pension system may need, including:

(1) information needed to verify service, including the following information:

(A) the date a person is sworn in to a position;

(B) the days a person is under suspension;

(C) the days a person is absent without pay, including the days a person is on maternity leave;

(D) the date of a person's termination from employment; and

(E) the date of a person's reemployment with the city;

(2) medical records;

(3) workers' compensation records and pay information;

(4) payroll information;

(5) information needed to verify whether a member is on military leave; and

(6) information regarding phase-down participants, including information related to entry date and phase-down plan.

(c) The city shall provide any information that may be reasonably necessary to enable the pension system to comply with administrative services the pension system performs for the city as reasonably necessary to obtain any ruling or determination letter from the Internal Revenue Service.

(d) The information provided by the city shall be transmitted to the pension system electronically in a format specified by the pension system, to the extent available to the city, or in writing if so requested on behalf of the pension system.

(e) The pension system shall determine each member's credited service and pension benefits on the basis of the personnel and financial records of the city and the records of the pension system.

SECTION 2.23. Section 23, Article 6243g-4, Revised Statutes, is amended to read as follows:

Sec. 23. MEMBERS IN MILITARY SERVICE. (a) A member of the pension system engaged in active service in a uniformed service may not be required to make the monthly payments into the fund and may not lose any previous years' service with the city because of the uniformed service. The uniformed service shall count as continuous service in the police department if the member returns to the city police department after discharge from the uniformed service as an employee within the period required by the Uniformed Services Employment and Reemployment Rights Act of 1994 (38 U.S.C. Section 4301 et seq.), as amended, and the uniformed service does not exceed the period for which a person is eligible [~~entitled~~] to have service counted pursuant to that Act. Notwithstanding any other provision of this article, contributions and benefits shall be paid and qualified service for military service shall be determined in compliance with Section 414(u) of the code.

(b) The city is required to make its payments into the fund on behalf of each member while the member is engaged in a uniformed service. If a member who has less than 10 years of service in the pension system dies directly or indirectly as a result of the uniformed service, and without returning to active service, the spouse, dependent children, dependent parent, or estate of the member is eligible [~~entitled~~] to receive a benefit in the same manner as described by Section 16(c) of this article.

SECTION 2.24. Section 24(b), Article 6243g-4, Revised Statutes, is amended to read as follows:

(b) Payments due on behalf of a dependent child shall be paid to the dependent child's guardian, if any, or if none to the person with whom the dependent child is living, except that the board may make payments directly to a dependent child in an appropriate case and withhold payments otherwise due on behalf of any person if the board has reason to believe the payments are not being applied on behalf of the person eligible [~~entitled~~] to receive them. The board may request a court of competent jurisdiction to appoint a person to receive and administer the payments due to any dependent child or person under a disability.

SECTION 2.25. Section 25, Article 6243g-4, Revised Statutes, is amended by amending Subsections (b), (c), (d), (g), and (h) and adding Subsections (c-1) and (h-1) through (h-13) to read as follows:

(b) A member or survivor of a member of the pension system may not accrue a retirement pension, disability retirement allowance, death benefit allowance, DROP benefit, or any other benefit under this article in excess of the benefit limits applicable to the fund under Section 415 of the code. The board shall reduce the amount of any benefit that exceeds those limits by the amount of the excess. If total benefits under this fund and the benefits and contributions to which any member is eligible [~~entitled~~] under any other qualified plans maintained by the city that employs the member would otherwise exceed the applicable limits under Section 415 of the code, the benefits the member would otherwise receive from the fund shall be reduced to the extent necessary to enable the benefits to comply with Section 415.

(c) Subject to Subsection (c-1) of this section, any distributee [~~Any member or survivor~~] who receives [~~any distribution that is~~] an eligible rollover distribution [~~as defined by Section 402(c)(4) of the code~~] is eligible [~~entitled~~] to have that distribution transferred directly to another eligible retirement plan of the distributee's [~~member's or survivor's~~] choice on providing direction to the pension system regarding that transfer in accordance with procedures established by the board.

(c-1) For purposes of Subsection (c) of this section:

(1) "Direct rollover" means a payment by the plan to the eligible retirement plan specified by the distributee.

(2) "Distributee" means a member or a member's surviving spouse or non-spouse designated beneficiary or a member's spouse or former spouse who is the alternate payee under a qualified domestic relations order with regard to the interest of the spouse or former spouse.

(3) "Eligible retirement plan" means:

<u>(A) an individual retirement account as defined by Section 408(a) of the code;</u>

<u>(B) an individual retirement annuity as defined by Section 408(b) of the code;</u>

<u>(C) an annuity plan as described by Section 403(a) of the code;</u>

<u>(D) an eligible deferred compensation plan as defined by Section 457(b) of the code that is maintained by an eligible employer as described by Section 457(e)(1)(A) of the code;</u>

<u>(E) an annuity contract as described by Section 403(b) of the code;</u>

<u>(F) a qualified trust as described by Section 401(a) of the code that accepts the distributee's eligible rollover distribution; and</u>

<u>(G) in the case of an eligible rollover distribution, for a designated beneficiary that is not the surviving spouse, a spouse, or a former spouse who is an alternate payee under a qualified domestic relations order, an eligible retirement plan means only an individual retirement account or individual retirement annuity that is established for the purpose of receiving the distribution on behalf of the beneficiary.</u>

<u>(4) "Eligible rollover distribution" means any distribution of all or any portion of the balance to the credit of the distributee, except that an eligible rollover distribution does not include:</u>

<u>(A) any distribution that is one of a series of substantially equal periodic payments, not less frequently than</u>

annually, made for life or life expectancy of the distributee or the joint lives or joint life expectancies of the distributee and the distributee's designated beneficiary or for a specified period of 10 years or more;

(B) any distribution to the extent the distribution is required under Section 401(a)(9) of the code; or

(C) any distribution that is made on hardship of the employee.

(d) The annual compensation for each member [~~total salary~~] taken into account for any purpose under this article [~~for any member of the pension system~~] may not exceed $200,000 for any year for an eligible participant, or for years beginning after 2001 for an ineligible participant, or $150,000 a year before 2001 for an ineligible participant. These dollar limits shall be adjusted from time to time in accordance with guidelines provided by the United States secretary of the treasury and must comply with Section 401(a)(17) of the code. For purposes of this subsection, an eligible participant is a person who first became an active member before 1996, and an ineligible participant is a member who is not an eligible participant.

(g) Distribution of benefits must begin not later than April 1 of the year following the calendar year during which the member eligible for [~~entitled to~~] the benefits becomes 70-1/2 years of age or terminates employment with the employer, whichever is later, and must otherwise conform to Section 401(a)(9) of the code.

(h) For purposes of adjusting any benefit due to the limitations prescribed by Section 415 of the code, the following provisions shall apply:

(1) the 415(b) limitation with respect to any member who at any time has been a member in any other defined benefit plan as defined in Section 414(j) of the code maintained by the city shall apply as if the total benefits payable under all the defined benefit plans in which the member has been a member were payable from one plan; and

(2) the 415(c) limitation with respect to any member who at any time has been a member in any other defined contribution plan as defined in Section 414(i) of the code maintained by the city shall apply as if the total annual additions under all such defined contribution plans in which the member has been a member were payable from one plan.

(h-1) For purposes of adjusting any benefit due to the limitations prescribed by Section 415(b) of the code, the following provisions shall apply:

(1) before January 1, 1995, a member may not receive an annual benefit that exceeds the limits specified in Section 415(b) of the code, subject to the applicable adjustments in that section;

(2) on and after January 1, 1995, a member may not receive an annual benefit that exceeds the dollar amount specified in Section 415(b)(1)(A) of the code, subject to the applicable adjustments in Section 415(b) of the code and subject to any additional limits that may be specified in the pension system;

(3) in no event may a member's annual benefit payable under the pension system, including any DROP benefits, in any limitation year be greater than the limit applicable at the annuity

starting date, as increased in subsequent years pursuant to Section 415(d) of the code, including regulations adopted under that section; and

(4) the "annual benefit" means a benefit payable annually in the form of a straight life annuity, with no ancillary benefits, without regard to the benefit attributable to any after-tax employee contributions, unless attributable under Section 415(n) of the code, and to rollover contributions as defined in Section 415(b)(2)(A) of the code. For purposes of this subdivision, the "benefit attributable" shall be determined in accordance with applicable federal regulations.

(h-2) For purposes of adjustments to the basic limitation under Section 415(b) of the code in the form of benefits, the following provisions apply:

(1) if the benefit under the pension system is other than the form specified in Subsections (h-1)(1)-(3) of this section, including DROP benefits, the benefit shall be adjusted so that it is the equivalent of the annual benefit, using factors prescribed in applicable federal regulations; and

(2) if the form of benefit without regard to the automatic benefit increase feature is not a straight life annuity or a qualified joint and survivor annuity, Subdivision (1) of this subsection is applied by either reducing the limit under Section 415(b) of the code applicable at the annuity starting date or adjusting the form of benefit to an actuarially equivalent amount determined by using the assumptions specified in Treasury Regulation Section 1.415(b)-1(c)(2)(ii) that takes into account

the additional benefits under the form of benefit as follows:

(A) for a benefit paid in a form to which Section 417(e)(3) of the code does not apply, the actuarially equivalent straight life annuity benefit that is the greater of:

(i) the annual amount of the straight life annuity, if any, payable to the member under the pension system commencing at the same annuity starting date as the form of benefit to the member or the annual amount of the straight life annuity commencing at the same annuity starting date that has the same actuarial present value as the form of benefit payable to the member, computed using a five percent interest assumption or the applicable statutory interest assumption; and

(ii) for years prior to January 1, 2009, the applicable mortality tables described in Treasury Regulation Section 1.417(e)-1(d)(2), and for years after December 31, 2008, the applicable mortality tables described in Section 417(e)(3)(B) of the code; or

(B) for a benefit paid in a form to which Section 417(e)(3) of the code applies, the actuarially equivalent straight life annuity benefit that is the greatest of:

(i) the annual amount of the straight life annuity commencing at the annuity starting date that has the same actuarial present value as the particular form of benefit payable, computed using the interest rate and mortality table, or tabular factor, specified in the plan for actuarial experience;

(ii) the annual amount of the straight life annuity commencing at the annuity starting date that has the same actuarial present value as the particular form of benefit payable, computed using a 5.5 percent interest assumption or the applicable statutory interest assumption, and for years prior to January 1, 2009, the applicable mortality tables for the distribution under Treasury Regulation Section 1.417(e)-1(d)(2), and for years after December 31, 2008, the applicable mortality tables described in Section 417(e)(3)(B) of the code; or

(iii) the annual amount of the straight life annuity commencing at the annuity starting date that has the same actuarial present value as the particular form of benefit payable computed using the applicable interest rate for the distribution under Treasury Regulation Section 1.417(e)-1(d)(3) using the rate in effect for the month prior to retirement before January 1, 2017, and using the rate in effect for the first day of the plan year with a one-year stabilization period on and after January 1, 2017, and for years prior to January 1, 2009, the applicable mortality tables for the distribution under Treasury Regulation Section 1.417(e)-1(d)(2), and for years after December 31, 2008, the applicable mortality tables described in Section 417(e)(3)(B) of the code, divided by 1.05.

(h-3) The pension system actuary may adjust the limitation under Section 415(b) of the code at the annuity starting date in accordance with Subsections (h-1) and (h-2) of this section.

(h-4) The following are benefits for which no adjustment of the limitation in Section 415(b) of the code is required:

(1) any ancillary benefit that is not directly related to retirement income benefits;

(2) the portion of any joint and survivor annuity that constitutes a qualified joint and survivor annuity; and

(3) any other benefit not required under Section 415(b)(2) of the code and regulations adopted under that section to be taken into account for purposes of the limitation of Section 415(b)(1) of the code.

(h-5) The following provisions apply to other adjustments of the limitation under Section 415(b) of the code:

(1) in the event the member's pension benefits become payable before the member attains 62 years of age, the limit prescribed by this section shall be reduced in accordance with federal regulations adopted under Section 415(b) of the code, so that that limit, as reduced, equals an annual straight life annuity benefit when the retirement income benefit begins, that is equivalent to a $160,000, as adjusted, annual benefit beginning at 62 years of age;

(2) in the event the member's benefit is based on at least 15 years of service as a full-time employee of any police or fire department or on 15 years of military service, in accordance with Sections 415(b)(2)(G) and (H) of the code, the adjustments provided for in Subdivision (1) of this section may not apply; and

(3) in accordance with Section 415(b)(2)(I) of the code, the reductions provided for in Subdivision (1) of this section may not be applicable to preretirement disability benefits or preretirement death benefits.

(h-6) The following provisions of this subsection govern adjustment of the defined benefit dollar limitation for benefits commenced after 65 years of age:

(1) if the annuity starting date for the member's benefit is after 65 years of age and the pension system does not have an immediately commencing straight life annuity payable at both 65 years of age and the age of benefit commencement, the defined benefit dollar limitation at the member's annuity starting date is the annual amount of a benefit payable in the form of a straight life annuity commencing at the member's annuity starting date that is the actuarial equivalent of the defined benefit dollar limitation, with actuarial equivalence computed using a five percent interest rate assumption and the applicable mortality table for that annuity starting date as defined in Section 417(e)(3)(B) of the code, expressing the member's age based on completed calendar months as of the annuity starting date;

(2) if the annuity starting date for the member's benefit is after age 65, and the pension system has an immediately commencing straight life annuity payable at both 65 years of age and the age of benefit commencement, the defined benefit dollar limitation at the member's annuity starting date is the lesser of the limitation determined under Subdivision (1) of this section and the defined benefit dollar limitation multiplied by the ratio of the annual amount of the adjusted immediately commencing straight life annuity under the pension system at the member's annuity starting date to the annual amount of the adjusted immediately commencing straight life annuity under the pension system at 65 years of age, both determined without applying the limitations of this subsection; and

(3) notwithstanding the other requirements of this section:

(A) no adjustment shall be made to reflect the probability of a member's death between the annuity starting date and 62 years of age, or between 65 years of age and the annuity starting date, as applicable, if benefits are not forfeited on the death of the member prior to the annuity starting date; and

(B) to the extent benefits are forfeited on death before the annuity starting date, the adjustment shall be made, and for this purpose no forfeiture shall be treated as occurring on the member's death if the pension system does not charge members for providing a qualified preretirement survivor annuity, as defined in Section 417(c) of the code, on the member's death.

(h-7) For the purpose of Subsection (h-6)(2) of this section, the adjusted immediately commencing straight life annuity under the pension system at the member's annuity starting date is the annual amount of such annuity payable to the member, computed disregarding the member's accruals after 65 years of age but including actuarial adjustments even if those actuarial adjustments are used to offset accruals, and the adjusted immediately commencing straight life annuity under the pension system at 65 years of age is the annual amount of the annuity that would be payable under the pension system to a hypothetical member who is 65 years of age and has the same accrued benefit as the member.

(h-8) The maximum pension benefits payable to any member who has completed less than 10 years of participation shall be the amount determined under Subsection (h-1) of this section, as adjusted under Subsection (h-2) or (h-5) of this section, multiplied by a fraction, the numerator of which is the number of the member's years of participation and the denominator of which is 10. The limit under Subsection (h-9) of this section concerning the $10,000 limit shall be similarly reduced for any member who has accrued less than 10 years of service, except the fraction shall be determined with respect to years of service instead of years of participation. The reduction provided by this subsection cannot reduce the maximum benefit below 10 percent of the limit determined without regard to this subsection. The reduction provided for in this subsection may not be applicable to preretirement disability benefits or preretirement death benefits.

(h-9) Notwithstanding Subsection (h-8) of this section, the pension benefit payable with respect to a member shall be deemed not to exceed the limit provided by Section 415 of the code if the benefits payable, with respect to such member under this pension system and under all other qualified defined benefit pension plans to which the city contributes, do not exceed $10,000 for the applicable limitation year and for any prior limitation year and the city has not at any time maintained a qualified defined contribution plan in which the member participated.

(h-10) On and after January 1, 1995, for purposes of applying the limits under Section 415(b) of the code to a member's benefit paid in a form to which Section 417(e)(3) of the code does not apply, the following provisions apply:

(1) a member's applicable limit shall be applied to the

member's annual benefit in the member's first limitation year without regard to any cost-of-living adjustments under Section 12 of this article;

(2) to the extent that the member's annual benefit equals or exceeds the limit, the member shall no longer be eligible for cost-of-living increases until such time as the benefit plus the accumulated increases are less than the limit; and

(3) after the time prescribed by Subdivision (2) of this subsection, in any subsequent limitation year, a member's annual benefit, including any cost-of-living increases under Section 12 of this article, shall be tested under the applicable benefit limit, including any adjustment under Section 415(d) of the code to the dollar limit under Section 415(b)(1)(A) of the code, and the regulations under those sections.

(h-11) Any repayment of contributions, including interest on contributions, to the plan with respect to an amount previously refunded on a forfeiture of service credit under the plan or another governmental plan maintained by the pension system may not be taken into account for purposes of Section 415 of the code, in accordance with applicable federal regulations.

(h-12) Reduction of benefits or contributions to all plans, where required, shall be accomplished by:

(1) first, reducing the member's benefit under any defined benefit plans in which the member participated, with the reduction to be made first with respect to the plan in which the member most recently accrued benefits and then in the priority determined by the pension system and the plan administrator of such

other plans; and

(2) next, reducing or allocating excess forfeitures for defined contribution plans in which the member participated, with the reduction to be made first with respect to the plan in which the member most recently accrued benefits and then in the priority determined by the pension system and the plan administrator for such other plans.

(h-13) Notwithstanding Subsection (h-12) of this section, reductions may be made in a different manner and priority pursuant to the agreement of the pension system and the plan administrator of all other plans covering such member. [~~If the amount of any benefit is to be determined on the basis of actuarial assumptions that are not otherwise specifically set forth for that purpose in this article, the actuarial assumptions to be used are those earnings and mortality assumptions being used on the date of the determination by the pension system's actuary and approved by the board. The actuarial assumptions being used at any particular time shall be attached as an addendum to a copy of this article and treated for all purposes as a part of this article. The actuarial assumptions may be changed by the pension system's actuary at any time if approved by the board, but a change in actuarial assumptions may not result in any decrease in benefits accrued as of the effective date of the change.~~]

SECTION 2.26. Section 26(b)(3), Article 6243g-4, Revised Statutes, is amended to read as follows:

(3) "Maximum benefit" means the retirement benefit a retired member and the spouse, dependent child, or dependent parent

of a retired member or deceased member or retiree are eligible [~~entitled~~] to receive from all qualified plans in any month after giving effect to Section 25(b) of this article and any similar provisions of any other qualified plans designed to conform to Section 415 of the code.

SECTION 2.27. Sections 26(c), (d), and (e), Article 6243g-4, Revised Statutes, are amended to read as follows:

(c) An excess benefit participant who is receiving benefits from the pension system is eligible for [~~entitled to~~] a monthly benefit under this excess benefit plan in an amount equal to the lesser of:

(1) the member's unrestricted benefit less the maximum benefit; or

(2) the amount by which the member's monthly benefit from the fund has been reduced because of the limitations of Section 415 of the code.

(d) If a spouse, dependent child, or dependent parent is eligible for [~~entitled to~~] preretirement or postretirement death benefits under a qualified plan after the death of an excess benefit participant, the surviving spouse, dependent child, or dependent parent is eligible for [~~entitled to~~] a monthly benefit under the excess benefit plan equal to the benefit determined in accordance with this article without regard to the limitations under Section 25(b) of this article or Section 415 of the code, less the maximum benefit.

(e) Any benefit to which a person is eligible [~~entitled~~] under this section shall be paid at the same time and in the same manner as the benefit would have been paid from the pension system if payment of the benefit from the pension system had not been precluded by Section 25(b) of this article. An excess benefit participant or any beneficiary may not, under any circumstances, elect to defer the receipt of all or any part of a payment due under this section.

SECTION 2.28. The heading to Section 27, Article 6243g-4, Revised Statutes, is amended to read as follows:

Sec. 27. CERTAIN WRITTEN AGREEMENTS BETWEEN PENSION SYSTEM AND CITY AUTHORIZED [~~AGREEMENT TO CHANGE BENEFITS~~].

SECTION 2.29. Section 27, Article 6243g-4, Revised Statutes, is amended by amending Subsection (b) and adding Subsection (c) to read as follows:

(b) A pension benefit or allowance provided by this article may be increased if the increase:

(1) is first approved by a qualified actuary selected by the board;

(2) is approved by the board and the city in a written agreement as authorized by this section; and

(3) does not deprive a member, without the member's written consent, of a right to receive benefits when [~~that have become fully vested and matured in~~] the member is fully eligible.

(c) In a written agreement entered into between the city and the board under this section, the parties may not:

(1) alter Sections 9 through 9E of this article, except and only to the extent necessary to comply with federal law;

(2) increase the assumed rate of return to more than

seven percent per year;

(3) extend the amortization period of a liability layer to more than 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability layer is first recognized; or

(4) allow a city contribution rate in any year that is less than or greater than the city contribution rate required under Section 9D or 9E of this article, as applicable.

SECTION 2.30. Section 29, Article 6243g-4, Revised Statutes, is amended by adding Subsections (c), (d), (e), (f), and (g) to read as follows:

(c) To carry out the provisions of Sections 9 through 9E of this article, the board and the pension system shall provide the city actuary under a confidentiality agreement the actuarial data used by the pension system actuary for the pension system's actuarial valuations or valuation studies and other data as agreed to between the city and the pension system that the city actuary determines is reasonably necessary for the city actuary to perform the studies required by Sections 9A through 9E of this article. Actuarial data described by this subsection does not include information described by Subsection (a) of this section.

(d) A risk sharing valuation study prepared by either the city actuary or the pension system actuary under Sections 9A through 9E of this article may not:

(1) include information described by Subsection (a) of this section; or

(2) provide confidential or private information

regarding specific individuals or be grouped in a manner that allows confidential or private information regarding a specific individual to be discerned.

(e) The information, data, and document exchanges under Sections 9 through 9E of this article have all the protections afforded by applicable law and are expressly exempt from the disclosure requirements under Chapter 552, Government Code, except as may be agreed to by the city and pension system in a written agreement under Section 27 of this article.

(f) Subsection (e) of this section does not apply to:

(1) a proposed risk sharing valuation study prepared by the pension system actuary and provided to the city actuary or prepared by the city actuary and provided to the pension system actuary under Section 9A(d) or 9B(b)(2) of this article; or

(2) a final risk sharing valuation study prepared under Section 9A or 9B of this article.

(g) Before a union contract is approved by the city, the mayor of the city must cause the city actuaries to deliver to the mayor a report estimating the impact of the proposed union contract on fund costs.

SECTION 2.31. Article 6243g-4, Revised Statutes, is amended by adding Section 30 to read as follows:

Sec. 30. FORFEITURE OF BENEFITS. (a) Notwithstanding any other law, a member who is convicted, after exhausting all appeals, of an offense punishable as a felony of the first degree in relation to, arising out of, or in connection with the member's service as a classified police officer may not receive any benefits under this article.

(b) After the member described by Subsection (a) of this section is finally convicted, the member's spouse may apply for benefits if the member, but for application of Subsection (a) of this section, would have been eligible for a pension benefit or a delayed payment of benefits. If the member would not have been eligible for a pension benefit or a delayed payment of benefits, the member's spouse may apply for a refund of the member's contributions. A refund under this subsection does not include interest and does not include contributions the city made on the member's behalf. The city may not receive a refund of any contributions the city made on the member's behalf.

SECTION 2.32. Sections 2(19) and (23), 8(b), 12(f), 14(f) and (m), 15(h) and (j), and 18(b) and (c), Article 6243g-4, Revised Statutes, are repealed.

SECTION 2.33. A city and board that have entered into one or more agreements under Section 27, Article 6243g-4, Revised Statutes, shall agree in writing that any provisions in the agreements that specifically conflict with this Act are no longer in effect, as of the year 2017 effective date, and any nonconflicting provisions of the agreements remain in full force and effect.

SECTION 2.34. The pension system established under Article 6243g-4, Revised Statutes, shall require the pension system actuary to prepare the first actuarial experience study required under Section 9C, Article 6243g-4, Revised Statutes, as added by this Act, not later than September 30, 2022.

ARTICLE 3. MUNICIPAL EMPLOYEES PENSION SYSTEM

SECTION 3.01. Section 1, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by amending Subdivisions (1), (4), (5), (7), (11), (14), (18), and (26) and adding Subdivisions (1-a), (1-b), (1-c), (1-d), (1-e), (1-f), (4-a), (4-b), (4-c), (4-d), (4-e), (4-f), (11-a), (11-b), (11-c), (11-d), (11-e), (11-f), (11-g), (11-h), (11-i), (11-j), (11-k), (12-a), (12-b), (14-a), (14-b), (17-a), (18-a), (18-b), (20-a), (21-a), (26-a), (26-b), (28), (29), (30), and (31) to read as follows:

(1) "Actuarial data" includes:

(A) the census data, assumption tables, disclosure of methods, and financial information that are routinely used by the pension system actuary for the pension system's studies or an actuarial experience study under Section 8D of this Act; and

(B) other data that is reasonably necessary to implement Sections 8A through 8F of this Act, as agreed to by the city and pension board.

(1-a) "Actuarial experience study" has the meaning assigned by Section 802.1014, Government Code.

(1-b) "Adjustment factor" means the assumed rate of return less two percentage points.

(1-c) "Amortization period" means the time period necessary to fully pay a liability layer.

(1-d) "Amortization rate" means the sum of the scheduled amortization payments less the city contribution amount for a given fiscal year for the liability layers divided by the projected pensionable payroll for the same fiscal year.

(1-e) "Assumed rate of return" means the assumed market rate of return on pension system assets, which is seven percent per annum unless adjusted as provided by this Act.

(1-f) "Authorized absence" means:

(A) each day an employee is absent due to an approved holiday, vacation, accident, or sickness, if the employee is continued on the employment rolls of the city or the pension system, receives the employee's regular salary from the city or the pension system for each day of absence, and remains eligible to work on recovery or return; or

(B) any period that a person is on military leave of absence under Section 18(a) of this Act, provided the person complies with the requirements of that section.

(4) "City" means a municipality having a population of more than two [~~1.5~~] million.

(4-a) "City contribution amount" means, for each fiscal year, a predetermined payment amount expressed in dollars in accordance with a payment schedule amortizing the legacy liability, using the level percent of payroll method and the amortization period and payoff year, that is included in the initial risk sharing valuation study under Section 8C(a)(3) of this Act, as may be restated from time to time in:

(A) a subsequent risk sharing valuation study to reflect adjustments to the amortization schedule authorized by Section 8E or 8F of this Act; or

(B) a restated initial risk sharing valuation study or a subsequent risk sharing valuation study to reflect adjustments authorized by Section 8C(i) or (j) of this Act.

(4-b) "City contribution rate" means a percent of pensionable payroll that is the sum of the employer normal cost rate and the amortization rate for liability layers, excluding the legacy liability, except as determined otherwise under the express provisions of Sections 8E and 8F of this Act.

(4-c) "Corridor" means the range of city contribution rates that are:

(A) equal to or greater than the minimum contribution rate; and

(B) equal to or less than the maximum contribution rate.

(4-d) "Corridor margin" means five percentage points.

(4-e) "Corridor midpoint" means the projected city contribution rate specified for each fiscal year for 31 years in the initial risk sharing valuation study under Section 8C of this Act, and as may be adjusted under Section 8E or 8F of this Act, and in each case rounded to the nearest hundredths decimal place.

(4-f) "Cost-of-living adjustment percentage" means a percentage that:

(A) except as provided by Paragraph (B), is equal to the pension system's five-year investment return, based on a rolling five-year basis and net of investment expenses, minus the adjustment factor, and multiplied by 50 percent; and

(B) may not be less than zero or more than two percent.

(5) "Credited service" means each day of service and prior service of a member for which:

(A) the city [~~has~~] and[~~, for service in group A,~~] the member have [~~has~~] made required contributions to the pension fund that were not subsequently withdrawn;

(B) the member has purchased service credit or converted service credit from group B to group A by paying into the pension fund required amounts that were not subsequently withdrawn;

(C) the member has reinstated service under Section 7(g) of this Act; and

(D) the member has previously made payments to the pension fund that, under then existing provisions of law, make the member eligible for credit for the service and that were not subsequently withdrawn.

(7) "Dependent child" means an unmarried natural or legally adopted child of a member, deferred participant, or retiree who:

(A) was supported by the member, deferred participant, or retiree before the termination of employment of the member, deferred participant, or retiree; and

(B) is under 21 years of age or is totally and permanently disabled from performing any full-time employment because of an injury, illness, serious mental illness, intellectual disability, or pervasive development disorder [~~or retardation~~] that began before the child became 18 years of age and before the termination of employment [~~death~~] of the member, deferred participant, or retiree.

(11) "Employee" means any person, including an elected official during the official's service to the city, who is eligible to be a member of the pension system or to participate in an alternative retirement plan established under this Act and:

(A) who holds a municipal position or a position with the pension system;

(B) whose name appears on a regular full-time payroll of a city or of the pension fund; and

(C) who is paid a regular salary for services.

(11-a) "Employer normal cost rate" means the normal cost rate minus the applicable member contribution rate for newly hired employees, initially set as three percent for group D members on the year 2017 effective date. The present value of additional member contributions different from the group D rate taken into account for purposes of determining the employer normal cost rate must be applied toward the actuarial accrued liability.

(11-b) "Estimated city contribution amount" means the city contribution amount estimated in a final risk sharing valuation study under Section 8B or 8C of this Act, as applicable, as required by Section 8B(a)(5) of this Act.

(11-c) "Estimated city contribution rate" means the city contribution rate estimated in a final risk sharing valuation study under Section 8B or 8C of this Act, as applicable, as required by Section 8B(a)(5) of this Act.

(11-d) "Estimated total city contribution" means the total city contribution estimated by the pension system actuary or the city actuary, as applicable, by using the estimated city contribution rates and the estimated city contribution amounts recommended by each actuary for purposes of preparing the initial risk sharing valuation study under Section 8C of this Act.

(11-e) "Fiscal year," except as provided by Section 1B of this Act, means a fiscal year beginning on July 1 and ending on June 30.

(11-f) "Funded ratio" means the ratio of the pension system's actuarial value of assets divided by the pension system's actuarial accrued liability.

(11-g) "Legacy liability" means the unfunded actuarial accrued liability:

(A) for the fiscal year ending June 30, 2016, reduced to reflect:

(i) changes to benefits and contributions under this Act that took effect on the year 2017 effective date;

(ii) the deposit of pension obligation bond proceeds on December 31, 2017, in accordance with Section 8C(j)(2) of this Act; and

(iii) payments by the city and earnings at the assumed rate of return allocated to the legacy liability from July 1, 2016, to July 1, 2017, excluding July 1, 2017; and

(B) for each subsequent fiscal year:

(i) reduced by the city contribution amount for that year allocated to the amortization of the legacy liability; and

(ii) adjusted by the assumed rate of return.

(11-h) "Level percent of payroll method" means the amortization method that defines the amount of the liability layer recognized each fiscal year as a level percent of pensionable payroll until the amount of the liability layer remaining is reduced to zero.

(11-i) "Liability gain layer" means a liability layer that decreases the unfunded actuarial accrued liability.

(11-j) "Liability layer" means the legacy liability established in the initial risk sharing valuation study under Section 8C of this Act and the unanticipated change as established in each subsequent risk sharing valuation study prepared under Section 8B of this Act.

(11-k) "Liability loss layer" means a liability layer that increases the unfunded actuarial accrued liability. For purposes of this Act, the legacy liability is a liability loss layer.

(12-a) "Maximum contribution rate" means the rate equal to the corridor midpoint plus the corridor margin.

(12-b) "Minimum contribution rate" means the rate equal to the corridor midpoint minus the corridor margin.

(14) "Military service" means active service in the armed forces of the United States or wartime service in the armed forces of the United States or in the allied forces, if credit for military service has not been granted under any federal or other state system or used in any other retirement system, except as expressly required under federal law.

(14-a) "Normal cost rate" means the salary weighted average of the individual normal cost rates determined for the current active population, plus the assumed administrative expenses determined in the most recent actuarial experience study conducted under Section 8D of this Act, expressed as a rate, provided the assumed administrative expenses may not exceed 1.25 percent of pensionable payroll for the current fiscal year unless agreed to by the city.

(14-b) "Payoff year" means the year a liability layer is fully amortized under the amortization period. A payoff year may not be extended or accelerated for a period that is less than one month.

(17-a) "Pension obligation bond" means a bond issued in accordance with Chapter 107, Local Government Code.

(18) "Pension system," unless the context otherwise requires, means the retirement, disability, and survivor benefit plans for municipal employees of a city under this Act and employees under Section 3(d) of this Act.

(18-a) "Pension system actuary" means the actuary engaged by the pension system under Section 2B of this Act.

(18-b) "Pensionable payroll" means the combined salaries, in an applicable fiscal year, paid to all:

(A) members; and

(B) if applicable, participants in any alternative retirement plan established under Section 1C of this Act, including a cash balance retirement plan established under that section.

(20-a) "Price inflation assumption" means:

(A) the most recent headline consumer price index 10-year forecast published in the Federal Reserve Bank of Philadelphia Survey of Professional Forecasters; or

(B) if the forecast described by Paragraph (A) of this subdivision is not available, another standard as determined by mutual agreement between the city and the pension board entered into under Section 3(n) of this Act.

(21-a) "Projected pensionable payroll" means the estimated pensionable payroll for the fiscal year beginning 12 months after the date of the risk sharing valuation study prepared under Section 8B of this Act, at the time of calculation by:

(A) projecting the prior fiscal year's pensionable payroll forward two years using the current payroll growth rate assumptions; and

(B) adjusting, if necessary, for changes in population or other known factors, provided those factors would have a material impact on the calculation, as determined by the pension board.

(26) "Surviving spouse" means a spouse by marriage of [~~person who was married to~~] a member, deferred participant, or retiree at the time of death of the member, deferred participant, or retiree and as of the date of [~~before~~] separation from service by the member, deferred participant, or retiree.

(26-a) "Third quarter line rate" means the corridor midpoint plus 2.5 percentage points.

(26-b) "Total city contribution" means, for a fiscal year, an amount equal to the sum of:

(A) the city contribution rate multiplied by the pensionable payroll for the fiscal year; and

(B) the city contribution amount for the fiscal year.

(28) "Ultimate entry age normal" means an actuarial cost method under which a calculation is made to determine the average uniform and constant percentage rate of contributions that, if applied to the compensation of each member during the entire period of the member's anticipated covered service, would be required to meet the cost of all benefits payable on the member's behalf based on the benefits provisions for newly hired employees. For purposes of this definition, the actuarial accrued liability for each member is the difference between the member's present value of future benefits based on the tier of benefits that apply to the member and the member's present value of future normal costs determined using the normal cost rate.

(29) "Unfunded actuarial accrued liability" means the difference between the actuarial accrued liability and the actuarial value of assets. For purposes of this definition:

(A) "actuarial accrued liability" means the portion of the actuarial present value of projected benefits attributed to past periods of member service based on the cost method used in the risk sharing valuation study prepared under Section 8B or 8C of this Act, as applicable; and

(B) "actuarial value of assets" means the value of pension plan investments as calculated using the asset smoothing method used in the risk sharing valuation study prepared under

Section 8B or 8C of this Act, as applicable.

(30) "Unanticipated change" means, with respect to the unfunded actuarial accrued liability in each subsequent risk sharing valuation study prepared under Section 8B of this Act, the difference between:

(A) the remaining balance of all then-existing liability layers as of the date of the risk sharing valuation study; and

(B) the actual unfunded actuarial accrued liability as of the date of the risk sharing valuation study.

(31) "Year 2017 effective date" means the date on which S.B. No. 2190, Acts of the 85th Legislature, Regular Session, 2017, took effect.

SECTION 3.02. Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by adding Sections 1A, 1B, 1C, 1D, and 1E to read as follows:

Sec. 1A. INTERPRETATION OF ACT. This Act does not and may not be interpreted to:

(1) relieve the city, the pension board, or the pension system of their respective obligations under Sections 8A through 8F of this Act;

(2) reduce or modify the rights of the city, the pension system, or the pension board, including any officer or employee of the city, pension system, or pension board, to enforce obligations described by Subdivision (1) of this subsection;

(3) relieve the city, including any official or

employee of the city, from:

(A) paying or directing to pay required contributions to the pension system or fund under Section 8 or 8A of this Act or carrying out the provisions of Sections 8A through 8F of this Act; or

(B) reducing or modifying the rights of the pension board and any officer or employee of the pension board or pension system to enforce obligations described by Subdivision (1) of this section;

(4) relieve the pension board or pension system, including any officer or employee of the pension board or pension system, from any obligation to implement a benefit change or carry out the provisions of Sections 8A through 8F of this Act; or

(5) reduce or modify the rights of the city and any officer or employee of the city to enforce an obligation described by Subdivision (4) of this section.

Sec. 1B. FISCAL YEAR. If either the pension system or the city changes its respective fiscal year, the pension system and the city shall enter into a written agreement under Section 3(n) of this Act to adjust the provisions of Sections 8A through 8F of this Act to reflect that change for purposes of this Act.

Sec. 1C. ALTERNATIVE RETIREMENT PLANS. (a) In this section, "salary-based benefit plan" means a retirement plan provided by the pension system under this Act that provides member benefits that are calculated in accordance with a formula that is based on multiple factors, one of which is the member's salary at the time of the member's retirement.

(b) Notwithstanding any other law, including Section 8H of this Act, and except as provided by Subsection (c) of this section, the pension board and the city may enter into a written agreement under Section 3(n) of this Act to offer an alternative retirement plan or plans, including a cash balance retirement plan or plans, if both parties consider it appropriate.

(c) Notwithstanding any other law, including Section 8H of this Act, and except as provided by Subsection (d) of this section, if, beginning with the final risk sharing valuation study prepared under Section 8B of this Act on or after July 1, 2027, either the funded ratio of the pension system is less than 60 percent as determined in the final risk sharing valuation study without making any adjustments under Section 8E or 8F of this Act, or the funded ratio of the pension system is less than 60 percent as determined in a revised and restated risk sharing valuation study prepared under Section 8B(a)(8) of this Act, the pension board and the city shall, as soon as practicable but not later than the 60th day after the date the determination is made:

(1) enter into a written agreement under Section 3(n) of this Act to establish a cash balance retirement plan that complies with Section 1D of this Act; and

(2) require each employee first hired by the city on or after the 90th day after the date the cash balance retirement plan is established to participate in the cash balance retirement plan established under this subsection instead of participating in the salary-based benefit plan, provided the employee would have otherwise been eligible to participate in the salary-based benefit

plan.

(d) If the city fails to deliver the proceeds of the pension obligation bonds described by Section 8C(j)(1) of this Act within the time prescribed by that subdivision, notwithstanding the funded ratio of the pension system, the pension board and the city may not establish a cash balance retirement plan under Subsection (c) of this section.

Sec. 1D. REQUIREMENTS FOR CERTAIN CASH BALANCE RETIREMENT PLANS. (a) In this section:

(1) "Cash balance plan participant" means an employee who participates in a cash balance retirement plan.

(2) "Cash balance retirement plan" means a cash balance retirement plan established by written agreement under Section 1C(b) or Section 1C(c) of this Act.

(3) "Interest" means the interest credited to a cash balance plan participant's notional account, which may not:

(A) exceed a percentage rate equal to the cash balance retirement plan's most recent five fiscal years' smoothed rate of return; or

(B) be less than zero percent.

(4) "Salary-based benefit plan" has the meaning assigned by Section 1C of this Act.

(b) The written agreement establishing a cash balance retirement plan must:

(1) provide for the administration of the cash balance retirement plan;

(2) provide for a closed amortization period not to

exceed 20 years from the date an actuarial gain or loss is realized;

(3) provide for the crediting of city and cash balance plan participant contributions to each cash balance plan participant's notional account;

(4) provide for the crediting of interest to each cash balance plan participant's notional account;

(5) include a vesting schedule;

(6) include benefit options, including options for cash balance plan participants who separate from service prior to retirement;

(7) provide for death and disability benefits;

(8) allow a cash balance plan participant who is eligible to retire under the plan to elect to:

(A) receive a monthly annuity payable for the life of the cash balance plan participant in an amount actuarially determined on the date of the cash balance plan participant's retirement based on the cash balance plan participant's accumulated notional account balance annuitized in accordance with the actuarial assumptions and actuarial methods established in the most recent actuarial experience study conducted under Section 8D of this Act, except that the assumed rate of return applied may not exceed the pension system's assumed rate of return in the most recent risk sharing valuation study; or

(B) receive a single, partial lump-sum payment from the cash balance plan participant's accumulated account balance and a monthly annuity payable for life in an amount determined in accordance with Paragraph (A) of this subdivision based on the cash balance plan participant's account balance after receiving the partial lump-sum payment; and

(9) include any other provision determined necessary by:

(A) the pension board and the city; or

(B) the pension system for purposes of maintaining the tax-qualified status of the pension system under Section 401, Internal Revenue Code of 1986, as amended.

(c) Notwithstanding any other law, including Section 5 of this Act, an employee who participates in a cash balance retirement plan:

(1) subject to Subsection (d) of this section, is not eligible to be a member of and may not participate in the salary-based benefit plan; and

(2) may not earn credited service in the salary-based benefit plan during the period the employee is participating in the cash balance retirement plan.

(d) A cash balance plan participant is considered a member for purposes of Section 8A through 8I of this Act.

(e) At the time of implementation of the cash balance retirement plan, the employer normal cost rate of the cash balance retirement plan may not exceed the employer normal cost rate of the salary-based benefit plan.

Sec. 1E. CONFLICT OF LAW. To the extent of a conflict between this Act and any other law, this Act prevails.

SECTION 3.03. Section 2, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's

Texas Civil Statutes), is amended by amending Subsections (c), (d), (g), (j), (l), and (n) and adding Subsections (c-1), (c-2), (c-3), (c-4), (j-1), (j-2), (ee), (ff), (gg), (hh), (ii), and (jj) to read as follows:

(c) The pension board consists of 11 [~~nine~~] trustees as follows:

(1) one person appointed by the mayor of the city[~~, or the director of the civil service commission as the mayor's representative~~];

(2) one person appointed by the controller of the city [~~treasurer or a person performing the duties of treasurer~~];

(3) four municipal employees of the city who are members of the pension system;

(4) two retirees, each of whom:

(A) has at least five years of credited service in the pension system;

(B) receives a retirement pension from the pension system; and

(C) is not an officer or employee of the city; [~~and~~]

(5) one person appointed by the elected trustees who[~~:~~

[~~(A)~~] has been a resident of this state for the three years preceding the date of initial appointment; and

(6) two persons appointed by the governing body of the city [~~(B) is not a city officer or employee~~].

(c-1) To serve as a trustee under Subsection (c)(1), (2), or (6) of this section, a person may not be a participant in or beneficiary of the pension system.

(c-2) A trustee appointed under Subsection (c)(1), (2), (5), or (6) of this section must have expertise in at least one of the following areas: accounting, finance, pensions, investments, or actuarial science. Of the trustees appointed under Subsections (c)(1), (2), and (6) of this section, not more than two trustees may have expertise in the same area.

(c-3) A trustee appointed under Subsection (c)(1) of this section shall serve a three-year term expiring in July of the applicable year. The appointed trustee may be removed at any time by the mayor. The mayor shall fill a vacancy caused by the trustee's death, resignation, or removal and the person appointed to fill the vacancy shall serve the remainder of the unexpired term of the replaced trustee and may not serve beyond the expiration of the unexpired term unless appointed by the mayor.

(c-4) A trustee appointed under Subsection (c)(2) of this section shall serve a three-year term expiring in July of the applicable year. The appointed trustee may be removed at any time by the controller. The controller shall fill a vacancy caused by the trustee's death, resignation, or removal and the person appointed to fill the vacancy shall serve the remainder of the unexpired term of the replaced trustee and may not serve beyond the expiration of the unexpired term unless appointed by the controller.

(d) To serve as a trustee under Subsection (c)(3) of this section, a person must be a member with at least five years of credited service and be elected by the active members of the pension system voting at an election called by the pension board. No more than two of the employee trustees may be employees of the same department.

(g) To serve as a trustee under Subsection (c)(4) of this section, a person must be elected by a majority of the retirees voting [~~retired members of the pension system~~] at an election called by the pension board.

(j) To serve as a trustee under Subsection (c)(5) of this section, the person must be appointed by a vote of a majority of the elected trustees of the pension board. The trustee appointed under Subsection (c)(5) of this section shall serve [~~serves~~] a three-year [~~two-year~~] term. The appointment or reappointment of the appointed trustee shall take place in July [~~January~~] of the [~~each even-numbered~~] year in which the term ends. The appointed trustee may be removed at any time by a vote of a majority of the elected trustees of the pension board. A vacancy caused by the appointed trustee's death, resignation, or removal shall be filled by the elected trustees of the pension board. The appointee serves for the remainder of the unexpired term of the replaced trustee. An appointed trustee may not serve beyond the expiration of the three-year [~~two-year~~] term unless a majority of [~~other than by appointment for a new term by~~] the elected trustees of the pension board reappoint the trustee for a new term.

(j-1) To serve as a trustee under Subsection (c)(6) of this section, a person must be appointed by a vote of a majority of the members of the governing body of the city. Each trustee appointed under Subsection (c)(6) of this section shall serve three-year terms expiring in July of the applicable year. A trustee appointed under Subsection (c)(6) of this section may be removed at any time by a vote of a majority of the members of the governing body of the city. A vacancy caused by the appointed trustee's death, resignation, or removal shall be filled by a vote of a majority of the members of the governing body of the city. A person appointed to fill the vacancy shall serve the remainder of the unexpired term of the replaced trustee, and may not serve beyond the expiration of the unexpired term unless appointed by the governing body of the city.

(j-2) If a majority of the pension board determines that a trustee appointed under Subsection (c)(1), (2), or (6) of this section has acted or is acting in a manner that conflicts with the interests of the pension system or is in violation of this Act or any agreement between the pension board and the city entered into under Section 3(n) of this Act, the pension board may recommend to the mayor, controller, or governing body, as appropriate, that the appointed trustee be removed from the pension board. If the appointed trustee was appointed by the governing body of the city, an action item concerning the pension board's recommendation shall be placed on the governing body's agenda for consideration and action. The governing body shall make a determination on the recommendation and communicate the determination to the pension system not later than the 45th day after the date of the recommendation.

(l) To serve on the pension board, each [~~Each~~] trustee shall, on or before [~~at~~] the first pension board meeting following the trustee's most recent election or appointment, take an oath of office that the trustee:

(1) will diligently and honestly administer the pension system; and

(2) will not knowingly violate this Act or willingly allow a violation of this Act to occur.

(n) The person serving as a trustee under Subsection (c)(2) of this section serves as the treasurer of the pension fund [~~under penalty of that person's official bond and oath of office~~]. The treasurer shall file an [~~That person's~~] official bond payable to the [~~city shall cover the person's position as treasurer of the~~] pension system. The treasurer is [~~fund, and that person's sureties are~~] liable on [~~for~~] the treasurer's official bond for the faithful performance of the treasurer's duties under this Act in connection with [~~actions pertaining to~~] the pension fund [~~to the same extent as the sureties are liable under the terms of the bond for other actions and conduct of the treasurer~~].

(ee) A trustee appointed under Subsection (c)(1), (2), (5), or (6) of this section who fails to attend at least 50 percent of all regular pension board meetings, as determined annually each July 1, may be removed from the pension board by the appointing entity. A trustee removed under this subsection may not be appointed as a trustee for one year following removal.

(ff) All trustees appointed under Subsection (c) of this section shall complete minimum educational training requirements established by the State Pension Review Board. The appointing entity may remove an appointed trustee who does not complete

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minimum educational training requirements during the period prescribed by the State Pension Review Board.

(gg) The pension board shall adopt an ethics policy governing, among other matters, conflicts of interest that each trustee must comply with during the trustee's term on the pension board.

(hh) During a trustee's term on the pension board and for one year after leaving the pension board, a trustee may not represent any other person or organization in any formal or informal appearance before the pension board or pension system staff concerning a matter for which the person has or had responsibility as a trustee.

(ii) The pension board may establish standing or temporary committees as necessary to assist the board in carrying out its business, including committees responsible for risk management or governance, investments, administration and compensation, financial and actuarial matters, audits, disability determinations, and agreements under Section 3(n) of this Act. The pension board shall establish a committee responsible for agreements under Section 3(n) of this Act that must be composed of the elected trustees and the trustee appointed by the elected trustees. Except for a committee responsible for agreements under Section 3(n) of this Act and any committee responsible for personnel issues:

(1) each committee must include at least one elected trustee and one trustee appointed by the mayor, controller, or governing body of the city;

(2) committee meetings are open to all trustees; and

(3) a committee may not make final decisions and may only make recommendations to the pension board.

(jj) Subsections (x)(1) through (4), (y), and (cc) of this section do not grant the pension board authority to modify or terminate Sections 8A through 8F of this Act.

SECTION 3.04. Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by adding Sections 2A, 2B, 2C, and 2D to read as follows:

Sec. 2A. CONFLICTS OF INTEREST. (a) The existence or appearance of a conflict of interest on the part of any trustee is detrimental to the proper functioning of the pension system if not properly addressed. An appointed trustee may not deliberate or vote on an action relating to the investment of pension system assets if:

(1) the trustee or an entity with which the trustee is affiliated:

(A) is a competitor or an affiliate of the person or firm that is the subject of or otherwise under consideration in the action; or

(B) likely would be subject to a due diligence review by the person or firm that is under consideration in the investment-related action; or

(2) the pension board otherwise determines that the proposed action would create a direct or indirect benefit for the appointed trustee or a firm with which the appointed trustee is

affiliated.

(b) The city attorney shall:

(1) provide annual training to trustees appointed by the city regarding conflicts of interest; and

(2) to the extent authorized by city ordinances, at the request of the external affairs committee of the pension board, review and take appropriate action on a complaint alleging a conflict of interest on the part of a city-appointed trustee.

Sec. 2B. PENSION SYSTEM ACTUARY; ACTUARIAL VALUATIONS. (a) The pension board shall retain an actuary or actuarial firm for purposes of this Act.

(b) At least annually, the pension system actuary shall make a valuation of the assets and liabilities of the pension fund. The valuation must include the risk sharing valuation study conducted under Section 8B or 8C of this Act, as applicable.

(c) The pension system shall provide a report of the valuation to the city.

Sec. 2C. QUALIFICATIONS OF CITY ACTUARY. (a) An actuary hired by the city for purposes of this Act must be an actuary from a professional service firm who:

(1) is not already engaged by the pension system or any other pension system or fund authorized under Article 6243e.2(1) or 6243g-4, Revised Statutes, to provide actuarial services to the pension system or fund, as applicable;

(2) has a minimum of 10 years of professional actuarial experience; and

(3) is a fellow of the Society of Actuaries or a member

of the American Academy of Actuaries and who, in carrying out duties for the city, has met the applicable requirements to issue statements of actuarial opinion.

(b) Notwithstanding Subsection (a) of this section, the city actuary must at least meet the qualifications required by the board for the pension system actuary. The city actuary is not required to have greater qualifications than those of the pension system actuary.

Sec. 2D. REPORT ON INVESTMENTS BY INDEPENDENT INVESTMENT CONSULTANT. (a) At least once every three years, the board shall hire an independent investment consultant, including an independent investment consulting firm, to conduct a review of pension system investments and submit a report to the board and the city concerning the review or demonstrate in the pension system's annual financial report that the review was conducted. The independent investment consultant shall review and report on at least the following:

(1) the pension system's compliance with its investment policy statement, ethics policies, including policies concerning the acceptance of gifts, and policies concerning insider trading;

(2) the pension system's asset allocation, including a review and discussion of the various risks, objectives, and expected future cash flows;

(3) the pension system's portfolio structure, including the pension system's need for liquidity, cash income, real return, and inflation protection and the active, passive, or

index approaches for different portions of the portfolio;

(4) investment manager performance reviews and an evaluation of the processes used to retain and evaluate managers;

(5) benchmarks used for each asset class and individual manager;

(6) an evaluation of fees and trading costs;

(7) an evaluation of any leverage, foreign exchange, or other hedging transaction; and

(8) an evaluation of investment-related disclosures in the pension system's annual reports.

(b) When the board retains an independent investment consultant under this section, the pension system may require the consultant to agree in writing to maintain the confidentiality of:

(1) information provided to the consultant that is reasonably necessary to conduct a review under this section; and

(2) any nonpublic information provided for the pension system for the review.

(c) The costs for the investment report required by this section shall be paid from the pension fund.

SECTION 3.05. Section 3, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by amending Subsections (f) and (n) and adding Subsections (o), (p), (q), (r), and (s) to read as follows:

(f) The pension board shall compensate from the pension fund the persons performing services under Subsections (d) and (e) of this section and may provide other employee benefits that the pension board considers proper. Any person employed by the pension board under Subsection (d) or (e) of this section who has service credits with the pension system at the time of the person's employment by the pension board retains the person's status in the pension system. Any person employed by the pension system on or after January 1, 2008, who does not have service credits with the pension system at the time of employment is a group D [~~A~~] member in accordance with Section 5 of this Act. The pension board shall adopt a detailed annual budget detailing its proposed administrative expenditures under this subsection for the next fiscal year.

(n) Notwithstanding any other law and except as specifically limited by Subsection (o) of this section, the pension board may enter into a written agreement with the city regarding pension issues and benefits. The agreement must be approved by the pension board and the governing body of the city and signed by the mayor and by the pension board or the pension board's designee. The agreement is enforceable against and binding on the pension board, the city, and the pension system, including the pension system's members, retirees, deferred participants, beneficiaries, eligible survivors, and alternate payees. Any reference in this Act to an agreement between the city and the pension board or pension system is a reference to an agreement entered under this subsection.

(o) In any written agreement entered into between the city and the pension board under Subsection (n) of this section, the parties may not:

(1) alter Sections 8A through 8F of this Act, except

and only to the extent necessary to comply with federal law;

(2) increase the assumed rate of return to more than seven percent per year;

(3) extend the amortization period of a liability layer to more than 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability layer is first recognized; or

(4) allow a total city contribution in any fiscal year that is less than the total city contribution required under Section 8E or 8F, as applicable, of this Act.

(p) Annually on or before the end of the fiscal year, the pension board shall make a report to the mayor and the governing body of the city, each of which shall provide a reasonable opportunity for the pension board to prepare and present the report.

(q) The pension board shall provide quarterly investment reports to the mayor.

(r) At the mayor's request, the pension board shall meet, discuss, and analyze with the mayor or the mayor's representatives any city proposed policy changes and ordinances that may have a financial effect on the pension system.

(s) The pension board shall work to reduce administrative expenses, including by working with any other pension fund to which the city contributes.

SECTION 3.06. Section 5, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by amending Subsections (b), (e), (f), and (g) and adding Subsections (j) and (k) to read as follows:

(b) Except as provided by Subsection (c), (j), or (k) of this section and Sections 4 and 6 of this Act, an employee is a group A member of the pension system as a condition of employment if the employee:

(1) is hired or rehired as an employee by the city, the predecessor system, or the pension system on or after September 1, 1999, and before January 1, 2008;

(2) was a member of the predecessor system before September 1, 1981, under the terms of Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes), and did not make an election before December 1, 1981, under Section 22(a) of that Act to receive a refund of contributions and become a group B member;

(3) was a group A member who terminated employment included in the predecessor system before May 3, 1991, elected under Section 16, Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes), to leave the member's contributions in that pension fund, met the minimum service requirements for retirement at an attained age, was reemployed in a position included in the predecessor system before September 1, 1999, and elected, not later than the 30th day after the date reemployment began, to continue as a group A member;

(4) became a member of, or resumed membership in, the predecessor system as an employee or elected official of the city after January 1, 1996, and before September 1, 1999, and elected by

submission of a signed and notarized form in a manner determined by the pension board to become a group A member and to contribute a portion of the person's salary to the pension fund as required by Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes); or

(5) met the requirements of Section 3B, Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes), or Subsection (f) of this section for membership in group A.

(e) Any member or former member of the pension system elected to an office of the city on or after September 1, 1999, and before January 1, 2008, is [~~becomes~~] a group A member and is eligible to receive credit for all previous service on the same conditions as reemployed group A members under Sections 7(c), (d), (e), and (f) of this Act, except as otherwise provided by this Act. For purposes of this subsection [~~Notwithstanding any other provision in this Act or in Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes)~~], consecutive terms of office of any elected member who is elected to an office of the city are considered to be continuous employment for purposes of this Act.

(f) Each group B member of the pension system may make an irrevocable election on a date and in a manner determined by the pension board to change membership from group B to group A:

(1) for future service only; or

(2) for future service and to convert all past group B service to group A service and comply with the requirements of

Subsection (h) of this section provided the service is converted before December 31, 2005.

(g) Each group A member with service in group B may make an irrevocable election not later than December 31, 2005, [~~on a date~~] and in a manner determined by the pension board to convert all group B service to group A service and to comply with the requirements of Subsection (h) of this section.

(j) Except as provided by Subsection (k) of this section or Section 4 of this Act, an employee is a group D member of the pension system as a condition of employment if the employee is hired as an employee by the city or the pension system on or after January 1, 2008.

(k) Notwithstanding any provision of this section, for purposes of Subsection (j) of this section:

(1) consecutive terms of office of an elected member who is elected to an office of the city are considered to be continuous employment; and

(2) a former employee who is rehired as an employee by the city or the pension system on or after January 1, 2008, is, as a condition of employment, a member of the group in which that employee participated at the time of the employee's immediately preceding separation from service.

SECTION 3.07. Section 6, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by adding Subsections (k) and (l) to read as follows:

(k) Notwithstanding any other law, including Subsection (b)(3) of this section, Subsections (a) through (j) of this section do not apply to any employee on or after January 1, 2005. An employee who meets the definition of "executive official" under Subsection (b)(3) of this section is a group A member beginning January 1, 2005, for credited service earned on or after January 1, 2005, or a member of the applicable group under Section 5 of this Act. This subsection does not affect:

(1) any credited service or benefit percentage accrued in group C before January 1, 2005;

(2) any group C benefit that a deferred participant or retiree is eligible to receive that was earned before January 1, 2005; or

(3) the terms of any obligation to purchase service credit or convert service credit to group C that was entered into before January 1, 2005.

(l) A group C member who terminates employment before January 1, 2005, is subject to the retirement eligibility requirements in effect on the date of the member's termination from employment. A group C member who becomes a group A member under Subsection (k) of this section on January 1, 2005, is subject to the retirement eligibility requirements under Section 10 of this Act.

SECTION 3.08. Section 7, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by amending Subsections (a), (c), (e), (f), (g), and (h) and adding Subsections (g-1), (g-2), (i), (j), (k), and (l) to read as follows:

(a) Notwithstanding any other provision of this Act, duplication of service or credited service in group A, B, [~~or~~] C, or D of the pension system or in the pension system and any other defined benefit pension plan to which the city contributes is prohibited.

(c) Except as provided by Section 12 of this Act, a [~~group A~~] member may pay into the pension fund and obtain credit for any service with the city or the pension system for which credit is otherwise allowable [~~in group A~~] under this Act, except that:

(1) no required contributions were made by the member for the service; or

(2) refunded contributions attributable to the service have not been subsequently repaid.

(e) To establish service described by Subsection (c) of this section that occurred on or after September 1, 1999, the member shall pay a sum computed by multiplying the member's salary during the service by the rate established [~~by the pension board~~] for member contributions under Section 8 of this Act, and the city shall pay into the pension fund an amount equal to the rate established for city contributions under Section 8A [~~8~~] of this Act [~~multiplied by that member's salary for the same period~~].

(f) In addition to the amounts to be paid by the member under Subsection (d) or (e) of this section, the member shall also pay interest on those amounts at the current assumed rate of return [~~six percent~~] per year, not compounded, from the date the contributions would have been deducted, if made, or from the date contributions were refunded to the date of repayment of those contributions into the pension fund.

(g) Before the year 2017 effective date, if [~~If~~] a group B or group D member separates from service before completing five years of credited service, the member's service credit is canceled at the time of separation. If the member is reemployed by the city in a position covered by the pension system before the first anniversary of the date of separation, all credit for previous service is restored. Any member whose service credit is canceled under this subsection and who is reemployed by the city in a position covered by the pension system after the first anniversary of the date of separation receives one year of previous service credit in group B or group D, as applicable, for each full year of subsequent service up to the amount of the previous service that was canceled.

(g-1) On or after the year 2017 effective date, if a group B or group D member who has made required member contributions separates from service before completing five years of credited service, the member's service credit is canceled at the time of separation and the member is eligible to receive a refund of required member contributions as provided by Section 17 of this Act. If the member is reemployed before the first anniversary of the date of separation:

(1) subject to Subdivision (2) of this subsection, all credit for previous service for which no member contributions were required is restored, along with credit for previous service for which the member did not receive a refund of contributions; and

(2) if the member's service credit is canceled under this subsection, the member is eligible to reinstate the canceled credited service by paying the pension system the refund amount, if

any, plus interest on those amounts at the current assumed rate of return per year, not compounded, from the date contributions were refunded to the date of repayment of those contributions to the pension fund.

(g-2) For purposes of Subsection (g-1)(2) of this section, for any canceled service for which contributions were not required, the member receives one year of previous service credit in group B or group D, as appropriate, for each full year of subsequent service up to the amount of the previous service that was canceled.

(h) A group B member who was a group A member before September 1, 1981, and who was eligible to purchase credit for previous service under Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes), may purchase the service credit in group B by paying into the pension fund an amount equal to the assumed rate of return [~~six percent~~] per year, not compounded, on any contributions previously withdrawn for the period from the date of withdrawal to the date of purchase.

(i) Under rules and procedures adopted by the pension board, a group D member may effectuate a direct trustee-to-trustee transfer from a qualifying code Section 457(b) plan to the pension system to purchase an increased or enhanced benefit in accordance with the provisions of code Sections 415(n) and 457(e)(17) of the Internal Revenue Code of 1986. The amount transferred under this subsection shall be held by the pension system and the pension system may not separately account for the amount. The pension board by rule shall determine the additional benefit that a member is entitled to based on a transfer under this subsection.

(j) For purposes of this subsection and Subsection (k) of this section, "furlough time" means the number of days a person has been furloughed. A person who has been voluntarily or involuntarily furloughed shall receive credited service for each day that the person has been furloughed, provided that:

(1) the pension system receives all required city contributions and member contributions for the credited service attributable to the furlough time for the pay period in which the furlough occurs, based on the regular salary that each furloughed member would have received if the member had worked during the furlough time;

(2) the member may receive not more than 10 days of credited service in a fiscal year for furlough time; and

(3) credited service for furlough time may not be used to meet the five-year requirement under Section 10(b) of this Act for eligibility for a benefit.

(k) For purposes of Subsection (j) of this section, the city shall establish a unique pay code for furlough time to provide for timely payment of city contributions and member contributions for furlough time and to allow the pension system to identify furlough time for each furloughed employee.

(l) Notwithstanding any provision of this section, the interest rate on any service purchase shall be the then current assumed rate of return, not compounded.

SECTION 3.09. The heading to Section 8, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article

6243h, Vernon's Texas Civil Statutes), is amended to read as follows:

Sec. 8. MEMBER CONTRIBUTIONS.

SECTION 3.10. Sections 8(a), (b), and (c), Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), are amended to read as follows:

(a) Subject to adjustments authorized under Section 8E or 8F of this Act, beginning on the year 2017 effective date, each [~~Each group A~~] member of the pension system shall make biweekly [~~monthly~~] contributions during employment in an amount determined in accordance with this section [~~by the pension board and expressed as a percentage of salary~~]. The contributions shall be deducted by the employer from the salary of each member and paid to the pension system for deposit in the pension fund. Member contributions under this section shall be made as follows:

(1) each group A member shall contribute:

(A) seven percent of the member's salary beginning with the member's first full biweekly pay period that occurs on or after the year 2017 effective date; and

(B) a total of eight percent of the member's salary beginning with the member's first full biweekly pay period for the member that occurs on or after July 1, 2018;

(2) each group B member shall contribute:

(A) two percent of the member's salary beginning with the member's first full biweekly pay period that occurs on or after the year 2017 effective date; and

(B) a total of four percent of the member's salary beginning with the member's first full biweekly pay period for the member that occurs on or after July 1, 2018; and

(3) each group D member shall contribute two percent of the member's salary beginning with the member's first full biweekly pay period that occurs on or after the year 2017 effective date.

(b) This section does not increase or decrease the contribution obligation of any member that arose before the year 2017 effective date [~~September 1, 2001,~~] or give rise to any claim for a refund for any contributions made before that date.

(c) The employer shall pick up the contributions required of [~~group A~~] members by Subsection (a) of this section and contributions required of group D members under Section 10A(a) of this Act as soon as reasonably practicable under applicable rules for all salaries earned by members after the year 2017 effective date and by January 1, 2018, for contributions required by Section 10A(a) of this Act. The city shall pay the pickup contributions to the pension system from the same source of funds that is used for paying salaries to the members. The pickup contributions are in lieu of contributions by [~~group A~~] members. The city may pick up those contributions by a deduction from each [~~group A~~] member's salary equal to the amount of the member's contributions picked up by the city. Members may not choose to receive the contributed amounts directly instead of having the contributed amounts paid by the city to the pension system. An accounting of member contributions picked up by the employer shall be maintained, and the contributions shall be treated for all other purposes as if the amount were a part of the member's salary and had been deducted under this section. Contributions picked up under this subsection shall be treated as employer contributions in determining tax treatment of the amounts under the Internal Revenue Code of 1986, as amended.

SECTION 3.11. Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by adding Sections 8A, 8B, 8C, 8D, 8E, 8F, 8G, 8H, and 8I to read as follows:

Sec. 8A. CITY CONTRIBUTIONS. (a) The city shall make contributions to the pension system for deposit into the pension fund as provided by this section and Section 8B, 8C, 8E, or 8F of this Act, as applicable. The city shall contribute:

(1) beginning with the year 2017 effective date and ending with the fiscal year ending June 30, 2018, an amount equal to the sum of:

(A) the city contribution rate, as determined in the initial risk sharing valuation study conducted under Section 8C of this Act, multiplied by the pensionable payroll for the fiscal year; and

(B) the city contribution amount for the fiscal year; and

(2) for each fiscal year after the fiscal year ending June 30, 2018, an amount equal to the sum of:

(A) the city contribution rate, as determined in a subsequent risk sharing valuation study conducted under Section

8B of this Act and adjusted under Section 8E or 8F of this Act, as applicable, multiplied by the pensionable payroll for the applicable fiscal year; and

(B) except as provided by Subsection (e) of this section, the city contribution amount for the applicable fiscal year.

(b) Except by written agreement between the city and the pension board under Section 3(n) of this Act providing for an earlier contribution date, at least biweekly, the city shall make the contributions required by Subsection (a) of this section by depositing with the pension system an amount equal to the sum of:

(1) the city contribution rate multiplied by the pensionable payroll for the biweekly period; and

(2) the city contribution amount for the applicable fiscal year divided by 26.

(c) With respect to each fiscal year:

(1) the first contribution by the city under this section for the fiscal year shall be made not later than the date payment is made to employees for their first full biweekly pay period beginning on or after the first day of the fiscal year; and

(2) the final contribution by the city under this section for the fiscal year shall be made not later than the date payment is made to employees for the final biweekly pay period of the fiscal year.

(d) In addition to the amounts required under this section, the city may at any time contribute additional amounts to the pension system for deposit in the pension fund by entering into a written agreement with the pension board in accordance with Section 3(n) of this Act.

(e) If, in any given fiscal year, the funded ratio is greater than or equal to 100 percent, the city contribution under this section may no longer include the city contribution amount.

(f) Contributions shall be made under this section by the city to the pension system in order to be credited against any amortization schedule of payments due to the pension system under this Act.

(g) Subsection (f) of this section does not affect the exclusion of contribution amounts under Subsection (e) of this section or changes to an amortization schedule of a liability layer under Section 8B(a)(7)(F), 8C(i)-(j), or 8E(c)(3)-(4) of this Act.

(h) Notwithstanding any other law and except for the pension obligation bond assumed under Section 8C(d)(2) of this Act, the city may not issue a pension obligation bond to fund the city contribution rate under Subsection (a)(1)(A) or (a)(2)(A) of this section or the city contribution amount under Subsection (a)(1)(B) or (a)(2)(B) of this section.

Sec. 8B. RISK SHARING VALUATION STUDIES. (a) The pension system and the city shall separately cause their respective actuaries to prepare a risk sharing valuation study in accordance with this section and actuarial standards of practice. A risk sharing valuation study must:

(1) be dated as of the first day of the fiscal year for which the study is required to be prepared;

(2) be included in the annual valuation study prepared

under Section 2B of this Act;

(3) calculate the unfunded actuarial accrued liability of the pension system;

(4) be based on actuarial data provided by the pension system actuary or, if actuarial data is not provided, on estimates of actuarial data;

(5) estimate the city contribution rate and the city contribution amount, taking into account any adjustments required under Section 8E or 8F of this Act for all applicable prior fiscal years;

(6) detail the city contribution rate and the city contribution amount, taking into account any adjustments required under Section 8E or 8F of this Act for all applicable prior fiscal years;

(7) subject to Subsection (g) of this section, be based on the following assumptions and methods that are consistent with actuarial standards of practice:

(A) an ultimate entry age normal actuarial method;

(B) for purposes of determining the actuarial value of assets:

(i) except as provided by Subparagraph (ii) of this paragraph and Section 8E(c)(1) or 8F(c)(1) of this Act, an asset smoothing method recognizing actuarial losses and gains over a five-year period applied prospectively beginning on the year 2017 effective date; and

(ii) for the initial risk sharing valuation study prepared under Section 8C of this Act, a marked-to-market method applied as of June 30, 2016;

(C) closed layered amortization of liability layers to ensure that the amortization period for each layer begins 12 months after the date of the risk sharing valuation study in which the liability layer is first recognized;

(D) each liability layer is assigned an amortization period;

(E) each liability loss layer amortized over a period of 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized, except that the legacy liability must be amortized from July 1, 2016, for a 30-year period beginning July 1, 2017;

(F) the amortization period for each liability gain layer being:

(i) equal to the remaining amortization period on the largest remaining liability loss layer and the two layers must be treated as one layer such that if the payoff year of the liability loss layer is accelerated or extended, the payoff year of the liability gain layer is also accelerated or extended; or

(ii) if there is no liability loss layer, a period of 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability gain layer is first recognized;

(G) liability layers, including the legacy liability, funded according to the level percent of payroll method;

(H) the assumed rate of return, subject to adjustment under Section 8E(c)(5) of this Act or, if Section 8C(g) of this Act applies, adjustment in accordance with a written agreement entered into under Section 3(n) of this Act, except that the assumed rate of return may not exceed seven percent per annum;

(I) the price inflation assumption as of the most recent actuarial experience study, which may be reset by the pension board by plus or minus 50 basis points based on that actuarial experience study;

(J) projected salary increases and payroll growth rate set in consultation with the city's finance director;

(K) payroll for purposes of determining the corridor midpoint, city contribution rate, and city contribution amount must be projected using the annual payroll growth rate assumption, which for purposes of preparing any amortization schedule may not exceed three percent; and

(L) the city contribution rate calculated without inclusion of the legacy liability; and

(8) be revised and restated, if appropriate, not later than:

(A) the date required by a written agreement entered into between the city and the pension board; or

(B) the 30th day after the date required action is taken by the pension board under Section 8E or 8F of this Act to reflect any changes required by either section.

(b) As soon as practicable after the end of a fiscal year, the pension system actuary at the direction of the pension system and the city actuary at the direction of the city shall separately prepare a proposed risk sharing valuation study based on the fiscal year that just ended.

(c) Not later than October 31 following the end of the fiscal year, the pension system shall provide to the city actuary, under a confidentiality agreement with the pension board in which the city actuary agrees to comply with the confidentiality provisions of Section 8G of this Act, the actuarial data described by Subsection (a)(4) of this section.

(d) Not later than the 150th day after the last day of the fiscal year:

(1) the pension system actuary, at the direction of the pension system, shall provide the proposed risk sharing valuation study prepared by the pension system actuary under Subsection (b) of this section to the city actuary; and

(2) the city actuary, at the direction of the city, shall provide the proposed risk sharing valuation study prepared by the city actuary under Subsection (b) of this section to the pension system actuary.

(e) Each actuary described by Subsection (d) of this section may provide copies of the proposed risk sharing valuation studies to the city or the pension system as appropriate.

(f) If, after exchanging proposed risk sharing valuation studies under Subsection (d) of this section, it is found that the difference between the estimated city contribution rate recommended in the proposed risk sharing valuation study prepared by the pension system actuary and the estimated city contribution rate recommended in the proposed risk sharing valuation study prepared by the city actuary for the corresponding fiscal year is:

(1) less than or equal to two percentage points, the estimated city contribution rate recommended by the pension system actuary will be the estimated city contribution rate for purposes of Subsection (a)(5) of this section, and the proposed risk sharing valuation study prepared for the pension system is considered to be the final risk sharing valuation study for the fiscal year for the purposes of this Act; or

(2) greater than two percentage points, the city actuary and the pension system actuary shall have 20 business days to reconcile the difference, provided that without the mutual agreement of both actuaries, the difference in the estimated city contribution rate recommended by the city actuary and the estimated city contribution rate recommended by the pension system actuary may not be further increased and:

(A) if, as a result of reconciliation efforts under this subdivision, the difference is reduced to less than or equal to two percentage points:

(i) the estimated city contribution rate proposed under the reconciliation by the pension system actuary will be the estimated city contribution rate for purposes of Subsection (a)(5) of this section; and

(ii) the pension system's risk sharing valuation study is considered to be the final risk sharing valuation study for the fiscal year for the purposes of this Act; or

(B) if, after 20 business days, the pension system actuary and the city actuary are not able to reach a reconciliation that reduces the difference to an amount less than or equal to two percentage points:

(i) the city actuary at the direction of the city and the pension system actuary at the direction of the pension system each shall deliver to the finance director of the city and the executive director of the pension system a final risk sharing valuation study with any agreed-to changes, marked as the final risk sharing valuation study for each actuary; and

(ii) not later than the 90th day before the first day of the next fiscal year, the finance director and the executive director shall execute a joint addendum to the final risk sharing valuation study received under Subparagraph (i) of this paragraph that is a part of the final risk sharing valuation study for the fiscal year for all purposes and reflects the arithmetic average of the estimated city contribution rates for the fiscal year stated by the city actuary and the pension system actuary in the final risk sharing valuation study for purposes of Subsection (a)(5) of this section, and for reporting purposes the pension system may treat the pension system actuary's risk sharing valuation study with the addendum as the final risk sharing valuation study.

(g) The assumptions and methods used and the types of actuarial data and financial information used to prepare the initial risk sharing valuation study under Section 8C of this Act shall be used to prepare each subsequent risk sharing valuation study under this section, unless changed based on the actuarial experience study conducted under Section 8D of this Act.

(h) The actuarial data provided under Subsection (a)(4) of this section may not include the identifying information of individual members.

Sec. 8C. INITIAL RISK SHARING VALUATION STUDIES; CORRIDOR MIDPOINT AND CITY CONTRIBUTION AMOUNTS. (a) The pension system and the city shall separately cause their respective actuaries to prepare an initial risk sharing valuation study that is dated as of July 1, 2016, in accordance with this section. An initial risk sharing valuation study must:

(1) except as otherwise provided by this section, be prepared in accordance with Section 8B of this Act, and for purposes of Section 8B(a)(4) of this Act, be based on actuarial data as of June 30, 2016, or, if actuarial data is not provided, on estimates of actuarial data;

(2) project the corridor midpoint for 31 fiscal years beginning with the fiscal year beginning July 1, 2017; and

(3) subject to Subsections (i) and (j) of this section, include a schedule of city contribution amounts for 30 fiscal years beginning with the fiscal year beginning July 1, 2017.

(b) If the initial risk sharing valuation study has not been prepared consistent with this section before the year 2017 effective date, as soon as practicable after the year 2017 effective date:

(1) the pension system shall provide to the city actuary under a confidentiality agreement the necessary actuarial data used by the pension system actuary to prepare the proposed

initial risk sharing valuation study; and

(2) not later than the 30th day after the date the city's actuary receives the actuarial data:

(A) the city actuary, at the direction of the city, shall provide a proposed initial risk sharing valuation study to the pension system actuary; and

(B) the pension system actuary, at the direction of the pension system, shall provide a proposed initial risk sharing valuation study to the city actuary.

(c) If, after exchanging proposed initial risk sharing valuation studies under Subsection (b)(2) of this section, it is determined that the difference between the estimated total city contribution divided by the pensionable payroll for any fiscal year in the proposed initial risk sharing valuation study prepared by the pension system actuary and in the proposed initial risk sharing valuation study prepared by the city actuary is:

(1) less than or equal to two percentage points, the estimated city contribution rate and the estimated city contribution amount for that fiscal year recommended by the pension system actuary will be the estimated city contribution rate and the estimated city contribution amount, as applicable, for purposes of Section 8B(a)(5) of this Act; or

(2) greater than two percentage points, the city actuary and the pension system actuary shall have 20 business days to reconcile the difference and:

(A) if, as a result of reconciliation efforts under this subdivision, the difference in any fiscal year is reduced to less than or equal to two percentage points, the city contribution rate and the city contribution amount recommended by the pension system actuary for that fiscal year will be the estimated city contribution rate and the estimated city contribution amount, as applicable, for purposes of Section 8B(a)(5) of this Act; or

(B) if, after 20 business days, the city actuary and the pension system actuary are not able to reach a reconciliation that reduces the difference to an amount less than or equal to two percentage points for any fiscal year:

(i) the city actuary at the direction of the city and the pension system actuary at the direction of the pension system each shall deliver to the finance director of the city and the executive director of the pension system a final initial risk sharing valuation study with any agreed-to changes, marked as the final initial risk sharing valuation study for each actuary; and

(ii) the finance director and the executive director shall execute a joint addendum to the final initial risk sharing valuation study that is a part of each final initial risk sharing valuation study for all purposes and that reflects the arithmetic average of the estimated city contribution rate and the estimated city contribution amount for each fiscal year in which the difference was greater than two percentage points for purposes of Section 8B(a)(5) of this Act, and for reporting purposes the pension system may treat the pension system actuary's initial risk sharing valuation study with the addendum as the final initial risk sharing valuation study.

(d) In preparing the initial risk sharing valuation study, the city actuary and pension system actuary shall:

(1) adjust the actuarial value of assets to be equal to the market value of assets as of July 1, 2016;

(2) assume the issuance of planned pension obligation bonds by December 31, 2017, in accordance with Subsection (j)(2) of this section; and

(3) assume benefit and contribution changes under this Act as of the year 2017 effective date.

(e) If the city actuary does not prepare an initial risk sharing valuation study for purposes of this section, the pension system actuary's initial risk sharing valuation study will be used as the final risk sharing valuation study for purposes of this Act unless the city did not prepare a proposed initial risk sharing valuation study because the pension system actuary did not provide the necessary actuarial data in a timely manner. If the city did not prepare a proposed initial risk sharing valuation study because the pension system actuary did not provide the necessary actuarial data in a timely manner, the city actuary shall have 60 days to prepare the proposed initial risk sharing valuation study on receipt of the necessary information.

(f) If the pension system actuary does not prepare a proposed initial risk sharing valuation study for purposes of this section, the proposed initial risk sharing valuation study prepared by the city actuary will be the final risk sharing valuation study for purposes of this Act.

(g) The city and the pension board may agree on a written transition plan for resetting the corridor midpoint:

(1) if at any time the funded ratio is equal to or greater than 100 percent; or

(2) for any fiscal year after the payoff year of the legacy liability.

(h) If the city and the pension board have not entered into an agreement described by Subsection (g) of this section in a given fiscal year, the corridor midpoint will be the corridor midpoint determined for the 31st fiscal year in the initial risk sharing valuation study prepared in accordance with this section.

(i) If the city makes a contribution to the pension system of at least $5 million more than the amount that would be required by Section 8A(a) of this Act, a liability gain layer with the same remaining amortization period as the legacy liability is created. In each subsequent risk sharing valuation study until the end of that amortization period, the city contribution amount must be decreased by the amortized amount in each fiscal year covered by the liability gain layer.

(j) Notwithstanding any other provision of this Act, including Section 8H of this Act:

(1) if the city fails to deliver the proceeds of pension obligation bonds totaling $250 million on or before March 31, 2018, the pension board shall have 30 days from March 31, 2018, to rescind, prospectively, any or all benefit changes made effective under S.B. No. 2190, Acts of the 85th Legislature, Regular Session, 2017, as of the year 2017 effective date, or to reestablish the deadline for the delivery of pension obligation

bond proceeds, reserving the right to rescind the benefit changes authorized by this subdivision if the bond proceeds are not delivered by the reestablished deadline; and

(2) subject to Subsection (k) of this section, if the pension board rescinds benefit changes under Subdivision (1) of this subsection or pension obligation bond proceeds are not delivered on or before December 31, 2017, the initial risk sharing valuation study shall be prepared again and restated without assuming the delivery of the pension obligation bond proceeds, the later delivery of pension obligation bond proceeds, or the rescinded benefit changes, as applicable, including a reamortization of the city contribution amount for the amortization period remaining for the legacy liability, and the resulting city contribution rate and city contribution amount will become effective in the fiscal year following the completion of the restated initial risk sharing valuation study.

(k) The restated initial risk sharing valuation study required under Subsection (j)(2) of this section must be completed at least 30 days before the start of the fiscal year:

(1) ending June 30, 2019, if the pension board does not reestablish the deadline under Subsection (j)(1) of this section; or

(2) immediately following the reestablished deadline, if the pension board reestablishes the deadline under Subsection (j)(1) of this section and the city fails to deliver the pension obligation bond proceeds described by Subsection (j)(1) of this section by the reestablished deadline.

Sec. 8D. ACTUARIAL EXPERIENCE STUDIES. (a) At least once every four years, the pension system actuary, at the direction of the pension system, shall conduct an actuarial experience study in accordance with actuarial standards of practice. The actuarial experience study required by this subsection must be completed not later than September 30 of the year in which the study is required to be conducted.

(b) Except as otherwise expressly provided by Sections 8B(a)(7)(A)-(I) of this Act, actuarial assumptions and methods used in the preparation of a risk sharing valuation study, other than the initial risk sharing valuation study, shall be based on the results of the most recent actuarial experience study.

(c) Not later than the 180th day before the date the pension board may consider adopting any assumptions and methods for purposes of Section 8B of this Act, the pension system shall provide the city actuary with a substantially final draft of the pension system's actuarial experience study, including:

(1) all assumptions and methods recommended by the pension system actuary; and

(2) summaries of the reconciled actuarial data used in creation of the actuarial experience study.

(d) Not later than the 60th day after the date the city receives the final draft of the pension system's actuarial experience study under Subsection (c) of this section, the city actuary and pension system actuary may communicate concerning the assumptions and methods used in the actuarial experience study. During the period prescribed by this subsection, the pension system actuary may modify the recommended assumptions in the draft actuarial experience study to reflect any changes to assumptions and methods to which the pension system actuary and the city actuary agree.

(e) At the city actuary's written request, the pension system shall provide additional actuarial data used by the pension system actuary to prepare the draft actuarial experience study, provided that confidential data may only be provided subject to a confidentiality agreement entered into between the pension system and the city actuary.

(f) The city actuary, at the direction of the city, shall provide in writing to the pension system actuary and the pension system:

(1) any assumptions and methods recommended by the city actuary that differ from the assumptions and methods recommended by the pension system actuary; and

(2) the city actuary's rationale for each method or assumption the actuary recommends and determines to be consistent with standards adopted by the Actuarial Standards Board.

(g) Not later than the 30th day after the date the pension system actuary receives the city actuary's written recommended assumptions and methods and rationale under Subsection (f) of this section, the pension system shall provide a written response to the city identifying any assumption or method recommended by the city actuary that the pension system does not accept. If any assumption or method is not accepted, the pension system shall recommend to the city the names of three independent actuaries for purposes of this section.

(h) An actuary may only be recommended, selected, or engaged by the pension system as an independent actuary under this section if the person:

(1) is not already engaged by the city, the pension system, or any other pension system or fund authorized under Article 6243e.2(1) or 6243g-4, Revised Statutes, to provide actuarial services to the city, the pension system, or another pension system or fund referenced in this subdivision;

(2) is a member of the American Academy of Actuaries; and

(3) has at least five years of experience as an actuary working with one or more public retirement systems with assets in excess of $1 billion.

(i) Not later than the 20th day after the date the city receives the list of three independent actuaries under Subsection (g) of this section, the city shall identify and the pension system shall hire one of the listed independent actuaries on terms acceptable to the city and the pension system to perform a scope of work acceptable to the city and the pension system. The city and the pension system each shall pay 50 percent of the cost of the independent actuary engaged under this subsection. The city shall be provided the opportunity to participate in any communications between the independent actuary and the pension system concerning the engagement, engagement terms, or performance of the terms of the engagement.

(j) The independent actuary engaged under Subsection (i) of this section shall receive on request from the city or the pension system:

(1) the pension system's draft actuarial experience study, including all assumptions and methods recommended by the pension system actuary;

(2) summaries of the reconciled actuarial data used to prepare the draft actuarial experience study;

(3) the city actuary's specific recommended assumptions and methods together with the city actuary's written rationale for each recommendation;

(4) the pension system actuary's written rationale for its recommendations; and

(5) if requested by the independent actuary and subject to a confidentiality agreement between the pension system and the independent actuary, additional confidential actuarial data.

(k) Not later than the 30th day after the date the independent actuary receives all the requested information under Subsection (j) of this section, the independent actuary shall advise the pension system and the city whether it agrees with the assumption or method recommended by the city actuary or the corresponding method or assumption recommended by the pension system actuary, together with the independent actuary's rationale for making the determination. During the period prescribed by this subsection, the independent actuary may discuss recommendations in simultaneous consultation with the pension system actuary and the city actuary.

(l) The pension system and the city may not seek any information from any prospective independent actuary about possible outcomes of the independent actuary's review.

(m) If an independent actuary has questions or concerns regarding an engagement entered into under this section, the independent actuary shall simultaneously consult with both the city actuary and the pension system actuary regarding the questions or concerns. This subsection does not limit the pension system's authorization to take appropriate steps to complete the engagement of the independent actuary on terms acceptable to both the pension system and the city or to enter into a confidentiality agreement with the independent actuary, if needed.

(n) If the pension board does not adopt an assumption or method recommended by the city actuary to which the independent actuary agrees, or recommended by the pension system actuary, the city actuary is authorized to use that recommended assumption or method in connection with preparation of a subsequent risk sharing valuation study under Section 8B of this Act until the risk sharing valuation study following the next actuarial experience study is prepared.

Sec. 8E. CITY CONTRIBUTION RATE WHEN ESTIMATED CITY CONTRIBUTION RATE LOWER THAN CORRIDOR MIDPOINT; AUTHORIZATION FOR CERTAIN ADJUSTMENTS. (a) This section governs the determination of the city contribution rate applicable in a fiscal year if the estimated city contribution rate is lower than the corridor midpoint.

(b) If the funded ratio is:

(1) less than 90 percent, the city contribution rate for the fiscal year equals the corridor midpoint; or

(2) equal to or greater than 90 percent and the city contribution rate is:

(A) equal to or greater than the minimum contribution rate, the estimated city contribution rate is the city contribution rate for the fiscal year; or

(B) except as provided by Subsection (e) of this section, less than the minimum contribution rate for the corresponding fiscal year, the city contribution rate for the fiscal year equals the minimum contribution rate achieved in accordance with Subsection (c) of this section.

(c) For purposes of Subsection (b)(2)(B) of this section, the following adjustments shall be applied sequentially to the extent required to increase the estimated city contribution rate to equal the minimum contribution rate:

(1) first, adjust the actuarial value of assets equal to the current market value of assets, if making the adjustment causes the city contribution rate to increase;

(2) second, under a written agreement between the city and the pension board under Section 3(n) of this Act entered into not later than the 30th day before the first day of the next fiscal year, prospectively restore all or part of any benefit reductions or reduce increased employee contributions, in each case made after the year 2017 effective date;

(3) third, accelerate the payoff year of the legacy liability by offsetting the remaining legacy liability by the

amount of the new liability loss layer, provided that during the accelerated period the city will continue to pay the city contribution amount as scheduled in the initial risk sharing valuation study, subject to Section 8C(i) or (j) of this Act;

(4) fourth, accelerate the payoff year of existing liability loss layers, excluding the legacy liability, by accelerating the oldest liability loss layers first, to an amortization period of not less than 20 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized; and

(5) fifth, under a written agreement between the city and the pension board under Section 3(n) of this Act entered into not later than the 30th day before the first day of the next fiscal year, the city and the pension board may agree to reduce the assumed rate of return.

(d) If the funded ratio is:

(1) equal to or greater than 100 percent:

(A) all existing liability layers, including the legacy liability, are considered fully amortized and paid;

(B) the city contribution amount may no longer be included in the city contribution under Section 8A of this Act; and

(C) the city and the pension system may mutually agree to change assumptions in a written agreement entered into between the city and the pension board under Section 3(n) of this Act; and

(2) greater than 100 percent in a written agreement

between the city and the pension system entered into under Section 3(n) of this Act, the pension system may reduce member contributions or increase pension benefits if as a result of the action:

(A) the funded ratio is not less than 100 percent; and

(B) the city contribution rate is not more than the minimum contribution rate.

(e) Except as provided by Subsection (f) of this section, if an agreement under Subsection (d) of this section is not reached on or before the 30th day before the first day of the next fiscal year, before the first day of the next fiscal year, the pension board shall reduce member contributions and implement or increase cost-of-living adjustments, but only to the extent that the city contribution rate is set at or below the minimum contribution rate and the funded ratio is not less than 100 percent.

(f) If any member contribution reduction or benefit increase under Subsection (e) of this section has occurred within the previous three fiscal years, the pension board may not make additional adjustments to benefits, and the city contribution rate must be set to equal the minimum contribution rate.

Sec. 8F. CITY CONTRIBUTION RATE WHEN ESTIMATED CITY CONTRIBUTION RATE EQUAL TO OR GREATER THAN CORRIDOR MIDPOINT; AUTHORIZATION FOR CERTAIN ADJUSTMENTS. (a) This section governs the determination of the city contribution rate in a fiscal year when the estimated city contribution rate is equal to or greater than the corridor midpoint.

(b) If the estimated city contribution rate is:

(1) less than or equal to the maximum contribution rate for the corresponding fiscal year, the estimated city contribution rate is the city contribution rate; or

(2) except as provided by Subsection (d) or (f) of this section, greater than the maximum contribution rate for the corresponding fiscal year, the city contribution rate equals the corridor midpoint achieved in accordance with Subsection (c) of this section.

(c) For purposes of Subsection (b)(2) of this section, the following adjustments shall be applied sequentially to the extent required to decrease the estimated city contribution rate to equal the corridor midpoint:

(1) first, adjust the actuarial value of assets to the current market value of assets, if making the adjustment causes the city contribution rate to decrease;

(2) second, if the payoff year of the legacy liability was accelerated under Section 8E(c) of this Act:

(A) extend the payoff year of the legacy liability by increasing the legacy liability by the amount of the new liability gain layer to a maximum amount; and

(B) during the extended period provided by Paragraph (A) of this subdivision, the city shall continue to pay the city contribution amount for the extended period in accordance with the schedule included in the initial risk sharing valuation study, subject to Section 8C(i) or (j) of this Act; and

(3) third, if the payoff year of a liability loss layer

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other than the legacy liability was previously accelerated under Section 8E(c) of this Act, extend the payoff year of existing liability loss layers, excluding the legacy liability, by extending the most recent loss layers first, to a payoff year not later than 30 years from the first day of the fiscal year beginning 12 months after the date of the risk sharing valuation study in which the liability loss layer is first recognized.

(d) If the city contribution rate after adjustment under Subsection (c) of this section is greater than the third quarter line rate, the city contribution rate equals the third quarter line rate. To the extent necessary to comply with this subsection, the city and the pension board shall enter into a written agreement under Section 3(n) of this Act to increase member contributions and make other benefit or plan changes not otherwise prohibited by applicable federal law or regulations.

(e) Gains resulting from adjustments made as the result of a written agreement between the city and the pension board under Subsection (d) of this section may not be used as a direct offset against the city contribution amount in any fiscal year.

(f) If an agreement under Subsection (d) of this section is not reached on or before the 30th day before the first day of the next fiscal year, before the start of the next fiscal year to which the city contribution rate would apply, the pension board, to the extent necessary to set the city contribution rate equal to the third quarter line rate, shall:

(1) increase member contributions; and

(2) decrease cost-of-living adjustments.

(g) If the city contribution rate remains greater than the corridor midpoint in the third fiscal year after adjustments are made in accordance with an agreement under Subsection (d) of this section, in that fiscal year the city contribution rate equals the corridor midpoint achieved in accordance with Subsection (h) of this section.

(h) The city contribution rate must be set at the corridor midpoint under Subsection (g) of this section by:

(1) in the risk sharing valuation study for the third fiscal year described by Subsection (g) of this section, adjusting the actuarial value of assets to equal the current market value of assets, if making the adjustment causes the city contribution rate to decrease; and

(2) under a written agreement entered into between the city and the pension board under Section 3(n) of this Act:

(A) increasing member contributions; and

(B) making any other benefit or plan changes not otherwise prohibited by applicable federal law or regulations.

(i) If an agreement under Subsection (h)(2) of this section is not reached on or before the 30th day before the first day of the next fiscal year, before the start of the next fiscal year, the pension board, to the extent necessary to set the city contribution rate equal to the corridor midpoint, shall:

(1) increase member contributions; and

(2) decrease cost-of-living adjustments.

Sec. 8G. CONFIDENTIALITY. (a) The information, data, and document exchanges under Sections 8A through 8F of this Act have all the protections afforded by applicable law and are expressly exempt from the disclosure requirements under Chapter 552, Government Code, except as may be agreed to by the city and pension system in a written agreement under Section 3(n) of this Act.

(b) Subsection (a) of this section does not apply to:

(1) a proposed risk sharing valuation study prepared by the pension system actuary and provided to the city actuary or prepared by the city actuary and provided to the pension system actuary under Section 8B(d) or 8C(b)(2) of this Act; or

(2) a final risk sharing valuation study prepared under Section 8B or 8C of this Act.

(c) A risk sharing valuation study prepared by either the city actuary or the pension system actuary under Sections 8A through 8F of this Act may not:

(1) include information in a form that includes identifiable information relating to a specific individual; or

(2) provide confidential or private information regarding specific individuals or be grouped in a manner that allows confidential or private information regarding a specific individual to be discerned.

Sec. 8H. UNILATERAL DECISIONS AND ACTIONS PROHIBITED. No unilateral decision or action by the pension board is binding on the city and no unilateral decision or action by the city is binding on the pension system with respect to the application of Sections 8A through 8F of this Act unless expressly provided by a provision of those sections. Nothing in this section is intended to limit the powers or authority of the pension board.

<u>Sec. 8I. STATE PENSION REVIEW BOARD; REPORT. (a) After preparing a final risk sharing valuation study under Section 8B or 8C of this Act, the pension system and the city shall jointly submit a copy of the study or studies, as appropriate, to the State Pension Review Board for a determination that the pension system and city are in compliance with this Act.</u>

<u>(b) Not later than the 30th day after the date an action is taken under Section 8E or 8F of this Act, the pension system shall submit a report to the State Pension Review Board regarding any actions taken under those sections.</u>

<u>(c) The State Pension Review Board shall notify the governor, the lieutenant governor, the speaker of the house of representatives, and the legislative committees having principal jurisdiction over legislation governing public retirement systems if the State Pension Review Board determines the pension system or the city is not in compliance with Sections 8A through 8H of this Act.</u>

SECTION 3.12. Section 9(c), Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended to read as follows:

(c) If a member dies and there are no eligible survivors to receive the allowance provided for in Section 14 of this Act, the member's <u>spouse</u> [~~beneficiary~~] or, if there is no <u>spouse</u> [~~beneficiary~~], the member's estate shall receive the refund amount.

SECTION 3.13. Section 10, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by amending Subsections (b), (d), (e), (g), and (h) and adding Subsections (c-1), (d-1), and (e-1) to read as follows:

(b) A group A or group B member of the pension system who terminates employment is eligible for a normal retirement pension beginning on the member's effective retirement date after the date the member completes at least five years of credited service and attains either:

(1) 62 years of age; or

(2) a combination of years of age and years of credited service, including parts of years, the sum of which equals or is greater than the number:

(A) 75, provided the member is at least 50 years of age; or

(B) 70, provided the member attained a combination of years of age and years of credited service, including parts of years, the sum of which equals or is greater than the number 68 before January 1, 2005.

(c-1) A group D member who terminates employment is eligible for a normal retirement pension beginning on the member's effective retirement date after the date the member completes at least five years of credited service and attains 62 years of age.

(d) Subject to Section 17 of this Act, the [~~The~~] amount of the monthly normal retirement pension payable to an eligible:

(1) [~~retired~~] group A or group B member who retires before January 1, 2005, shall be determined under the law in effect on the member's last day of credited service;

(2) group A member who retires on or after January 1,

2005, is equal to the sum of:

(A) the member's average monthly salary multiplied by the percentage rate accrued under the law in effect on December 31, 2004, for each year of the member's years of credited service in group A that is earned before January 1, 2005;

(B) the member's average monthly salary multiplied by 2.5 [~~3-1/4~~] percent for each year of the member's years of credited service in group A during the member's first 20 [~~10~~] years of service that is earned on or after January 1, 2005;[~~, 3-1/2 percent for each of the member's years of credited service in group A during the member's next 10 years of service,~~] and

(C) the member's average monthly salary multiplied by 3.25 [~~4-1/4~~] percent for each year of credited service of the member in group A during the member's years of service in excess of the 20 years described under Paragraph (B) of this subdivision that is earned on or after January 1, 2005;

(3) group B member who retires on or after January 1, 2005, is equal to the sum of:

(A) the member's average monthly salary multiplied by the percentage rate accrued under the law in effect on December 31, 2004, for each year of the member's years of credited service in group B that is earned before January 1, 2005;

(B) the member's average monthly salary multiplied by 1.75 percent for each year of the member's years of credited service in group B during the member's first 10 years of service that is earned on or after January 1, 2005;

(C) the member's average monthly salary

multiplied by two percent for each of the member's years of credited service in group B in excess of the 10 years described under Paragraph (B) of this subdivision that is earned on or after January 1, 2005; and

(D) the member's average monthly salary multiplied by 2.5 percent for each year of credited service of the member in group B during the member's years of service in excess of 20 years that is earned on or after January 1, 2005; or

(4) group D member who retires on or after January 1, 2008, is equal to the sum of:

(A) the member's average monthly salary multiplied by 1.8 percent for each year of the member's years of credited service during the member's first 25 years of service; and

(B) the member's average monthly salary multiplied by 1 percent for each year of credited service of the member in group D during the member's years of service in excess of 25 years.

(d-1) For purposes of Subsection (d) of this section, service credit is rounded to the nearest one-twelfth of a year [~~For purposes of this subsection, service credit is rounded to the nearest one-twelfth of a year. The normal retirement pension of a retired group A member may not exceed 90 percent of the member's average monthly salary~~].

(e) A group D member who terminates employment with the city or the pension system may elect to receive an early retirement pension payable as a reduced benefit if the member has attained:

(1) at least 10 years of credited service and is at

least 55 years of age; or

(2) five years of credited service and a combination of years of age and years of credited service, including parts of years, the sum of which equals or is greater than the number 75.

(e-1) The amount of the early retirement pension payable to a retired group D member under Subsection (e) of this section shall be equal to the monthly normal retirement pension reduced by 0.25 percent for each month the member is less than 62 years of age at retirement [~~monthly normal retirement pension payable to an eligible retired group B member equals the member's average monthly salary multiplied by 1-3/4 percent for each year of the member's years of credited service in group B during the member's first 10 years of service, 2 percent for each of the member's years of credited service in group B during the member's next 10 years of service, and 2-3/4 percent for each year of credited service of the member in group B during the member's years of service in excess of 20 years. For purposes of this subsection, service credit is rounded to the nearest one-twelfth of a year. The normal retirement pension of a retired group B member may not exceed 90 percent of the member's average monthly salary~~].

(g) Notwithstanding any other provision of this Act, the total normal retirement pension of a retired member with credited service in group A, group B, [~~or~~] group C, or group D may not exceed 90 percent of the member's average monthly salary.

(h) On or after February 1, 2018, and for [~~For~~] future payments only, pension benefits for all group A retirees and group B retirees, and for all group D retirees who terminated employment on or after the year 2017 effective date with at least five years of credited service, and survivor benefits for [~~all retirees and~~] eligible survivors of a former member of group A or group B, or of a former member of group D who terminated employment on or after the year 2017 effective date with at least five years of credited service, shall be increased annually by the cost-of-living adjustment percentage [~~four percent~~], not compounded, for all such eligible persons receiving a pension or survivor benefit as of January 1 of the year in which the increase is made.

SECTION 3.14. Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by adding Section 10A to read as follows:

Sec. 10A. GROUP D MEMBER HYBRID COMPONENT. (a) On and after January 1, 2018, in addition to the group D member contributions under Section 8 of this Act, each group D member shall contribute one percent of the member's salary for each biweekly pay period beginning with the member's first full biweekly pay period after the later of January 1, 2018, or the group D member's first date of employment. The contribution required by this subsection:

(1) shall be picked up and paid in the same manner and at the same time as group D member contributions required under Section 8(a)(3) of this Act, subject to applicable rules;

(2) is separate from and in addition to the group D member contribution under Section 8(a)(3) of this Act; and

(3) is not subject to reduction or increase under Sections 8A through 8F of this Act or a refund under Section 17 of

this Act.

(b) For each biweekly pay period of a group D member's service for which the group D member makes the contribution required under Subsection (a) of this section, the following amounts shall be credited to a notional account, known as a cash balance account, for the group D member:

(1) the amount of the contributions paid under Subsection (a) of this section for that biweekly pay period; and

(2) interest on the balance of the group D member's cash balance account determined by multiplying:

(A) an annual rate that is one-half the pension system's five-year investment return based on a rolling five-fiscal-year basis and net of investment expenses, with a minimum annual rate of 2.5 percent and a maximum annual rate of 7.5 percent, and divided by 26; and

(B) the amount credited to the group D member's cash balance account as of the end of the biweekly pay period.

(c) The pension system may not pay interest on amounts credited to a cash balance account but not received by the pension system under Subsection (b) of this section.

(d) On separation from service, a group D member is eligible to receive only a distribution of the contributions credited to that group D member's cash balance account, without interest, if the group D member has attained less than one year of service while contributing to the cash balance account. If a group D member attains at least one year of service while contributing to the cash balance account, the group D member is fully vested in the accrued benefit represented by that group D member's cash balance account, including interest.

(e) In a manner and form prescribed by the pension board, a group D member who terminates employment is eligible to elect to receive the group D member's cash balance account benefit in a lump-sum payment, in substantially equal periodic payments, in a partial lump-sum payment followed by substantially equal periodic payments, or in partial payments from the group D member's cash balance account.

(f) Contributions may not be made to a group D member's cash balance account for a period that occurs after the date the group D member terminates employment, except that interest at a rate that is not greater than the rate under Subsection (b)(2) of this section, as determined by the pension board, may be credited based on the former group D member's undistributed cash balance account after the date the group D member terminates employment.

(g) On the death of a group D member or former group D member before the full distribution of the member's cash balance account, the deceased member's cash balance account shall be payable in a single lump-sum payment to:

(1) the deceased member's surviving spouse;

(2) if there is no surviving spouse, each designated beneficiary of the deceased member, designated in the manner and on a form prescribed by the pension board; or

(3) if there is no designated beneficiary, the deceased member's estate.

(h) The lump-sum payment described by Subsection (g) of this section shall be made within a reasonable time after the pension board has determined that the individual or estate is eligible for the distribution.

(i) Subject to the other provisions of this section, the pension board may adopt rules necessary to implement this section, including rules regarding the payment of the cash balance account and limitations on the timing and frequency of payments. All distributions and changes in the form of distribution must be made in a manner and at a time that complies with the Internal Revenue Code of 1986.

SECTION 3.15. Section 11, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended to read as follows:

Sec. 11. OPTION-ELIGIBLE PARTICIPANTS [~~GROUP B RETIREMENT OPTIONS~~]. (a) In this section, "J&S Annuity" means payment of a normal retirement pension or early retirement pension under one of the options provided by Subsection (b) of this section.

(a-1) For purposes of this section, an option-eligible participant is:

(1) a former group A or group B member who terminates employment with the city or the pension system on or after June 30, 2011, and who is eligible to receive a normal retirement pension, provided the member was not married as of the date of the member's termination of employment;

(2) a former group B member who terminated employment with the city or the predecessor system before September 1, 1997, and who is eligible to receive a normal retirement pension; or

(3) a former group D member who terminated employment with the city or the pension system and who is eligible to receive a normal retirement pension or an early retirement pension.

(a-2) The pension board, in its sole discretion, shall make determinations regarding an individual's status as an option-eligible participant.

(a-3) Before the date an option-eligible participant commences receipt of a benefit, that option-eligible participant [~~A group B member who terminated employment with the city or the predecessor system before September 1, 1997,~~] must elect, in a manner and at a time determined by the pension board, [~~before the member's effective retirement date~~] whether to receive [~~have~~] the participant's [~~member's~~] normal retirement pension or early retirement pension, as applicable, or to have the option-eligible participant's normal retirement pension or early retirement pension, as applicable, paid under one of the options provided by Subsection (b) of this section. The election may be revoked, in a manner and at a time established by the pension board, not later than the 60th day before the date the participant commences receipt of a benefit [~~member's effective retirement date~~].

(b) The normal retirement pension or early retirement pension may be one of the following actuarially equivalent amounts:

(1) option 1: a reduced pension payable to the participant [~~member~~], then on the participant's [~~member's~~] death one-half of the amount of that reduced pension is payable to the participant's [~~member's~~] designated survivor, for life;

(2) option 2: a reduced pension payable to the

participant [~~member~~], then on the participant's [~~member's~~] death that same reduced pension is payable to the participant's [~~member's~~] designated survivor, for life; and

(3) option 3: a reduced pension payable to the participant [~~member~~], and if the participant [~~member~~] dies within 10 years, the pension is paid to the participant's [~~member's~~] designated survivor for the remainder of the 10-year period beginning on the participant's benefit commencement [~~member's effective retirement~~] date.

(c) If an option-eligible participant [~~a former group B member~~] who has made the election provided by Subsection (b) of this section dies after terminating employment with at least five years of credited service but before attaining the age required to begin receiving a normal or early retirement pension, the person's designated survivor is eligible for the J&S Annuity [~~benefits~~] provided by the option selected by the option-eligible participant [~~former member~~] at the time of separation from service. The benefits first become payable to an eligible designated survivor on the date the option-eligible participant [~~former member~~] would have become eligible to begin receiving a pension. If the designated survivor elects for earlier payment, in a time and manner determined by the pension board, the actuarial equivalent of that amount shall be payable at that earlier date.

(d) A survivor benefit under Subsection (c) of this section or a J&S Annuity is not payable if:

(1) except as provided by Subsection (e) of this section, an option-eligible participant [~~If a former group B member~~

~~under Subsection (a) of this section~~] does not elect one of the J&S Annuity options under Subsection (b) of this section and dies before retirement has commenced;

(2) an option-eligible participant elects a normal retirement pension or early retirement pension and dies before retirement has commenced; or

(3) an option-eligible participant dies after retirement has commenced and that option-eligible participant:

(A) elected a normal retirement pension or early retirement pension;

(B) did not make a valid election under Subsection (b) of this section; or

(C) made an election that is void[~~, a survivor benefit is not payable~~].

(e) An option-eligible participant described by Subsection (a-1)(3) of this section who did not elect one of the J&S Annuity options under Subsection (b) of this section is considered to have elected a J&S Annuity option under Subsection (b)(1) of this section and to have designated the participant's surviving spouse as the optional annuitant if the participant:

(1) was not in service with the city or the pension system at the time of the participant's death;

(2) is survived by a surviving spouse; and

(3) dies before the participant's retirement has commenced.

(f) If the option-eligible participant described by Subsection (e) of this section has no surviving spouse, a survivor benefit or J&S Annuity is not payable. If a J&S Annuity is paid under Subsection (e) of this section, a survivor benefit is not payable under this subsection or under Section 14 of this Act.

(g) If Subsection (d) of this section would otherwise apply to prohibit the payment of a survivor benefit or J&S Annuity, but there is one or more dependent children of the deceased option-eligible participant, the provisions of Section 14 of this Act control the payment of survivor benefits to the dependent child or children. The pension system may not pay both a J&S Annuity under this section and a survivor benefit under Section 14 of this Act with respect to any option-eligible participant. If a J&S Annuity is paid under Subsection (e) of this section, a survivor benefit is not payable.

(h) If an option-eligible participant has previously elected a J&S Annuity for a previous period of service, no benefits have been paid under that previous election, and the option-eligible participant terminates employment on or after January 1, 2012, the previous election is void and the option-eligible participant shall make an election under Subsection (b) of this section to apply to all periods of service.

(i) If a former group B member with service before September 1, 1997, was rehired in a covered position and converted the group B service covered by a J&S Annuity to group A service, and that member terminates employment on or after January 1, 2012, and is not an option-eligible participant at the time of the member's subsequent termination, the previous election is void and survivor benefits for an eligible survivor, if any, are payable as provided by Section

14 of this Act, provided benefits were not paid under the previous election.

(j) If an option-eligible participant who elects a J&S Annuity under this section designates the participant's spouse as a designated survivor and the marriage is later dissolved by divorce, annulment, or a declaration that the marriage is void before the participant's retirement, the designation is void unless the participant reaffirms the designation after the marriage was dissolved.

(k) A J&S Annuity payable to a designated survivor of a retired option-eligible participant is effective on the first day of the month following the month of the option-eligible participant's death and ceases on the last day of the month of the designated survivor's death or on the last day of the month in which the survivor otherwise ceases to be eligible to receive a J&S Annuity.

SECTION 3.16. Section 12(a)(5), Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended to read as follows:

(5) "DROP entry date" means the date a member ceases to earn service credit and begins earning credit for the member's DROP account, which is the later of the date the member is eligible to participate in the DROP, the date requested by the member, or October 1, 1997, as approved by the pension board. The DROP entry date is the first day of a month and is determined by the normal retirement eligibility requirements of this Act or of Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g,

Vernon's Texas Civil Statutes), as applicable, in effect on the requested DROP entry date. A member who enters DROP on or after January 1, 2005, may not have a DROP entry date that occurs before the date the pension system receives the member's request to participate in DROP.

SECTION 3.17. Section 12, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by adding Subsections (b-1), (d-1), (o-1), (r), (s), and (t) and amending Subsections (d), (f), (g), (h), (j), (k), (m), (o), and (p) to read as follows:

(b-1) Notwithstanding Subsection (b) of this section, for DROP participation beginning on or after January 1, 2005, a member must meet the normal retirement eligibility requirements under Section 10(b) or (c) of this Act to be eligible to elect to participate in DROP. This subsection does not apply to a member who:

(1) met the eligibility requirements under Section 10(b) of this Act in effect before January 1, 2005; or

(2) before January 1, 2005, had at least five years of credited service and a combination of years of age and years of credited service, including parts of years, the sum of which equaled or was greater than 68.

(d) Credited service and normal retirement benefits cease to accrue on the day preceding the member's DROP entry date. The period of a member's DROP participation, unless revoked as provided by Subsection (j) of this section, begins on the DROP participant's DROP entry date and ends on the date of the DROP participant's last day of active service with the city or the pension system. On the first day of the month following the month in which the pension board approves the member's DROP election, the DROP election becomes effective and the pension board shall establish a DROP account for the DROP participant. For each month during the period of DROP participation before a DROP participant's termination of employment, the following amounts shall be credited to the DROP participant's DROP account, including prorated amounts for partial months of service:

(1) an amount equal to what would have been the DROP participant's monthly normal retirement benefit if the DROP participant had retired on the DROP participant's DROP entry date, except that the monthly amount shall be computed based on the DROP participant's credited service and average monthly salary as of the DROP entry date and the benefit accrual rates and maximum allowable benefit applicable on the DROP election date, with the cost-of-living adjustments payable under Subsection (s) of this section, if any, that would apply if the DROP participant had retired on the DROP participant's DROP entry date; and

(2) subject to Subsection (d-1) of this section, [~~for a group A member, the member's contributions to the pension fund required under Section 8 of this Act during the member's participation in the DROP; and~~

[~~(3)~~] interest on the DROP participant's DROP account balance computed at a rate determined by the pension board and compounded at intervals designated by the pension board, but at least once in each 13-month period.

(d-1) Beginning January 1, 2018, the pension board shall establish the interest rate applicable under Subsection (d)(2) of this section as of January 1 of each year at a rate:

(1) except as provided by Subdivision (2) of this subsection, equal to half the pension system's five-year investment return based on a rolling five-fiscal-year basis and net of investment expenses; and

(2) that may not be less than 2.5 percent or more than 7.5 percent.

(f) The period for credits to a DROP participant's DROP account includes each month beginning with the DROP participant's DROP entry date through the date the DROP participant terminates employment with the city or the pension system. Credits may not be made to a DROP participant's DROP account for a period that occurs after the date the DROP participant terminates employment, except that interest at a rate determined by the pension board may be paid on the person's undistributed DROP account balance after the date the person terminates employment. A DROP participant must pay required contributions to the pension system for all time in DROP that would otherwise constitute service in order to receive allowable credits to the DROP participant's DROP account.

(g) A DROP participant who terminates employment is eligible to elect to receive the DROP participant's DROP benefit in a lump sum, in substantially equal periodic payments, [~~or~~] in a partial lump sum followed by substantially equal periodic payments, or in partial payments from the participant's DROP account, in a manner and form determined by the pension board. The pension board may establish procedures concerning partial payments under this subsection, including limitations on the timing and frequency of those payments. A participant who elects partial payments may elect to receive the participant's entire remaining DROP account balance in a single lump-sum payment. The pension board shall determine a reasonable time for lump-sum and periodic payments of the DROP benefit. [~~An election concerning single lump-sum or partial payments as provided by this subsection must satisfy the requirements of Section 401(a)(9), Internal Revenue Code of 1986, as amended.~~] All distributions and changes in the form of distribution must be made in a manner and at a time that complies with that provision of the Internal Revenue Code of 1986, as amended.

(h) If a DROP participant dies before the full distribution of the DROP participant's DROP account balance, the undistributed DROP account balance shall be distributed to the DROP participant's surviving spouse, if any, in a lump-sum payment within a reasonable time after the pension board has determined that the surviving spouse is eligible for the distribution. If there is no surviving spouse, each beneficiary of the DROP participant [~~participant's beneficiary~~], as designated in the manner and on a form established by the pension board, is eligible to receive the beneficiary's applicable portion of the deceased DROP participant's undistributed DROP account balance in a lump-sum payment within a reasonable time after the pension board has determined that the beneficiary is eligible for the distribution. If no beneficiary is designated, the undistributed DROP account balance shall be distributed to the deceased participant's [~~member's~~] estate.

(j) An election to participate in the DROP is irrevocable, except that:

(1) if a DROP participant is approved for a service disability pension, the DROP participant's DROP election is automatically revoked; and

(2) if a DROP participant dies, the surviving spouse, if any, or the beneficiary, if any, may elect to revoke the DROP participant's DROP election, at a time and in a manner determined by the pension board, only if the revocation occurs before a distribution from the DROP participant's DROP account or the payment of a survivor benefit under this Act or Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes)[~~; and~~

[~~(3) a DROP participant approved by the pension board of the predecessor system before September 1, 1999, to participate in the DROP may make a one-time, irrevocable election before termination of employment, on a date and in a manner determined by the pension board, to revoke the DROP election and waive any and all rights associated with the DROP election~~].

(k) On revocation of a DROP election under Subsection (j) of this section, the DROP account balance becomes zero, and a distribution of DROP benefits may not be made to the participant [~~member~~], the participant's [~~member's~~] surviving spouse, or the participant's [~~member's~~] beneficiaries. In the event of revocation, the benefits based on the participant's [~~member's~~] service are determined as if the participant's [~~member's~~] DROP election had never occurred.

(m) If an unanticipated actuarial cost occurs in administering the DROP, the pension board, on the advice of the pension system [~~system's~~] actuary, may take action necessary to mitigate the unanticipated cost, including refusal to accept additional elections to participate in the DROP [~~plan~~]. The pension system shall continue to administer the DROP [~~plan~~] for the DROP participants participating in the DROP [~~plan~~] before the date of the mitigating action.

(o) Except as provided by Subsection (o-1) of this section, on [~~On~~] termination of employment, a DROP participant shall receive a normal retirement pension under Section 10 of this Act or under Section 11, 22A, or 24 of Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes), as those sections read on the day preceding the participant's DROP entry date, as applicable, except that the credited service under that section is the member's credited service as of the day before the member's DROP entry date, the benefit accrual rate applicable to the credited service shall be the benefit accrual rate in effect on the member's DROP election date, the maximum allowable benefit shall be the maximum allowable benefit in effect on the member's DROP election date, and the member's average monthly salary is the average monthly salary determined as of the later [~~date~~] of the member's DROP entry date or January 1, 2005, as applicable [~~termination of employment~~]. The DROP participant's normal retirement pension is increased by any cost-of-living adjustments applied to the monthly credit to the member's DROP account under Subsection (d)(1) of this section during the member's participation in the DROP. Cost-of-living adjustments applicable to periods after the date of the DROP participant's termination of employment are based on the DROP participant's normal retirement pension computed under this subsection or Subsection (o-1) of this section, as applicable, excluding any cost-of-living adjustments.

(o-1) On termination of employment, and before any benefit or DROP payment, a DROP participant who is an option-eligible participant shall make the required election under Section 11 of this Act. If the option-eligible participant elects a J&S Annuity, the DROP account, including all DROP credits, shall be recalculated from the DROP entry date to termination of employment as provided by Subsection (o) of this section as if the J&S Annuity was selected to be effective as of the DROP entry date.

(p) If a DROP election is not revoked under Subsection (j) of this section, the survivor benefit payable to an eligible survivor of a deceased DROP participant under Section 14 of this Act is computed as a percentage of the monthly ordinary disability pension that the member would have been eligible to receive had the member suffered a disability the day before the member's DROP entry date, except that the ordinary disability pension is computed based on the DROP participant's credited service as of the day before the DROP participant's DROP entry date, the benefit accrual rate applicable to the credited service as of the DROP participant's DROP election date, and the DROP participant's average monthly salary as of the later [~~date~~] of the DROP participant's DROP entry date or January 1, 2005, as applicable [~~death~~]. A surviving spouse, if any, of a DROP participant who dies from a cause directly resulting from a specific incident in the performance of the DROP participant's duties for the city or the pension system is ineligible to receive enhanced survivor benefits under Section 14(c) of this Act unless the DROP election is revoked under Subsection (j)(2) of this section and the surviving spouse receives a survivor benefit as otherwise provided by this subsection.

(r) Except as provided by Subsection (s) of this section, the pension system may not credit a DROP account with a cost-of-living adjustment percentage on or after February 1, 2018.

(s) On or after February 1, 2018, and for future credit only, the pension system shall credit a cost-of-living adjustment percentage, not compounded, to the DROP account of a DROP participant who was at least 62 years of age as of January 1 of the year in which the increase is made.

(t) The pension board may establish deadlines for the submission of any information, document, or other record pertaining to DROP.

SECTION 3.18. Sections 13(a), (b), and (c), Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), are amended to read as follows:

(a) A member who has completed five or more years of credited service and who becomes disabled is eligible, regardless of age, for an ordinary disability retirement and shall receive a monthly disability pension computed in accordance with Section

10(d) of this Act [~~for group A members and Section 10(e) for group B members~~].

(b) A member who is disabled by reason of a personal injury sustained or a hazard undergone as a result of, and while in the performance of, the member's employment duties at some definite place and at some definite time on or after the date of becoming a member, without serious and wilful misconduct on the member's part, is eligible for a service disability retirement and shall receive a monthly disability pension equal to the greater of:

(1) the monthly normal retirement pension computed under Section 10(d) of this Act [~~for a group A member or Section 10(e) for a group B member~~]; or

(2) 20 percent of the member's monthly salary on the date the injury occurred or the hazard was undergone.

(c) In addition to the monthly disability pension under Subsection (b)(2) of this section, a group A member shall receive one percent of the salary under Subsection (b)(2) of this section for each year of credited service. The total disability pension computed under Subsection (b)(2) of this section may not exceed the greater of:

(1) 40 percent of that monthly salary; or

(2) the monthly normal retirement pension computed in accordance with Section 10(d) of this Act [~~for a group A member or Section 10(e) for a group B member~~].

SECTION 3.19. Section 14, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by amending Subsections (a), (b), (c), (d), (e), and (h) and adding Subsection (b-1) to read as follows:

(a) Except as provided by Section 11 or [~~Section~~] 12 of this Act, the pension board shall order survivor benefits to be paid to an eligible survivor in the form of a monthly allowance under this section if:

(1) a member or former member of group A or group B dies from any cause after the completion of five years of credited service with the city or the pension system;

(2) while in the service of the city or the pension system, a member dies from any cause directly resulting from a specific incident in the performance of the member's duty; [~~or~~]

(3) a member of group A or group B dies after the date the member retires on a pension because of length of service or a disability and the member leaves an eligible survivor; or

(4) a member of group D dies from any cause after the completion of five years of credited service with the city or the pension system if the member on the date of the member's death was still in service with the city or the pension system.

(b) A surviving spouse of a member described by Subsection (a)(1) or (4) of this section [~~or former member~~] who dies while still in [~~dies after having completed five years of credited~~] service with the city or the pension system[~~, but before beginning to receive retirement benefits,~~] is eligible for a sum equal to the following applicable percentage [~~100 percent~~] of the retirement benefits to which the deceased member or former member would have been eligible had the member been totally disabled with an ordinary disability at the time of the member's last day of credited service:

(1) 80 percent, if the member's death occurs on or after the year 2017 effective date and the spouse was married to the member for at least one continuous year as of the member's date of death, except that the allowance payable to the surviving spouse may not be less than $100 a month; or

(2) 50 percent, if the member's death occurs on or after the year 2017 effective date and the spouse was married to the member for less than one continuous year as of the date of the member's death.

(b-1) A surviving spouse of a former member described by Subsection (a)(1) of this section who dies on or after the year 2017 effective date while not in the service of the city or the pension system and before the member's retirement commenced, is eligible for a sum equal to 50 percent of the deceased former member's normal accrued pension at the time of the deceased former member's last day of credited service. Benefits under this subsection first become payable on the date the former member would have become eligible to begin receiving a pension. If the surviving spouse elects for earlier payment, in a time and manner determined by the pension board, the actuarial equivalent of that amount shall be payable at that earlier date.

(c) A surviving spouse of a member described by Subsection (a)(2) of this section who dies from a cause directly resulting from a specific incident in the performance of the member's duty with the city or the pension system, without serious or wilful misconduct on the member's part, is eligible for a sum equal to 80 [~~100~~] percent of the deceased member's final average salary.

(d) A surviving spouse of a retiree described by Subsection (a)(3) of this section who dies after having received retirement benefits is eligible for a sum equal to the following applicable percentage [~~100 percent~~] of the retirement benefits being received at the time of the retiree's death, including any applicable[~~. The~~] cost-of-living adjustment in the survivor benefit under Section 10(h) of this Act [~~is~~] computed based on the unadjusted normal retirement pension of the deceased retiree:

(1) 80 percent, if the retiree's death occurs on or after the year 2017 effective date and the retiree separated from service with the city or pension system before the year 2017 effective date;

(2) 80 percent, if the retiree's death occurs on or after the year 2017 effective date and the retiree separated from service with the city or pension system on or after the year 2017 effective date, provided the surviving spouse was married to the retiree at the time of the retiree's death and for at least one continuous year as of the date of the retiree's separation from service; or

(3) 50 percent, if both the retiree's separation from service and death occur on or after the year 2017 effective date and the surviving spouse was married to the retiree at the time of the retiree's death for less than one continuous year as of the date of the retiree's separation from service.

(e) If there is a surviving spouse, each dependent child shall receive a survivor benefit equal to 10 percent of the pension the member would have received if the member had been disabled at the time of death up to a maximum of 20 percent for all dependent children, except that if the total amount payable to the surviving spouse and dependent children is greater than 80 [~~100~~] percent of the benefit the member would have received, the percentage of benefits payable to the surviving spouse shall be reduced so that the total amount is not greater than 80 [~~100~~] percent of the benefit the member would have received, and the reduction shall continue until the total amount payable to the surviving spouse and dependent child, if any, would not be greater than 80 [~~100~~] percent of the benefit the member would have received.

(h) If a retiree dies and there is no eligible survivor, the retiree's spouse, if any, or if there is no spouse, the retiree's estate, is eligible to receive a lump-sum payment of the unamortized balance of the retiree's accrued employee contributions, if any, other than contributions after the DROP entry date, as determined by an amortization schedule and method approved by the pension board. A pension payable to a retiree ceases on the last day of the month [~~preceding the month~~] of the retiree's death. A survivor benefit payable to an eligible survivor is effective on the first day of the month following the month of the retiree's death and ceases on the last day of [~~month preceding~~] the month of the eligible survivor's death or on the last day of the month in which the survivor otherwise ceases to be eligible to receive a survivor's benefit.

SECTION 3.20. Sections 16(a) and (e), Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article

6243h, Vernon's Texas Civil Statutes), are amended to read as follows:

(a) Notwithstanding any other provision of this Act, the pension board may pay to a member, deferred participant, eligible survivor, alternate payee, or beneficiary in a lump-sum payment the present value of any benefit payable to such a person that is less than $20,000 [~~$10,000~~] instead of paying any other benefit payable under this Act. If the lump-sum present value of the benefit is at least $1,000 [~~$5,000~~] but less than $20,000 [~~$10,000~~], the pension board may make a lump-sum payment only on written request by the member, deferred participant, eligible survivor, alternate payee, or other beneficiary. The pension board shall make any payment under this subsection as soon as practicable after eligibility under this section has been determined by the pension board.

(e) A member who is reemployed by the city or the pension system and who has at least two years of continuous credited service after reemployment may reinstate service for which the member received a lump-sum payment under this section by paying into the pension fund the amount of the lump-sum payment, plus interest on that amount at the applicable assumed rate of return [~~six percent per year~~], not compounded, from the date the lump-sum payment was made to the member until the date of repayment to the pension fund.

SECTION 3.21. Section 17, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended by amending Subsections (a), (c), (d), (e), (f), (g), (h), (i), (j), (k), and (l) and adding Subsections (c-1), (c-2), (q), (r), and (s) to read as follows:

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(a) A member who terminates employment with the city involuntarily due to a reduction in workforce, as determined by the pension board, before the member becomes eligible for a normal retirement pension or attains five years of credited service, is eligible to [~~by written notice to the pension board, may make an irrevocable election to~~] leave the person's contributions in the pension fund until the first anniversary of the date of termination. If during that period the person is reemployed by the city and has not withdrawn the person's contributions, all rights and service credit as a member shall be immediately restored without penalty. If reemployment with the city does not occur before the first anniversary of the date of termination, all payments made by the person into the pension fund by salary deductions or other authorized contributions shall be refunded to the person without interest. If the person is subsequently reemployed, the person may have credit restored, subject to the provisions applicable at the time of reemployment.

(c) A former member of group A or group B whose employment is terminated for a reason other than death or receipt of a retirement or disability pension after the completion of five years of credited service may elect, in a manner determined by the pension board, to receive a deferred retirement pension that begins on the member's effective retirement date after the member attains the eligibility requirements for normal retirement under Section 10 of this Act as it existed on the member's last day of credited service [~~either 62 years of age or a combination of years of age and years of credited service, including parts of years, the sum of which equals~~

~~the number 70~~]. The amount of monthly benefit shall be computed in the same manner as for a normal retirement pension, but based on average monthly salary and credited service as of the member's last day of credited service and subject to the provisions of this Act or Chapter 358, Acts of 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes), in effect on the former member's last day of credited service.

(c-1) A former member of group D whose employment is terminated for a reason other than death or receipt of a retirement or disability pension after the completion of five years of credited service may elect, in a manner determined by the pension board, to receive a deferred normal retirement pension that begins on the former member's effective retirement date after the member attains 62 years of age. The amount of a monthly benefit under this subsection shall be computed in the same manner as a normal retirement pension, except the benefit shall be based on the average monthly salary and credited service of the former member as of the former member's last day of credited service and subject to the provisions of this Act in effect on the former member's last day of credited service.

(c-2) A former member of group D whose employment is terminated for a reason other than death or receipt of a retirement or disability pension and who has met the minimum years of credited service to receive an early reduced retirement pension under Section 10(e) of this Act on attaining the required age, may elect, in a manner determined by the pension board, to receive a deferred early retirement pension that begins on the former member's effective retirement date after the member attains the required age under Section 10(e) of this Act. The amount of monthly benefit shall be computed in the same manner as for an early retirement pension under Section 10(e) of this Act, except that the benefit shall be based on the average monthly salary and credited service of the former member as of the former member's last day of credited service and subject to the provisions of this Act in effect on the former member's last day of credited service.

(d) If a member dies while still employed by the city, whether eligible for a pension or not, and Sections 12 and 14 of this Act do not apply, all of the member's rights in the pension fund shall be satisfied by the refund to the member's spouse [~~designated beneficiary~~], if any, or if there is no spouse [~~designated beneficiary~~], to the member's estate, of all eligible payments, if any, made by the member into the pension fund, without interest.

(e) [~~The provisions of Section 14 of this Act concerning payments to eligible survivors apply in the case of any former member who has made the election permitted by Subsection (c) of this section and who dies before reaching the age at which the former member would be eligible to receive a pension.~~] If there is no eligible survivor of the former member, all of the former member's rights in the pension fund shall be satisfied by the refund to the former member's spouse [~~designated beneficiary~~], if any, or if there is no spouse [~~designated beneficiary~~], to the former member's estate, of all eligible payments made by the former member into the pension fund by way of employee contributions, without interest.

(f) This Act does not change the status of any former member of the predecessor system whose services with the city or the pension system were terminated under Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes), except as otherwise expressly provided. Refunds of contributions made under this section shall be paid to the departing member, the member's spouse [~~beneficiary~~], or the member's estate on written request and approval by the pension board in a lump sum, except that if the pension board determines that funds are insufficient to justify the lump-sum payment, the payment shall be refunded on a monthly basis in amounts determined by the pension board.

(g) If a deferred participant is reemployed by the city or the pension system before receiving a deferred retirement pension or if a retiree is reemployed by the city or the pension system, Subsections (h) and (j) of this section apply to the computation of the member's pension following the member's subsequent separation from service if the member was a member on or after May 11, 2001, and is not otherwise subject to Subsection (q) of this section.

(h) If a member described in Subsection (g) of this section accrues not more than two years of continuous credited service after reemployment:

(1) the portion of the member's deferred or normal retirement pension attributable to the member's period of credited service accrued before the date of the member's original or previous separation from service is computed on the basis of the applicable provisions of this Act or the predecessor system that

were in effect on the member's last day of credited service for the original <u>or previous</u> period of credited service;

(2) the portion of the member's deferred or normal retirement pension attributable to the member's period of credited service accrued after the date of the member's reemployment by the city or the pension system is computed on the basis of the applicable provisions of this Act or the predecessor system in effect on the member's last day of credited service for the subsequent period of credited service; and

(3) the disability pension or survivor benefit attributable to the member's period of credited service accrued both before the date of the member's original <u>or previous</u> separation from service and after the date of the member's reemployment by the city or the pension system is computed on the basis of the applicable provisions of this Act or the predecessor system that were in effect on the member's last day of credited service for the original <u>or previous</u> period of credited service.

(i) Subject to Subsection (l) of this section, the disability pension or survivor benefit under Subsection (h)(3) of this section is computed by adding the following amounts:

(1) the amount of the benefit derived from the member's credited service accrued after the date of reemployment based on the benefit accrual rate in effect on the member's last day of original <u>or previous</u> credited service in the group in which the member participated on the member's last day of subsequent credited service; and

(2) the amount of the benefit the member, beneficiary,

or eligible survivor was eligible to receive based on the member's original or previous credited service and the provisions in effect on the member's last day of original or previous credited service.

(j) If a [~~the~~] member described by Subsection (g) of this section accrues more than two years of continuous credited service after reemployment, for purposes of future payment only, a deferred retirement pension, normal retirement pension, disability pension, or survivor benefit is computed on the basis of the applicable provisions of this Act or the predecessor system in effect on the member's last day of credited service for the subsequent service.

(k) Notwithstanding any other provision of this Act, if a retiree is reemployed by the city or the pension system and becomes a member, the retiree's pension under this Act ceases on the day before the date the retiree is reemployed. Payment of the pension shall be suspended during the period of reemployment and may not begin until the month following the month in which the reemployed retiree subsequently terminates employment. On subsequent separation, benefits payable are computed under Subsections (h) and (j) of this section, as applicable. If the reemployed retiree receives any pension during the period of reemployment, the retiree shall return all of the pension received during that period to the pension system not later than the 30th day after the date of receipt. If the reemployed retiree does not timely return all of the pension, the pension board shall offset the amount not returned against the payment of any future retirement pension, disability pension, DROP balance, or survivor benefit payable on behalf of the reemployed retiree, plus interest on the disallowed pension at the applicable assumed rate of return, not compounded, from the date the reemployed retiree received the disallowed pension to the date of the offset on the disallowed pension.

(l) Except as provided by Section 14 of this Act, if [~~If~~] a member is covered by Subsection (h) of this section and has made an election or was eligible to make an election under Section 11 of this Act or an optional annuity election under Section 29, Chapter 358, Acts of the 48th Legislature, Regular Session, 1943 (Article 6243g, Vernon's Texas Civil Statutes), or has received a pension computed on the basis of an optional annuity election, the optional annuity election, including any designation of an eligible designated survivor, governs the payment of any pension or benefit for the period of service covered by the optional annuity election, and no other survivor benefit is payable for that period of service. If a member meets the requirements of Subsection (j) of this section and has made an optional annuity election or has received a pension computed on the basis of an optional annuity election, the optional annuity election, including any designation of an eligible designated survivor, shall control the payment of any pension or benefit, and no other survivor benefit is payable unless the member elects, not later than the 90th day after the date of the separation of employment and before payment of a pension, to revoke the optional annuity election for future payment of benefits. If revocation occurs, any survivor benefit is paid under Subsection (j) of this section.

(q) Subsections (g) through (l) of this section do not apply to the calculation of any benefit for or attributable to the period of service following:

(1) the employment or reemployment of a member hired or rehired on or after January 1, 2005; or

(2) the reemployment of a deferred retiree or retiree who is reemployed in a pension system covered position before January 1, 2005, but for a period of two years or less of continuous credited service.

(r) If a deferred retiree or retiree subject to Subsection (q)(2) of this section is reemployed in a pension system covered position, the retiree's pension due on the retiree's subsequent retirement shall be computed as follows:

(1) the portion of the retiree's pension attributable to the retiree's periods of credited service that accrued before the retiree's reemployment shall be calculated on the basis of the schedule of benefits for retiring members that was in effect at the time of the member's previous termination or terminations of employment; and

(2) the portion of the member's pension attributable to the member's period of credited service that accrued after the member's reemployment shall be calculated on the basis of the schedule of benefits for retiring members that is in effect at the time of the member's subsequent retirement.

(s) The computation under Subsection (r) of this section may not result in a lower pension benefit amount for the previous service of the retiree than the pension benefit amount the retiree was eligible to receive for the retiree's previous service before the date of reemployment.

SECTION 3.22. Section 18(d), Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is amended to read as follows:

(d) The military service credited under Subsection (c) of this section:

(1) may not exceed a total of 60 months; and

(2) may be claimed as service solely in the group in which the member participates [~~A only if the member is a group A member or group C member~~] at the time the member claims the service[~~; and~~

[~~(3) may be claimed as service in group B only if the member is a group B member at the time the member claims the service~~].

SECTION 3.23. Sections 24(h) and (i), Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), are amended to read as follows:

(h) Contributions may not accumulate under the excess benefit plan to pay future retirement benefits. The executive director shall reduce each payment of employer contributions that would otherwise be made to the pension fund under Section 8A [~~8~~] of this Act by the amount determined to be necessary to meet the requirements for retirement benefits under the plan, including reasonable administrative expenses, until the next payment of municipal contributions is expected to be made to the pension fund. The employer shall pay to the plan, from the withheld contributions, not earlier than the 30th day before the date each distribution of monthly retirement benefits is required to be made from the plan, the amount necessary to satisfy the obligation to pay monthly retirement benefits from the plan. The executive director shall satisfy the obligation of the plan to pay retirement benefits from the employer contributions transferred for that month.

(i) Employer contributions otherwise required to be made to the pension fund under Section 8A [~~8~~] of this Act and to any other qualified plan shall be divided into those contributions required to pay retirement benefits under this section and those contributions paid into and accumulated to pay the maximum benefits required under the qualified plan. Employer contributions made to provide retirement benefits under this section may not be commingled with the money of the pension fund or any other qualified plan.

SECTION 3.24. Section 8(d), Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), is repealed.

SECTION 3.25. (a) The change in law made by this Act to Section 2, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), applies only to the appointment or election of a trustee of the board of trustees of the pension system established under that law that occurs on or after the effective date of this Act.

(b) A person who is serving as a trustee immediately before the effective date of this Act may continue to serve for the remainder of the trustee's term, and that trustee's qualifications for serving as a trustee for that term are governed by the law in effect immediately before the effective date of this Act.

SECTION 3.26. The pension system established under Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), shall require the pension system actuary to prepare the first actuarial experience study required under Section 8D, Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes), as added by this Act, not later than September 30, 2021.

ARTICLE 4. PROVISIONS APPLICABLE TO EACH PUBLIC RETIREMENT SYSTEM SUBJECT TO ACT

SECTION 4.01. Chapter 107, Local Government Code, is amended by adding Section 107.0036 to read as follows:

Sec. 107.0036. VOTER APPROVAL REQUIRED FOR CERTAIN PENSION FUND OBLIGATIONS. (a) This section applies only to a public pension fund subject to:

(1) Article 6243e.2(1), Revised Statutes;

(2) Chapter 88 (H.B. 1573), Acts of the 77th Legislature, Regular Session, 2001 (Article 6243h, Vernon's Texas Civil Statutes); and

(3) Article 6243g-4, Revised Statutes.

(b) A municipality may issue an obligation under Section 107.003 to fund all or any part of the unfunded liability of a public pension fund subject to this section only if the issuance is approved by a majority of the qualified voters of the municipality voting at an election held for that purpose.

SECTION 4.02. Section 107.0036, Local Government Code, as added by this Act, applies only to obligations for which the governing body of a municipality executes an agreement under Section 107.003(b), Local Government Code, on or after the effective date of this Act.

ARTICLE 5. CONFLICTING LEGISLATION; EFFECTIVE DATE

SECTION 5.01. If this Act conflicts with any other Act of the 85th Legislature, Regular Session, 2017, this Act controls unless the conflict is expressly resolved by the legislature by reference to this Act.

SECTION 5.02. This Act takes effect July 1, 2017, if it receives a vote of two-thirds of all the members elected to each house, as provided by Section 39, Article III, Texas Constitution. If this Act does not receive the vote necessary for effect on that date, this Act takes effect September 1, 2017.

S.B. No. 2190

President of the Senate

Speaker of the House

I hereby certify that S.B. No. 2190 passed the Senate on May 1, 2017, by the following vote: Yeas 25, Nays 5, one present not voting; May 10, 2017, Senate refused to concur in House amendments and requested appointment of Conference Committee; May 16, 2017, House granted request of the Senate; May 23, 2017, Senate adopted Conference Committee Report by the following vote: Yeas 25, Nays 5, one present not voting.

Secretary of the Senate

I hereby certify that S.B. No. 2190 passed the House, with amendments, on May 9, 2017, by the following vote: Yeas 115, Nays 29, three present not voting; May 16, 2017, House granted request of the Senate for appointment of Conference Committee; May 24, 2017, House adopted Conference Committee Report by the following vote: Yeas 103, Nays 43, ~~three~~ present not voting.

Chief Clerk of the House

Approved:

5-31-2017

Date

Governor

FILED IN THE OFFICE OF THE SECRETARY OF STATE
11 AM O'CLOCK
MAY 31 2017
Secretary of State

LEGISLATIVE BUDGET BOARD
Austin, Texas

FISCAL NOTE, 85TH LEGISLATIVE REGULAR SESSION

May 23, 2017

TO: Honorable Dan Patrick, Lieutenant Governor, Senate
Honorable Joe Straus, Speaker of the House, House of Representatives

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **Conference Committee Report**

No significant fiscal implication to the State is anticipated.

General Provisions

The bill would amend multiple sections of the Revised Statutes relating to the Houston Police, Firefighter, and Municipal Employee pension systems.

The bill would set requirements on the qualifications for the Municipal Fund actuary for all three funds.

The bill would require each pension to perform several reports and analyses. Every year each fund actuary and municipal actuary separately would produce a risk sharing valuation study (RSVS) and present the findings no later than 150 days after the end of the fiscal year. The bill requires the RSVS to calculate the unfunded actuarial accrued liability and estimate the municipal contribution rate.

The bill would set the process if the municipal and fund actuary contribution rate varies by more than two percent.

The bill would require the fund and municipality to separately perform an initial RSVS dated as of June 30, 2016 and project the corridor midpoint for 31 fiscal years beginning July 1, 2017.

The bill would require that at least once every four years the fund actuary conduct an Actuarial Experience Study (AES) no later than September 30. The AES would include all assumptions and methods recommended by the fund actuary and summaries of the reconciled actuarial data used in the creation of the AES.

The municipality as of the 2017 effective date would contribute at least biweekly to the funds an amount equal to the municipal contribution rate multiplied by the pensionable payroll for the biweekly period. The bill would require that the municipal contribution rate not exceed the maximum contribution rate or be less than the minimum contribution rate.

The initial RSVS would set the minimum and maximum contribution rate for the municipality, called the corridor midpoint. The bill provides authority and process to make changes to the system if the RSVS estimated municipal contribution is above or below the corridor midpoint. The fund must notify the PRB no later than 30 days after the fund changes the Municipal Contribution Rate when the rate would be outside the corridor midpoint.

The PRB shall notify the Governor, Lt. Governor, Speaker of the House, and legislative committees that have principal jurisdiction over pensions if the PRB determines the funds are not in compliance.

The bill would require once every three years the board of each pension system hire an independent investment consultant to produce a report that includes the pension's:

a) compliance with its investment policy statement,
b) asset allocation,
c) portfolio structure,
d) investment manager or advisor performance reviews,
e) benchmarks for each asset class,
f) evaluation of fees and trading costs,
g) evaluation of investment in any leverage, foreign exchange, or other hedging transactions,
h) and evaluations of investments-related disclosures in the annual reports or valuations.

Under provisions of the bill, a municipality may issue pension obligation bonds (POBs) to fund all or part of the unfunded liability only if the majority of voters approves the issuance at an election called for that purpose.

Provisions Relating to Firefighter Pension System

The board of the fund and the municipality may alter benefit types or amounts, the means of determining contribution rates, or the contribution rates, but may not increase the assumed rate of return to be more than 7 percent per year, extend the amortization period of the liability greater than 30 years, or allow the municipality's contributions to be less than the minimum or greater than the maximum municipal contribution rate.

Limits the number of years a Deferred Retirement Option Plan (DROP) participant who has 20 years of service can participate to 10 years.

The active member's contribution rate changes from 8.35 percent of the member's salary to 10.5 percent after the year 2017 effective date.

Provisions Relating to the Police Pension System

The active member's monthly contribution rate changes from 8.75 percent to 10.5 percent of the participant's pay.

The maximum number of years an active member may participate in DROP is 20 years after the member receives the hypothetical earning rate.

The bill changes the members in military service from being entitled to being eligible for counting uniformed service towards years of service.

The board and municipality may not enter into an agreement to increase the assumed rate of return to be more than 7 percent per year, extend the amortization period of the liability greater than 30 years, or allow the municipality's contributions to be less than the minimum or greater than the maximum municipal contribution rate.

Provisions Relating to the Municipal Pension System

The bill would modify an employee's retirement grouping based on date of hire. The groupings are A, B, and D.

The bill would establish member contributions rate on or after the 2017 effective date, and the municipal contribution rate on or after July 1, 2018.

Group	2017 Effective Date	July, 1, 2018
A	7%	8%
B	2%	4%
D	2%	2%

On or after January 1, 2018 each group D member would contribute one percent of the member's biweekly salary to a notional account with an annual return rate no less than 2.5 percent and no higher than 7.5 percent.

The bill would modify the requirements for DROP participation by requiring members to meet normal retirement eligibility requirements unless the member met the eligibility requirements before January 1, 2005. Members who had five years of service before January 1, 2005 and the sum of the member's years of service and age in years was equal to or greater than 68 would also qualify for DROP.

The bill would require the board beginning January 1, 2018 to establish an interest rate for DROP accounts that is not less than 2.5 percent and not greater than 7.5 percent. A DROP participant would be required to pay contributions to the pension system for all the participant's time in DROP that would constitute service in order receive credit to the DROP account.

The bill would take effect July 1, 2017 if it receives a two-thirds vote in each chamber; otherwise, it would take effect September 1, 2017.

Local Government Impact

The City of Houston estimates the required contribution to the pension systems in fiscal year 2018 would be $704,556,462 without legislative changes and $408,141,348 with legislative changes and Pension Obligation Bonds (POBs) issued. The debt service in fiscal year 2018 for POBs would be $25,527,988.

Over a five year period the City of Houston estimates without reform the city would contribute $3.7 billion to the pension systems. With reform and issuances of POBs the city would contribute $2.0 billion. The estimated debt service would be $0.2 billion. The city projects a savings of $1.4 billion dollars over a five year period.

Source Agencies: 338 Pension Review Board

LBB Staff: UP, BM, AG, GG, BRi

LEGISLATIVE BUDGET BOARD
Austin, Texas

FISCAL NOTE, 85TH LEGISLATIVE REGULAR SESSION

May 10, 2017

TO: Honorable Dan Patrick, Lieutenant Governor, Senate

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **As Passed 2nd House**

No significant fiscal implication to the State is anticipated.

General Provisions

The bill would amend multiple sections of the Revised Statutes relating to the Houston Police, Firefighter, and Municipal Employee pension systems.

The bill would set requirements on the qualifications for the Municipal Fund actuary for all three funds.

The bill would require each pension to perform several reports and analyses. Every year each fund actuary and municipal actuary separately would produce a risk sharing valuation study (RSVS) and present the findings no later than 150 days after the end of the fiscal year. The bill requires the RSVS to calculate the unfunded actuarial accrued liability and estimate the municipal contribution rate.

The bill would set the process if the municipal and fund actuary contribution rate varies by more than two percent.

The bill would require the fund and municipality to separately perform an initial RSVS dated as of June 30, 2016 and project the corridor midpoint for 31 fiscal years beginning July 1, 2017.

The bill would require that at least once every four years the fund actuary conduct an Actuarial Experience Study (AES) no later than September 30. The AES would include all assumptions and methods recommended by the fund actuary and summaries of the reconciled actuarial data used in the creation of the AES.

The municipality as of the 2017 effective date would contribute at least biweekly to the funds an amount equal to the municipal contribution rate multiplied by the pensionable payroll for the biweekly period. The bill would require that the municipal contribution rate not exceed the maximum contribution rate or be less than the minimum contribution rate.

The initial RSVS would set the minimum and maximum contribution rate for the municipality, called the corridor midpoint. The bill provides authority and process to make changes to the system if the RSVS estimated municipal contribution is above or below the corridor midpoint. The fund must notify the PRB no later than 30 days after the fund changes the Municipal Contribution Rate when the rate would be outside the corridor midpoint.

The PRB shall notify the Governor, Lt. Governor, Speaker of the House, and legislative committees that have principal jurisdiction over pensions if the PRB determines the funds are not in compliance.

The bill would require once every three years the board of each pension system hire an independent investment consultant to produce a report that includes the pension's:

a) compliance with its investment policy statement,
b) asset allocation,
c) portfolio structure,
d) investment manager or advisor performance reviews,
e) benchmarks for each asset class,
f) evaluation of fees and trading costs,
g) evaluation of investment in any leverage, foreign exchange, or other hedging transactions,
h) and evaluations of investments-related disclosures in the annual reports or valuations.

Under provisions of the bill, a municipality may issue pension obligation bonds (POBs) to fund all or part of the unfunded liability only if the majority of voters approves the issuance at an election called for that purpose.

Provisions Relating to Firefighter Pension System

The board of the fund and the municipality may alter benefit types or amounts, the means of determining contribution rates, or the contribution rates, but may not increase the assumed rate of return to be more than 7 percent per year, extend the amortization period of the liability greater than 30 years, or allow the municipality's contributions to be less than the minimum or greater than the maximum municipal contribution rate.

Limits the number of years a Deferred Retirement Option Plan (DROP) participant who has 20 years of service can participate to 10 years.

The active member's contribution rate changes from 8.35 percent of the member's salary to 10.5 percent after the year 2017 effective date.

Provisions Relating to the Police Pension System

The active member's monthly contribution rate changes from 8.75 percent to 10.5 percent of the participant's pay.

The maximum number of years an active member may participate in DROP is 20 years after the member receives the hypothetical earning rate.

The bill changes the members in military service from being entitled to being eligible for counting uniformed service towards years of service.

The board and municipality may not enter into an agreement to increase the assumed rate of return to be more than 7 percent per year, extend the amortization period of the liability greater than 30 years, or allow the municipality's contributions to be less than the minimum or greater than the maximum municipal contribution rate.

Provisions Relating to the Municipal Pension System

The bill would modify an employee's retirement grouping based on date of hire. The groupings are A, B, and D.

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The bill would require the board beginning January 1, 2018 to establish an interest rate for DROP accounts that is not less than 2.5 percent and not greater than 7.5 percent. A DROP participant would be required to pay contributions to the pension system for all the participant's time in DROP that would constitute service in order receive credit to the DROP account.

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Source Agencies: 338 Pension Review Board

LBB Staff: UP, AG, GG, BM, BRi

LEGISLATIVE BUDGET BOARD
Austin, Texas

FISCAL NOTE, 85TH LEGISLATIVE REGULAR SESSION

May 4, 2017

TO: Honorable Dan Flynn, Chair, House Committee on Pensions

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **As Engrossed**

No significant fiscal implication to the State is anticipated.

General Provisions

The bill would amend multiple sections of the Revised Statutes relating to the Houston Police, Firefighter, and Municipal Employee pension systems.

The bill would set requirements on the qualifications for the Municipal Fund actuary for all three funds.

The bill would require each pension to perform several reports and analyses. Every year each fund actuary and municipal actuary separately would produce a risk sharing valuation study (RSVS) and present the findings no later than 150 days after the end of the fiscal year. The bill requires the RSVS to calculate the unfunded actuarial accrued liability and estimate the municipal contribution rate.

The bill would set the process if the municipal and fund actuary contribution rate varies by more than two percent.

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The bill would require that at least once every four years the fund actuary conduct an Actuarial Experience Study (AES) no later than September 30. The AES would include all assumptions and methods recommended by the fund actuary and summaries of the reconciled actuarial data used in the creation of the AES.

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The PRB shall notify the Governor, Lt. Governor, Speaker of the House, and legislative committees that have principal jurisdiction over pensions if the PRB determines the funds are not in compliance.

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a) compliance with its investment policy statement,
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c) portfolio structure,
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Provisions Relating to Firefighter Pension System

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Limits the number of years a Deferred Retirement Option Plan (DROP) participant who has 20 years of service can participate to 10 years.

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The bill changes the members in military service from being entitled to being eligible for counting uniformed service towards years of service.

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The bill would take effect July 1, 2017 if it receives a two-thirds vote in each chamber; otherwise, it would take effect September 1, 2017.

Local Government Impact

The City of Houston estimates the required contribution to the pension systems in fiscal year 2018 would be $704,556,462 without legislative changes and $381,441,348 with legislative changes and Pension Obligation Bonds (POBs) issued. The debt service in fiscal year 2018 for POBs would be $25,527,988.

Over a five year period the City of Houston estimates without reform the city would contribute $3.6 billion to the pension systems. With reform and issuances of POBs the city would contribute $2.0 billion. The estimated debt service would be $0.2 billion. The city projects a savings of $1.4 billion dollars over a five year period.

Source Agencies: 338 Pension Review Board

LBB Staff: UP, AG, GG, BM, BRi

LEGISLATIVE BUDGET BOARD
Austin, Texas

FISCAL NOTE, 85TH LEGISLATIVE REGULAR SESSION

March 26, 2017

TO: Honorable Joan Huffman, Chair, Senate Committee on State Affairs

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **Committee Report 1st House, Substituted**

No fiscal implication to the State is anticipated.

General Provisions

The bill would amend multiple sections of Revised Statutes relating to the Houston Police, Firefighter, and Municipal Employee pension systems.

The bill would set requirements on the qualifications for the Municipal Fund actuary for all three funds.

The bill would require each pension to perform several reports and analyses. Every year each fund actuary and municipal actuary separately would produce a risk sharing valuation study (RSVS) and present the findings no later than 150 days after the end of the fiscal year. The bill requires the RSVS to calculate the unfunded actuarial accrued liability and estimate the municipal contribution rate.

The bill would set the process if the municipal and fund actuary contribution rate varies by more than two percent. The final RSVS would set the municipal contribution rate in the upcoming fiscal year.

The bill would require the fund and municipality to separately perform an initial RSVS dated as of June 30, 2016 and project the corridor midpoint for 31 fiscal years beginning July 1, 2017.

The bill would require that at least once every four years the fund actuary conduct an Actuarial Experience Study (AES) no later than September 30. The AES would include all assumptions and methods recommended by the fund actuary and summaries of the reconciled actuarial data used in the creation of the AES.

The municipality as of the 2017 effective date would contribute at least biweekly to the funds an amount equal to the municipal contribution rate multiplied by the pensionable payroll for the fiscal year. The bill requires that the municipal contribution rate not exceed the maximum contribution rate or be less than the minimum contribution rate.

The initial RSVS would set the minimum and maximum contribution rate for the municipality, called the corridor midpoint. The bill provides authority and process to make changes to the system if the RSVS estimated municipal contribution is above or below the corridor midpoint.

The bill would require once every three years the board of each pension system hire an independent investment consultant to produce a report that includes the pension's:

a) compliance with its investment policy statement,
b) asset allocation,
c) portfolio structure,
d) investment manager or advisor performance reviews,
e) benchmarks for each asset class,
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h) and evaluations of investments-related disclosures in the annual reports or valuations.

Under provisions of the bill, a municipality may issue pension obligation bonds (POBs) to fund all or part of the unfunded liability only if the majority of voters approves the issuance at an election called for that purpose.

Provisions Relating to Firefighter Pension System

The board of the fund and the municipality may alter benefit types or amounts, the means of determining contribution rates, or the contribution rates, but may not increase the assumed rate of return to be more than 7 percent per year, extend the amortization period of the liability greater than 30 years, or allow the municipality's contributions to be less than the minimum or greater than the maximum municipal contribution rate.

Limits the number of years a Deferred Retirement Option Plan (DROP) participant who has 20 years of service can participate to 13 years.

The active member's contribution rate changes from 8.35 percent of the member's salary to 10.5 percent after the year 2017 effective date.

Provisions Relating to the Police Pension System

The active member's monthly contribution rate changes from 8.75 percent to 10.5 percent of the participant's pay.

The maximum number of years an active member may participate in DROP is 20 years after the member receives the hypothetical earning rate.

The bill changes the members in military service from being entitled to being eligible for counting uniformed service towards years of service.

The board and municipality may not enter into an agreement to increase the assumed rate of return to be more than 7 percent per year, extend the amortization period of the liability greater than 30 years, or allow the municipality's contributions to be less than the minimum or greater than the maximum municipal contribution rate.

Provisions Relating to the Municipal Pension System

The bill would modify an employee's retirement grouping based on date of hire. The groupings are A, B, and D.

The bill would establish member contributions rate on or after the 2017 effective date, and the municipal contribution rate on or after July 1, 2018.

Group	2017 Effective Date	July 1, 2018
A	7%	8%
B	2%	4%
D	2%	2%

On or after January 1, 2018 each group D member would contribute one percent of the member's biweekly salary to a notional account with an annual return rate no less than 2.5 percent and no higher than 7.5 percent.

The bill would modify the requirements for DROP participation by requiring members to meet normal retirement eligibility requirements unless the member met the eligibility requirements before January 1, 2005. Members who had five years of service before January 1, 2005 and the sum of the member's years of service and age in years was equal to or greater than 68 would also qualify for DROP.

The bill would require the board beginning January 1, 2018 to establish an interest rate for DROP accounts that is not less than 2.5 percent and not greater than 7.5 percent. A DROP participant would be required to pay contributions to the pension system for all the participant's time in DROP that would constitute service in order receive credit to the DROP account.

The bill would take effect July 1, 2017 if it receives two-thirds vote in each chamber; otherwise, it takes effect September 1, 2017.

Local Government Impact

The City of Houston estimates the required contribution to the pension systems in fiscal year 2018 would be $704,556,462 without legislative changes and $381,441,348 with legislative changes and Pension Obligation Bonds (POBs) issued. The debt service in fiscal year 2018 for POBs would be $25,527,988.

Over a five year period the City of Houston estimates without reform the city would contribute $3.6 billion to the pension systems. With reform and issuances of POBs the city would contribute $2.0 billion. The estimated debt service would be $0.2 billion. The city projects a savings of $1.4 billion dollars over a five year period.

Source Agencies: 338 Pension Review Board

LBB Staff: UP, AG, GG, BM, BRi

LEGISLATIVE BUDGET BOARD
Austin, Texas

FISCAL NOTE, 85TH LEGISLATIVE REGULAR SESSION

March 18, 2017

TO: Honorable Joan Huffman, Chair, Senate Committee on State Affairs

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **As Introduced**

No fiscal implication to the State is anticipated.

General Provisions

The bill would amend multiple sections of Revised Statutes relating to the Houston Police, Firefighter, and Municipal Employee pension systems. The bill would allow all three pension systems to offer participants an alternative retirement plan including a defined contribution plan if both the municipality and pension system consider it appropriate.

The bill would set requirements on the qualifications for the Municipal and Pension Fund actuary for all three funds.

The bill would require each pension to perform several reports and analysis. Every year each fund actuary and municipal actuary separately will produce a risk sharing valuation study (RSVS) and present the findings no later than 150 days after the end of the fiscal year. The bill requires the RSVS to calculate the unfunded actuarial accrued liability and estimate the municipal contribution rate.

The bill would set the process if the municipal and fund actuary contribution rate varies more than two percent. The final RSVS will set the municipal contribution rate in the upcoming fiscal year.

The bill would require the fund and municipality to separately perform an initial RSVS dated as of June 30, 2016 and project the corridor midpoint for 31 fiscal years beginning July 1, 2017.

At least once every four years the bill requires the fund actuary to conduct an Actuarial Experience Study (AES) no later than September 30 in the year required to perform the study. The AES must include all assumptions and methods recommended by the fund actuary and summaries of the reconciled actuarial data used in the creation of the AES.

The municipality as of the 2017 effective date shall contribute at least biweekly to the funds equal to the municipal contribution rate multiplied by the pensionable payroll for the fiscal year. The municipal contribution rate shall not exceed the maximum contribution rate or be less than the minimum contribution rate.

After preparing the final RSVS the fund and municipality shall jointly submit a copy of the study to the Pension Review Board (PRB) for validation and conformation that the municipality and fund are in compliance with the bill.

The initial RSVS would set the minimum and maximum contribution rate for the municipality called the corridor midpoint. The bill provides authority and process to make changes to the system if the RSVS estimated municipal contribution is above or below the corridor midpoint. The fund must notify the PRB no later than 30 days after the fund changes the Municipal Contribution Rate when the rate would be outside the corridor midpoint.

The PRB shall notify the Governor, Lt. Governor, Speaker of the House, and legislative committees that have principal jurisdiction over pensions if the PRB determines the funds are not in compliance.

The bill would require once every three years the board of each pension system hire an independent investment consultant to produce a report that includes the pensions:

a) compliance with its investment policy statement,
b) asset allocation,
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h) and evaluations of investments-related disclosures in the annual reports or valuations.

A municipality may issue pension obligation bonds (POBs) to fund all or part of the unfunded liability only if the majority of voters approves the issuance at an election called for that purpose.

Provisions Relating to Firefighter Pension System

The board of the fund may alter benefit types or amounts, the means of determining contribution rates, or the contribution rates but may not have the effect or result of increasing the unfunded liability of the fund or increase the assumed rate of return to more than 7 percent per year.

Limits the number of years a Deferred Retirement Option Plan (DROP) participant who has 20 years of service can participate to 13 years.

The active member's contribution rates changes from nine percent of the member's salary to 10.5 percent after the year 2017 effective date.

Provisions Relating to the Police Pension System

The active member's monthly contribution rate changes from 8.75 percent to 10.5 percent of the participants pay.

The maximum number of years an active member may participate in DROP is 20 years after the member receives the hypothetical earning rate.

The bill changes the members in military service from being entitled to being eligible for counting uniformed service towards years of service.

The board and municipality may not enter into an agreement to increases the assumed rate of return to be more than 7 percent per year, extend the amortization period of the liability greater than 30 years, or allow the municipality's contributions to be less than or greater than the municipal contribution rate.

Provisions Relating to the Municipal Pension System.

The bill would modify an employee's retirement grouping based on date of hire. The groupings are A, B, C, and D.

The bill would establish member contributions rate on or after the 2017 effective date, and the contribution rate after July 1, 2018.

Group	2017 Effective Date	July 1, 2018
A	7%	8%
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On or after January 1, 2018 each group D member shall contribute one percent of the members biweekly salary to a notional account with an annual return rate no less than 2.5 percent and no higher than 7.5 percent.

The bill would modify the requirements for DROP participation by requiring members to meet normal retirement eligibility requirements unless the member met the eligibility requirements before January 1, 2005. Members who had five years of service before January 1, 2005 and the sum of the members years of service and age in years was equal to or greater than 68 would also qualify for DROP.

The bill would require the board beginning January 1, 2018 to establish an interest rate for DROP accounts that is not less than 2.5 percent and not greater than 7.5 percent. A DROP participant must pay required contributions to the pension system for all time in DROP that would constitute service in order receive credit to the DROP account.

The bill would take effect immediately if it receives two-thirds vote in each chamber; otherwise, it takes effect September 1, 2017.

Local Government Impact

Due to incomplete data from the City of Houston the fiscal implications of the bill cannot be determined.

Source Agencies: 338 Pension Review Board
LBB Staff: UP, AG, GG, BM, BRi

LEGISLATIVE BUDGET BOARD
Austin, Texas

ACTUARIAL IMPACT STATEMENT

85TH LEGISLATIVE REGULAR SESSION

May 23, 2017

TO: Honorable Dan Patrick, Lieutenant Governor, Senate
Honorable Joe Straus, Speaker of the House, House of Representatives

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **Conference Committee Report**

The following information was supplied by Agency 338 - Pension Review Board:

SB 2190, CCR, would make significant changes to Articles 6243e.2(1) (affecting the Houston Firefighters' Relief & Retirement Fund (HFRRF)), 6243g-4 (affecting the Houston Police Officer's Retirement System (HPOPS)), and 6243h (affecting the Houston Municipal Employees Retirement System (HMEPS)), Revised Civil Statues, to immediately reduce benefits, increase employee contributions, outline funding policies, codify certain actuarial assumptions and methods for purposes of valuing benefits, and detail an approach to making modifications to the assumptions, methods and benefits under certain economic scenarios with the intent of minimizing the volatility of future contribution requirements for the affected retirement systems. Currently, the City of Houston's (the "City") contribution structure for HFRRF is outlined in its governing statute, and for HMEPS and HPOPS the contributions are established through the most recent meet and confer agreements with the City.

The proposed changes of the bill, if enacted, would help strengthen the long-term sustainability and improve the actuarial soundness of the affected retirement systems by lowering the current and future liabilities.

Background on Actuarial Analyses
The actuarial analysis provided by HFRRF relies on assumptions, methods, and plan provisions outlined in the draft July 1, 2016 valuation report. To remain consistent with previous reviews of this bill and in accordance with Texas Government Code Section 802.302(h), the PRB is also including the actuarial analysis prepared by Retirement Horizons Incorporated (RHI) at the direction of the City.

ACTUARIAL EFFECTS

PRB's actuarial review states that the affected retirement systems are currently identified as being actuarially sound under the PRB *Guidelines for Actuarial Soundness*. However, the City has stated that its pension liabilities for the three retirement systems have risen to $8.1 billion and it is facing the prospect of increasing costs that have the potential to outpace its ability to pay. The proposed changes help strengthen the long-term sustainability and improve the actuarial soundness of the affected retirement systems. In addition, because the bill requires an automatic adjustment of the required contributions for HPOPS and HMEPS should the systems not receive the planned POB proceeds; the bill would still serve to improve the actuarial soundness of these two systems.

Further, while the bill requires voter approval for the issuance of POBs, the HPOPS and HMEPS actuarial analyses do not address the impact on future costs if the proceeds of the POBs are not received. However, if the POBs are not issued, the bill would allow HFRRF, HPOPS and HMEPS to rescind, prospectively, any or all benefit changes made effective under the bill, or allow HPOPS and HMEPS to reestablish the deadline of the delivery of the POB proceeds, if the city fails to deliver the proceeds of the pension obligation bonds before March 31, 2018.

Accordingly, if any or all benefit changes are rescinded for HPOPS, the corridor minimum, maximum, and mid-point contributions would increase. The PRB does not have sufficient data to determine the magnitude of the impact. For HMEPS, based on the actuarial analysis each payment in the Legacy Liability amortization schedule would increase by approximately 10% and the corridor minimum, maximum, and mid-point contributions would increase approximately 1.4%.

Baseline and If Bill Enacted Scenarios

The following tables provide the key financial impact on HFRRF, HPOPS and HMEPS as provided in the actuarial analyses. The Baseline scenario utilizes assumptions, methods, and plan provisions described in the latest valuation reports from the systems (July 1, 2015 valuation reports for HFRRF, prepared by RHI for the City, and HMEPS and July 1, 2016 valuation report for HPOPS), with modifications, including a lowered 7.0% discount rate; the change from an open to a closed 30-year amortization period; and marking the assets to market.

Also, the Baseline scenario for HFRRF (prepared by Conduent) utilizes the assumptions, methods, and plan provisions described in a draft copy of the July 1, 2016 Valuation Report. The assumptions, methods, and plan provisions are substantially the same as the July 1, 2015 Valuation report but utilize a 7.00% assumed rate of return, an updated mortality table and calculates the City contribution based on a 30-year closed amortization period beginning July 1, 2015 (i.e. a 29-year amortization period as of July 1, 2016). Additionally, the Baseline scenario utilizes the smoothed value of assets as of July 1, 2016 and the If Bill Enacted scenario uses the market value of assets, as required by the bill. The If Bill Enacted scenario also makes changes to assumptions, methods, and benefits based on the provisions of the bill as well as expected changes in participant behavior. Please note, for HFRRF, the definition of payroll would be changed under the bill to exclude overtime.

The If Bill Enacted scenario shows the effect of the additional changes to assumptions, methods, increased employee contributions, and the decreased benefit provisions as contained in the bill.

The following tables outline the previously mentioned scenarios.

Houston Firefighters' Relief & Retirement Fund (Prepared by RHI at the Request of the City)	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,223,159	$4,249,641	($973,518)
Actuarial Value of Assets (AVA)	($3,729,670)	($3,729,670)	$0
Unfunded Actuarial Accrued Liability (millions)	$1,493,489	$519,971	($973,518)
Funded Ratio	71.41%	87.76%	16.35%
Employer Normal Cost	34.69%	13.14%	(21.55%)
Administrative Expense	2.00%*	2.00%	0.00%
Amortization Payment**	34.28%	10.68%	(23.60%)
Total Employer Contribution for FYE 2018***	70.97%	25.82%	(45.15%)
Total Employer Contributions for FYE 2018 (as a percentage of gross pay)****	64.59%	23.50%	(41.09%)

**The provision for administrative expenses expressed here exceeds the maximum allowable under the bill, which is 1.25%.*

***The amortization payment for the Baseline scenario has been calculated using a 30-year amortization period in accordance with the City's interpretation of Section 13(d), Article 6243e.2(1), Title 109 Revised Civil Statutes, which means that the retirement system's UAAL will never be completely paid off.*

****The definition of payroll would be changed under the bill to exclude overtime. The City contribution has been calculated as a percentage of pensionable pay, excluding overtime for both the Baseline and If Bill Enacted scenarios.*
*****For comparison purposes, the total employer contribution has also been calculated as a percentage of gross pay (including overtime).*

Houston Firefighters' Relief & Retirement Fund (Prepared by Conduent at the Request of HFRRF)	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,189,396	$4,551,412	($637,984)
Actuarial Value of Assets (AVA)*	($4,089,047)	($3,729,670)	$359,377
Unfunded Actuarial Accrued Liability (millions)	$1,100,349	$821,742	($278,607)
Funded Ratio	78.80%	81.95%	3.15%
Employer Normal Cost	29.90%	14.35%	(15.55%)
Administrative Expense	N/A**	1.25%	1.25%
Amortization Payment***	22.30%	18.0%	(4.30%)
Total Employer Contribution for FYE 2018	52.20%	33.60%	(18.60)%
Total Employer Contributions for FYE 2018 (as a percentage of gross pay)	52.20%	30.60%****	(21.60%)

**Smoothed value of assets for the Baseline scenario and market value of assets for the If Bill Enacted scenario.*
***The actuarial analysis does not indicate if there is an explicit assumption for administrative expenses under the Baseline scenario*
****The amortization payment for the Baseline scenario has been calculated using a 29-year amortization period as of July 1, 2016. The HFRRF Board of Trustees voted October 18, 2016 to interpret Section 13(d), Article 6243e.2(1), Title 109 Revised Civil Statutes to require a finite 30-year amortization period, effective July 1, 2015, rather than an open 30-year amortization period. The PRB is not aware of any reason to change the existing interpretation of the statute at this time*
*****The total employer contribution has been calculated as a percentage of gross pay (including overtime)*

Houston Police Officer's Retirement System	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.0%	7.0%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$6,894,274	$6,081,391	($812,883)
Actuarial Value of Assets (AVA)	($4,758,079)	($4,758,079)	$0
Unfunded Actuarial Accrued Liability (millions)	$2,136,195	$1,323,312	($812,883)
Funded Ratio	69.01%	78.24%	9.23%
Employer Normal Cost	29.82%	12.86%	(16.96%)
Administrative Expense	1.00%	1.00%	0.00%
Amortization Payment	22.14%	17.91%	(4.23%)
Total Employer Contribution for FYE 2018	52.96%	31.77%	(21.19%)

Both scenarios include the discounted value of expected POB proceeds ($750 million).

Houston Municipal Employees Pension System	**Baseline**	**If Bill Enacted**	**Change**

Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,509,951	$4,734,999	($774,952)
Actuarial Value of Assets (AVA)	($2,400,023)	($2,625,896)	$225,873
Unfunded Actuarial Accrued Liability (millions)	$3,109,928	$2,109103	($1,000,825)
Funded Ratio	43.56%	55.46%	11.90%
Normal Cost (% of payroll)	8.39%	6.98%	(1.41%)
Administrative Expenses	1.19%	1.19%	0.00%
Amortization Payment	29.64%	19.67%	(9.97%)
Total Employer Contribution for FYE 2018	39.22%	27.84%	11.38%

If Bill Enacted scenario includes the discounted value of expected POB proceeds ($250 million).

Corridor Midpoint

The bill establishes a unique funding policy that establishes a "target" contribution rate for the City, develops a minimum and maximum corridor around the City's target contribution rate, and defines steps that must be taken should the annual calculated contribution move outside this corridor. Generally, for all three retirement systems, the retirement system and the city must jointly determine the expected contribution requirements for the 31-year period beginning with the fiscal year starting July 1, 2017, consisting of the expected normal cost plus a closed 30-year amortization of the unfunded liability as it exists on June 30, 2016. For HFRRF and HPOPS, the sum of the expected normal cost, amortization payment and a provision for administrative expenses for each of the next 31 years becomes the "target" rate or corridor mid-point. For HMEPS, the corridor mid-point is the sum of the normal cost and provision for administrative expenses. The minimum and maximum contribution "corridor" then becomes the rates equal to /-5% of the projected mid-point.

The 30-year amortization schedule of the unfunded liability as of June 30, 2016, known as the legacy liability, is established and treated separately from the corridor for HMEPS, therefore, generally any reference in this statement to outstanding amortization payments, as it relates to HMEPS, does not include the amortization of the legacy liability. Without regard to the legacy liability for HMEPS, the corridor mechanisms for all three systems are similar.

Additionally, in future years, a new base would be established to amortize gains and losses. The losses are amortized over a closed 30-year period, while the gains are amortized over the same period as the largest outstanding liability loss base, the gain and associated loss base are treated as a single base for any future actions.

Once the corridor is established in the initial valuation, it will not change. The following tables outline the estimated 31-year projections of the corridor mid-point for the three systems (and legacy liability amortization schedule for HMEPS) as provided in the actuarial analyses. While the actuarial analysis prepared by Conduent included an estimate of the immediate impact on the FYE 2018 cost, it did not include a projection of annual costs after FY 2018.

Forecast of Corridor Midpoint for HFRRF
Provided by RHI at the Request of the City;

FY	City Normal	Admin	Amort. Of	City Cont.

	Cost Rate	Expenses	UAAL	Rate
2017				36.48%
2018	13.14%	2.00%	10.68%	25.82%
2019	13.14%	2.00%	10.68%	25.82%
2020	13.14%	2.00%	10.68%	25.82%
2021	13.14%	2.00%	10.68%	25.82%
2022	13.14%	2.00%	10.68%	25.82%
2023	13.14%	2 00%	10.68%	25.82%
2024	13.14%	2.00%	10.68%	25.82%
2025	13.14%	2.00%	10.68%	25.82%
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2037	13.14%	2.00%	10.68%	25.82%
2038	13.14%	2.00%	10.68%	25.82%
2039	13.14%	2.00%	10.68%	25.82%
2040	13.14%	2.00%	10.68%	25.82%
2041	13.14%	2.00%	10.68%	25.82%
2042	13.14%	2.00%	10.68%	25.82%
2043	13.14%	2.00%	10.68%	25.82%
2044	13.14%	2.00%	10.68%	25.82%
2045	13.14%	2.00%	10.68%	25.82%
2046	13.14%	2.00%	10.68%	25.82%
2047	13.14%	2.00%	10.68%	25 82%
2048	13.14%	2.00%	0.00%	15.14%

Corridor Projection Results for HPOPS

Valuation as of July 1,	Employer Normal Cost	Employer Cont Rate for FY Following Val Date	Employer Cont. Rate	Comp (in Millions)	Employer Cont (in Millions)
2016	13.86%	31.77%	31.35%	424.3	133
2017	13.89%	31.85%	31.77%	436	138.5
2018	13.86%	31.82%	31.85%	448	142.7
2019	13.88%	31.84%	31.82%	460.3	146.5
2020	13.95%	31.92%	31.84%	472.9	150.6
2021	14.00%	31.98%	31.92%	485.9	155.1
2022	14.04%	32.03%	31.98%	499.3	159.7
2023	14.07%	32.07%	32.03%	513	164.3
2024	14.09%	32.10%	32.07%	527.1	169.1
2025	14.10%	32.12%	32.10%	541.6	173.9
2026	14.11%	32.13%	32.12%	556.5	178.8

2027	14.11%	32.13%	32.13%	571.8	183.7
2028	14.11%	32.13%	32.13%	587.5	188.8
2029	14.12%	32.14%	32.13%	603.7	194
2030	14.12%	32.14%	32.14%	620.3	199.4
2031	14.12%	32.14%	32.14%	637.4	204.8
2032	14.13%	32.15%	32.14%	654.9	210.5
2033	14.13%	32.14%	32.15%	672.9	216.3
2034	14.13%	32.14%	32.14%	691.4	222.2
2035	14.14%	32.14%	32.14%	710.4	228.3
2036	14.14%	32.14%	32.14%	730	234.6
2037	14.14%	32.13%	32.14%	750.1	241.1
2038	14.15%	32.14%	32.13%	770.7	247.6
2039	14.15%	32.13%	32.14%	791.9	254.5
2040	14.15%	32.13%	32.13%	813.6	261.5
2041	14.16%	32.13%	32.13%	836	268.6
2042	14.16%	32.13%	32.13%	859	276
2043	14.16%	32.13%	32.13%	882.6	283.6
2044	14.17%	32.13%	32.13%	906.9	291.4
2045	14.17%	32.13%	32.13%	931.9	299.4
2046	14.17%	14.17%	32.13%	957.5	307.7
2047	14.18%	14.18%	14.17%	983.8	139.4

Corridor Projection Results for HMEPS

Valuation as of July 1,	Normal Cost/Employer Contribution Rate for Fiscal year Following Valuation Date	Employer Contribution Rate for Fiscal Year	Comp (in Millions)	Legacy Liability Contributions (in Millions)	Employer Contributions (in Millions)
2016	8.17%	29.36%	613.8		180.2
2017	8.21%	8.17%	630.7	124	175.5
2018	8.25%	8.21%	648	127.4	180.6
2019	8.29%	8.25%	665.8	130.9	185.8
2020	8.34%	8.29%	684.1	134.5	191.3
2021	8.37%	8.34%	702.9	138.2	196.9
2022	8.41%	8.37%	722.3	142	202.4
2023	8.44%	8.41%	742.1	145.9	208.4
2024	8.47%	8.44%	762.5	149.9	214.2
2025	8.50%	8.47%	783.5	154.1	220.4
2026	8.52%	8.50%	805.1	158.3	226.8
2027	8.54%	8.52%	827.2	162.7	233.1
2028	8.56%	8.54%	849.9	167.1	239.6
2029	8.58%	8.56%	873.3	171.7	246.4
2030	8.60%	8.58%	897.3	176.4	253.3
2031	8.62%	8.60%	922	181.3	260.5
2032	8.63%	8.62%	947.4	186.3	267.9
2033	8.64%	8.63%	973.4	191.4	275.4
2034	8.64%	8.64%	1,000.20	196.7	283.1
2035	8.65%	8.64%	1,027.70	202.1	290.8
2036	8.65%	8.65%	1,056.00	207.6	299

2037	8.66%	8.65%	1,085.00	213.3	307.1
2038	8.66%	8.66%	1,114.80	219.2	315.8
2039	8.67%	8.66%	1,145.50	225.2	324.5
2040	8.67%	8.67%	1,177.00	231.4	333.5
2041	8.68%	8.67%	1,209.40	237.8	342.6
2042	8.68%	8.68%	1,242.60	244.3	352.1
2043	8.69%	8.68%	1,276.80	251.1	361.9
2044	8.69%	8.69%	1,311.90	258	372
2045	8.70%	8.69%	1,348.00	265.1	382.2
2046	8.70%	8.70%	1,385.00	272.3	392.9
2047	8.71%	8.70%	1,423.10	-	123.9

Actuarial Assumptions and Methods

PRB actuarial review notes that the non-prescribed assumptions and methods used in the analyses from HMEPS, HPOPS and the City for HFRRF are reasonable.

The actuarial review also notes that the HFRRF analysis prepared by Conduent relies on assumptions and methods outlined in the draft July 1, 2016 actuarial valuation report. The PRB has not had an opportunity to completely review the assumptions and methods underlying the actuarial analysis and is therefore unable to speak to their reasonableness.

Additionally, the bill mandates the use of the Ultimate Entry Age Normal (UEAN) cost method and a 7.00% assumed rate of investment return, rather than what the systems used in the most recently published actuarial valuations.

The Entry Age Normal (EAN) level percent of payroll cost method is a mathematical construct designed to spread the costs of a participant's total benefit as a level amount over their entire career. This is done by calculating an annual amount that will remain relatively constant when expressed as a percentage of pay, and be sufficient to fully fund the anticipated benefits when the participant separates service. This results in a relatively stable normal cost contribution requirement from year to year.

The PRB actuarial review further states that the UEAN cost method is a variation of the Entry Age Normal (EAN) cost method. The UEAN cost method calculates the total anticipated benefits, or Present Value of Future Benefits (PVFB), based on a member's actual benefit provisions, but calculates the future accruals or Present Value of Future Normal Costs (PVFFNC) using the benefit provisions for new hires. The Actuarial Accrued Liability (AAL) is the difference between the PVFB and PVFNC. The purpose of this approach is to produce a stable normal cost calculation over the anticipated careers of the entire population, not just over the individual participant's career. When comparing results between these two variations, the UEAN cost method will result in a higher AAL than EAN. However, this is offset by lower expected future normal costs. Both cost methods converge to the same values at the time the participant is expected to separate service.

The following tables show the changes to assumptions and methods for each system.

Summary of Changes in Assumptions for HFRRF
(For the Valuation Prepared by RHI)

	July 1, 2015 Val	Baseline	If Bill Enacted
Cost Method	Individual EAN	Ultimate EAN	Ultimate EAN
Discount Rate	8.50%	7.00%	7.00%
Inflation	3.00%	2.75%	2.75%
Payroll Growth	3.00%	2.75%	2.75%
Individual Pay Increase Rate	Nominal rate = Real rate inflation. No changes were made to the real rate so all nominal rates decreased in accordance with the change in inflation.		
Cost of Living Adjustment	3.00%	3.00%	2.00%

DROP Interest Crediting Rate	8.50%	7.00%	4.75%
DROP Duration	5% 3 years 30% 8 years 65% 10 years	9 years	9 years
Payment of DROP balances	Unknown	Installments over 15 years for active members and 10 years for inactive members.	A factor of 0.8654 was applied to active DROP balances and a factor of 0.9105 was applied to inactive DROP balances to account for the 4.75% DROP interest crediting rate.
Development of Valuation Pay	Valuation pay is projected by increasing the prior year's pay with the nominal individual pay increase rate.	Historical valuation pay was regressed with the nominal individual pay increase rate.	Based on input from the City of Houston and the HFRRF actuary, the valuation pay was reduced 9% for future years to account for the removal of overtime.
Load of Nature of Average Monthly Salaries	5% load applied to active liabilities and normal cost for differences between the definition of avg monthly salary (average of the highest 78 pay periods), and the average of the final 78 pay periods.		5% load was removed for members with under 20 years of service.

Summary of Changes in Assumptions for HFRRF
(For the Valuation Prepared by Conduent)

	July 1, 2015 Val	Baseline	If Bill Enacted
Cost Method	Individual EAN	Ultimate EAN	Ultimate EAN
Discount Rate	8.50%	7.00%	7.00%
Active Participant and Non-Disabled Pensioner Mortality	RP-2000 Table projected to year 2025 using Scale AA	RP-2000 Table projected to year 2026 using Scale AA	
Retirement Rates prior to 20 Years of Service	N/A	Members eligible to retire prior to 20 years of service would enter at a rate equal to 1%	
Cost of Living Adjustment	3.00%	3.00%	2.25% for FYE 2018, 2019, and 2020, 2.00% thereafter

DROP Interest Crediting Rate	8.50%	7.00%	4.55%
Development of Valuation Pay	Valuation pay is projected by increasing the prior year's pay with the nominal individual pay increase rate.		Overtime is assumed to represent 9% of eligible compensation
Load of Nature of Average Monthly Salaries	5% load applied to active liabilities and normal cost for differences between the definition of avg monthly salary (average of the highest 78 pay periods), and the average of the final 78 pay periods		5% load was removed for calculating average monthly salary for future normal cost
Asset Valuation Method	Smoothed Value of Assets		Market Value of Assets

Summary of Changes in Assumptions for HPOPS

	July 1, 2016 Val	Baseline	If Bill Enacted
Cost Method	PUC	Individual EAN	Ultimate EAN
Discount Rate	8.00%	7.00%	7.00%
Payroll Growth	3.00%	2.75%	2.75%
Ultimate Salary Increase Rate	2.00%	2.75%	2.75%
Cost of Living Adjustment	2.70%	2.70%	2.00%
DROP Interest Crediting Rate	6.40%	6.40%	5.10%
Retirement Rates	See age/service table in valuation	For members hired after October 9, 2004, 3% per year the member's first retirement eligibility exceeds 45 is added to the retirement rate at first eligibility up to a maximum increase of 30% at age 55. For members in DROP as of July 1, 2016, retirement rates are multiplied by 110% to reflect that future employee contributions are no longer credited to the DROP balance.	

Summary of Changes in Assumptions for HMEPS

	July 1, 2015 Val	Baseline	If Bill Enacted
Discount Rate	8.00%	7.00%	7.00%
Inflation	2.50%	2.25%	2.25%
Payroll Growth	3.00%	2.75%	2.75%
Ultimate Salary Increase Rate	3.25%	3.00%	3.00%
	Pre-2005 hires: 3.00%	Pre-2005 hires: 3.00%	

Cost of Living Adjustment	Post-2004 hires: 2 00%	Post-2004 hires: 2.00%	1.00%
DROP Interest Crediting Rate	4.65%	4.65%	4.00%

SYNOPSIS OF PROVISIONS

SB 2190, CCR, would amend and add sections to Title 109, Revised Civil Statutes Articles 6243e.2(1), 6243g-4, and 6243h to reduce benefits (summarized in tables below), increase employee contributions (summarized in tables below), outline funding policies, codify certain actuarial assumptions and methods for purposes of valuing benefits, and detail an approach to making modifications to the assumptions, methods and benefits under certain economic scenarios with the intent of minimizing the volatility of future contributions requirements for the affected retirement systems. The bill would also require the city to make contributions as outlined by the risk sharing sections.

Risk Sharing Corridor

The bill would set baseline assumptions in statute to implement the risk sharing corridor. The corridor sets a minimum and maximum city contribution rate. In a falling-cost environment, gains are used to accelerate the payoff of unfunded liabilities or reduce the interest rate. In a rising-cost environment, adjustments are made to the amortization period, employee contributions, or benefits to reduce the city contribution rate.

Additional Reporting Requirements

The bill would add reporting requirements for the three systems, including the requirement to conduct actuarial experience studies at least once every four years with the first experience study for HFRRF no later than September 30, 2020 and for HPOPS no later than September 30, 2022 and for HMEPS published no later than September 30, 2021. The systems must also contract with an investment consultant to perform an audit on investments at least once every three years.

PRB Review of Risk Sharing Valuation Study (RSVS)

The bill would require the systems and City to jointly submit a copy of the RSVS to the PRB for a determination that the pension systems and city are in compliance with the articles. The PRB shall notify the governor, lieutenant governor, the speaker of the house of representatives, and the legislative committees having principal jurisdiction over legislation governing public retirement systems if the PRB determines the system or city is not in compliance with the applicable sections.

City Approval of POBs

The bill would amend Chapter 107, Local Government Code to require voter approval for POBs issued to fund the Houston pension systems.

Delivery of POBs

The bill would allow HFRRF, HPOPS and HMEPS to rescind, prospectively, any or all benefit changes made effective under the bill, or and allow HPOPS and HMEPS to reestablish the deadline of the delivery of the POB proceeds, if the city fails to deliver the proceeds of pension obligation bonds before March 31, 2018. If HPOPS and HMEPS do not receive the proceeds from the POBs by December 31, 2017, the initial RSVS shall be re-prepared without assuming delivery of POB proceeds.

Alternative Retirement Plans

The bill would allow the three retirement systems' boards and the City to enter into a written agreement to offer an alternative retirement plan or plans, including a cash balance retirement plan or plans, if both parties consider it appropriate.

The bill would also require the respective boards to close the existing plan to new entrants and establish a separate cash balance plan for new hires under the following circumstances:

1) For HFRRF and HPOPS, if the plan's ratio of assets to liabilities falls below 65% at any time after June 30, 2021, and

2) For HMEPS, if the plan's ratio of assets to liabilities falls below 60% at any time after June 30, 2027.

The requirement to establish a separate cash balance plan for new hires will not take effect for HMEPS if they do not receive the required POB proceeds. The requirement to establish a separate cash balance plan for new hires will not take effect for HPOPS if HPOPS does not receive the required POB proceeds.

Effective Date

Except as otherwise provided by the Act, the Act takes effect July 1, 2017 if it receives a vote of two-thirds of all the members elected to each house, or September 1, 2017.

Summary of Plan Benefit Changes for HFRRF

Employee Contributions

Current	9.00%
Proposed	10.50%

Final Average Salary

Current	Highest 78 pay periods of salary
Proposed	Hired before the effective date: Highest 78 pay periods of salary, excluding overtime for salary paid after the effective date Hired on or after the effective date: Final 78 pay periods of salary, excluding overtime

Retirement Benefit

Eligibility

Current	20 Years of Service
Proposed	Hired before effective date: 20 Years of Service Hired on or after effective date: Rule of 70

Amount

Current	Final Average Salary x [Years of Service (20 max) x 2.5% Years of Service (>20) x 3.0%, 80% max]
Proposed	Hired before effective date: Member's accrued benefit as of the effective date Final Average Salary x [Years of Service after effective date (20 max) x 2.75% per year Years of Service after effective date (>20) x 2.0%] (The Conduent analysis notes the benefit freeze, but uses average salary at retirement, not at the effective date, to calculate that portion of the benefit.) Hired on or after effective date: Final Average Salary x [Years of Service (20 max) x 2.25% Years of Service (>20) x 2,0%; 80% max]

Termination Benefit

Current	Terminate with at least 10 years of service but less than 20 years of service, choice of: Refund of employee contributions with 5% interest or Final Average Salary x 1.7% x Years of Service, payable at age 50
Proposed	Members hired before the effective date will not receive interest on employee contributions made after the effective date Members hired after the effective date receive a refund of employee contributions without interest only

Cost of Living Adjustment (COLA)

Current	3.0% compounded, beginning at age 48
Proposed	Crediting rate of 100% of the 5 year smoothed return minus 4.75%, not less than 0% or greater than 4%, beginning at age 55 with a 3 year freeze on

COLAs for members under 70 years of age. (According to the bill language, this reduction is 5.00% for the fiscal years ending June 30, 2018 and June 30, 2019. The Conduent analysis assumes this is the reduction for FYE 2018, 2019 and 2020. The RHI analysis assumes the 4.75% reduction in all years.)

Deferred Retirement Option Plan (DROP)

Current — Eligibility is 20 Years of Service

Interest credited is 100% of the 5 year average investment return, not less than 5.0% or greater than 10.0%

COLA credited to account

Member contributions credited to account for 10 years

Participation limited to 13 years (Conduent actuarial analysis states the maximum participation is 10 years; RHI actuarial analysis does not mention this maximum participation period, but assumes DROP participation of no more than 9 years, so the maximum has no effect)
Retirement annuity is increased upon exit by 2% per year of DROP participation up to a maximum of 20%

Proposed — Eligibility is 20 Years of Service and must be hired prior to effective date

Interest credited is 65% of the 5 year compounded average investment return, no less than 2.5%

COLA and member contributions not credited to account after effective date

Member's unused leave pay will be contributed and credited to member's DROP account (The Conduent analysis indicates this option is not available)

Participation limited to 13 years

Retirement annuity is increased upon exit by 2% per year of DROP participation up to a maximum of 20% as long as accrued at least 20 years of service as of the effective date (The Conduent analysis does not place any restriction on which DROP participants are eligible for this increase. The RHI actuarial analysis assumes members must be a DROP participant as of the effective date with at least 20 years of service to receive this increase.)

Post Retirement Option Plan (PROP)

Current — Up to 100% of DROP account, $5,000 Lump Sum payment, and/or a portion of monthly annuity may be deposited and earn the same interest credit as DROP accounts

Proposed — No new funds may be added to PROP accounts

Summary of Plan Benefit Changes for HPOPS

Employee Contributions

Current — If sworn prior to October 9, 2004 9.00%

	If sworn after October 9, 2004	10.20%
Proposed	All	10.50%

Retirement Benefit

Eligibility (if sworn after October 9, 2004)

Current	Age 55 with 10 Years of Service
Proposed	Rule of 70

Proposed

Termination Benefit (if sworn after October 9, 2004) (The actuarial analysis does not include this change.)

Eligibility

Current	None
Proposed	10 Years of Service

Amount

Current	None, refund of employee contributions (without interest) only
Proposed	Monthly annuity payable at age 60 equal to Years of Service x 2.25% x Final Average Salary or refund of employee contributions (without interest)

Cost of Living Adjustment (COLA)

Current — Crediting rate of 80% increase in CPI-U, not less than 2,4% or greater than 8.0%

Proposed — Crediting rate of 100% of the 5 year smoothed return minus 5.00%, not less than 0% or greater than 4%

Must be 70 years of age or older as of April 1 for fiscal years ending June 30, 2018, 2019 and 2020 and 55 years of age or older for fiscal years end on or after June 30, 2021

Deferred Retirement Option Plan (DROP) (if sworn prior to October 9, 2004)

Current — Eligibility is 20 Years of Service

Interest credited is 100% of the 5 year average investment return, not less than 3.0% or greater than 7.0%

COLA credited to account

8.75% of member contributions are credited to account

No maximum participation period

Retirement annuity is recalculated upon exit as the greater of annuity credited to DROP immediately prior to DROP exit (i.e. including COLA) or using service at DROP entry and Final Average salary at DROP exit

Proposed — No entry after June 30, 2027

Interest credited is 65% of the 5 year compounded average investment return, no less than 2.5%

COLAs occurring after effective date not credited to account

Member contributions not credited to account

Participation limited to 20 years

No recalculation of annuity at DROP exit

Post Retirement Option Plan (PROP) (if sworn prior to October 9, 2004)

Current	Up to 100% of DROP account, $5,000 Lump Sum payment, and/or a portion of monthly annuity may be deposited and earn the same interest credit as DROP accounts
Proposed	No new funds may be added to PROP accounts

Summary of Plan Benefit Changes for HMEPS

Employee Contributions

Current	Group A: 5.00% Group B: 0.00% Group D: 0.00%
Proposed	Group A: 7.00% for FYE 2018; 8.00% thereafter Group B: 2.00% for FYE 2018; 4.00% thereafter Group D: 3.00% (2.00% for service benefit; 1.00% for cash balance benefit)

Post-Retirement Survivor Benefit (Groups A &B)

Proposed	Group D: Cash Balance Benefit equal to 1.00% employee contributions credited with the DROP interest crediting rate.

Post-Retirement Survivor Benefit (Groups A &B)

Current	100% Joint & Survivor, no actuarial reduction
Proposed	80% Joint & Survivor, no actuarial reduction

Cost of Living Adjustment (COLA)

Current	Group A/B: 3.0% not compounded, if hired before 2005; 2.0% not compounded, if hired after 2004. Group D: 0%
Proposed	50% of the rolling 5 year net investment return minus 2.00% less than the assumed rate of return (currently 5.00%), not less than 0.00% or greater than 2.00%

Deferred Retirement Option Plan (DROP) (Groups A & B)

Current	Interest credited is 50% of the prior year investment return, not less than 2.5% or greater than 7.5% COLA credited to account
Proposed	Interest credited is 50% of the rolling 5 year net investment return, not less than 2.5% or greater than 7.5% COLA credited on or after 62 years of age

FINDINGS AND CONCLUSIONS

Given that the bill provisions for the three retirement systems would strengthen the funding policy and reduce current liabilities, it increases the long-term funding security for all members of the affected retirement systems. It impacts all current and future active members because it increases the employee contributions for all three affected systems. In addition, certain classes of active and inactive members are impacted by changes in plan provisions.

The actuarial review states that each of the affected retirement systems use different actuarial methods and assumptions to determine the annual required contribution. The bill mandates the use of the Ultimate Entry Age Normal cost method and a 7.00% assumed rate of investment return for purposes of determining the annual required contributions. The baseline scenarios in all 4 analyses use an assumed rate of return on assets of 7.00%. The baseline scenario of both HFRRF analyses and the HPOPS analysis use the Individual Entry Age Normal cost method, while HMEPS uses the Ultimate Entry Age Normal cost method.

The bill also requires the starting Actuarial Value of Assets be marked-to-market and recognize the discounted value of the proceeds for the anticipated POBs. The baseline scenario for HFRRF prepared by Conduent uses the smoothed value of assets, while the other 3 analyses use the market value of assets. In addition the analysis for HPOPS includes the discounted value of the POBs in the baseline scenario, while the HMEPS analysis does not. No POB proceeds are anticipated for HFRRF.

There are additional considerations to note for both HFRRF actuarial analyses:

The HFRRF analysis prepared by RHI relies on grouped census data for retirees, disabled members, beneficiaries, and members with deferred benefits, as well as aggregate DROP balances for inactive members as of from the July 1, 2015, provided by the HFRRF actuary. RHI also did not receive a formal actuarial communication from the HFRRF actuary to confirm the plan provisions or actuarial assumptions and methods being used. Given these issues, the actual costs and savings could be materially different from the results provided in the actuarial analysis provided by the City.

The HFRRF analysis prepared by Conduent relies on assumptions, methods, and plan provisions outlined in the draft July 1, 2016 actuarial valuation report. The PRB has not had an opportunity to completely review the assumptions and methods underlying the actuarial analysis, we are therefore unable to speak to the reasonableness of the calculations.

The HFRRF analysis prepared by Conduent under the If Bill Enacted scenario shows a total contribution requirement of 33.60% vs 25.82% for the RHI analysis. The majority of this difference is driven by the difference in AAL and the resulting amortization of the UAAL. The PRB has noted some areas of concern with both analysis (RHI relies on grouped census data) but did not have sufficient time to discuss these areas of concern or the cause of the differences in calculations with the respective actuaries Therefore, the PRB have been unable to reconcile the differences for this review.

Based on the benefit provisions as provided in the analyses from HMEPS, HPOPS and the City for HFRRF, the establishment of the Baseline scenarios, and assuming the issues raised specifically with the HFRRF analysis prepared by RHI would not result in a material difference in results, the actuarial analyses prepared by GRS and RHI provide a reasonable estimate of the changes due to the bill.

Additionally, the actuarial review notes that the bill would require each of the systems to close the existing plan to new entrants and establish a separate cash balance plan for new hires if the funded ratio falls below a specified level in the future. The analysis for HMEPS indicates there is a 55—60% probability that they will fall below the threshold at some point after 2027 and therefore there is a higher probability of the trigger occurring than not occurring. However, the analysis notes that if the funds are comingled for cash flow purposes, establishing a cash balance plan should not impact the analysis. The other analyses did not include an estimate of the respective systems falling below the stated thresholds.

GASB EFFECTS

All three actuarial analyses from HMEPS, HPOPS and the City for HFRRF include data showing impact on accounting information. The passage of SB 2190, CCR, with the assumption and benefit changes (lower discount rate, strengthened funding policy, employee contribution increases, and benefit reductions) is likely to have a positive impact on the retirement systems and the City under the Governmental Accounting Standards Board (GASB) reporting standards (GASB 67 & 68).

Houston Firefighters' Relief & Retirement Fund (Prepared by RHI at the Request of the City) ($ amount in 000s)	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$5,317,821	$4,164,952
Plan Fiduciary Net Position (FNP)	$3,729,670	$3,729,670
Net Pension Liability (NPL)	$1,588,151	$435,282

Houston Police Officer's Pension System ($ amount in 000s)	Baseline	If Bill Enacted
Total Pension Liability (TPL)	$7,400,000	$6,394,000
Plan Fiduciary Net Position (FNP)	$4,080,000	$4,080,000
Net Pension Liability (NPL)	$3,320,000	$2,314,000

Houston Municipal Employees Pension System ($ amount in 000s)	Baseline	If Bill Enacted
Total Pension Liability (TPL)	$5,584,635	$4,859,952
Plan Fiduciary Net Position (FNP)	$2,400,023	$2,400,023
Net Pension Liability (NPL)	$3,184,612	$2,459,929

METHODOLOGY AND STANDARDS

According to the PRB actuaries, to the best of their knowledge, no material biases exist with respect to the data, methods or assumptions used to develop the analyses other than those specifically identified above and in the actuarial review. The PRB did not audit the information provided but has reviewed the information for reasonableness and consistency with other information provided by or for the affected retirement systems. The PRB is not responsible for the accuracy or completeness of the information provided to the agency. All actuarial projections have a degree of uncertainty because they are based on the probability of occurrence of future contingent events. Accordingly, actual results will be different from the results contained in the analysis to the extent actual future experience varies from the experience implied by the assumptions. This analysis is based on the assumption that no other legislative changes affecting the funding or benefits of HFRRF, HPOPS, or HMEPS will be adopted. It should be noted that when several proposals are adopted, the effect of each may be compounded, resulting in a cost that is greater (or less) than the sum of each proposal considered independently.

SOURCES

City of Houston Cost Analysis for HFRRF by David A Sawyer, FSA, EA, MAAA; and Carly A. Nichols, FSA, EA, MAAA, Retirement Horizons Incorporated, March 15, 2017.

HFRRF Actuarial Analysis by David L. Driscoll, FSA, EA, MAAA, FCA, Conduent Business Services, LLC, May 2, 2017

HPOPS Actuarial Analysis by Mark R. Randall, FCA, MAAA, EA; and Joseph P. Newton, FSA, EA, MAAA, Gabriel Roeder Smith & Company, March 7, 2017

HMEPS Actuarial Analysis by Lewis Ward; and Joseph P. Newton, FSA, EA, MAAA, Gabriel Roeder Smith & Company, May 3, 2017.

Actuarial Review by Kenneth J. Herbold, ASA, EA, MAAA, Staff Actuary, Pension Review Board, May 3, 2017.

GLOSSARY

Actuarial Accrued Liability (AAL) -The portion of the PVFB that is attributed to past service.

Actuarial Value of Assets (AVA) - The smoothed value of system's assets.

Amortization Payments - The yearly payments made to reduce the Unfunded Actuarial Accrued Liability (UAAL).

Amortization Period - The number of years required to pay off the unfunded actuarial accrued liability. The State Pension Review Board recommends that funding should be adequate to amortize the UAAL over a period which should not exceed 40 years, with 15-25 years being a more preferable target. An amortization period of 0-15 years is also a more preferable target.

Actuarial Cost Method - A method used by actuaries to divide the Present Value of Future Benefits (PVFB) into the Actuarial Accrued Liability (AAL), the Present Value of Future Normal Costs (PVFNC), and the Normal Cost (NC).

Funded Ratio (FR) - The ratio of actuarial assets to the actuarial accrued liabilities.

Net Pension Liability (NPL) - The liability of employers and non-employer contributing entities for pension benefits shown on the entity's balance sheet for FYE 6/30/2015 and later. The NPL equals the TPL minus the market value of plan assets. (If plan assets exceed the TPL, there is a Net Pension Asset.)

Total Pension Liability (TPL) - The portion of the actuarial present value of projected benefit payments attributed to past periods of employee service under the Entry Age Normal valuation method.

Discount Rate - A single rate used to discount and calculate the TPL which is equivalent to discounting future payments reflected in the TPL at the long-term expected rate of return until plan assets are projected to be exhausted, and discounting at the municipal bond rate for subsequent payments reflected in the TPL.

Market Value of Assets (MVA) - The fair market value of the system's assets.

Normal Cost (NC) - The portion of the PVFB that is attributed to the current year of service.

Present Value of Future Benefits (PVFB) - The present value of all benefits expected to be paid from the plan to current plan participants.

Present Value of Future Normal Costs (PVFNC) - The portion of the PVFB that will be attributed to future years of service.

Unfunded Actuarial Accrued Liability (UAAL) - The Actuarial Accrued Liability (AAL) less the Actuarial Value of Assets (AVA).

Source Agencies: 338 Pension Review Board

LBB Staff: UP

LEGISLATIVE BUDGET BOARD
Austin, Texas

ACTUARIAL IMPACT STATEMENT

85TH LEGISLATIVE REGULAR SESSION

May 4, 2017

TO: Honorable Dan Flynn, Chair, House Committee on Pensions

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **As Engrossed**

The following information was supplied by Agency 338 - Pension Review Board:

SB 2190, as engrossed, would make significant changes to Articles 6243e.2(1) (affecting the Houston Firefighters' Relief & Retirement Fund (HFRRF)), 6243g-4 (affecting the Houston Police Officer's Retirement System (HPOPS)), and 6243h (affecting the Houston Municipal Employees Retirement System (HMEPS)), Revised Civil Statues, to immediately reduce benefits, increase employee contributions, outline funding policies, codify certain actuarial assumptions and methods for purposes of valuing benefits, and detail an approach to making modifications to the assumptions, methods and benefits under certain economic scenarios with the intent of minimizing the volatility of future contribution requirements for the affected retirement systems. Currently, the City of Houston's (the "City") contribution structure for HFRRF is outlined in its governing statute, and for HMEPS and HPOPS the contributions are established through the most recent meet and confer agreements with the City.

The proposed changes of the bill, if enacted, would help strengthen the long-term sustainability and improve the actuarial soundness of the affected retirement systems by lowering the current and future liabilities.

Background on Actuarial Analyses
The actuarial analysis provided by HFRRF relies on assumptions, methods, and plan provisions outlined in the draft July 1, 2016 valuation report. To remain consistent with previous reviews of this bill and in accordance with Texas Government Code Section 802.302(h), the PRB is also including the actuarial analysis prepared by Retirement Horizons Incorporated (RHI) at the direction of the City.

ACTUARIAL EFFECTS

PRB's actuarial review states that the affected retirement systems are currently identified as being actuarially sound under the PRB *Guidelines for Actuarial Soundness*. However, the City has stated that its pension liabilities for the three retirement systems have risen to $8.1 billion and it is facing the prospect of increasing costs that have the potential to outpace its ability to pay. The proposed changes help strengthen the long-term sustainability and improve the actuarial soundness of the affected retirement systems. In addition, because the bill requires an automatic adjustment of the required contributions for HPOPS and HMEPS should the systems not receive the planned POB proceeds; the bill would still serve to improve the actuarial soundness of these two systems.

Further, while the bill requires voter approval for the issuance of POBs, the HPOPS and HMEPS actuarial analyses do not address the impact on future costs if the proceeds of the POBs are not received. However, if the POBs are not issued, the bill would allow HFRRF, HPOPS and HMEPS to rescind, prospectively, any or all benefit changes made effective under the bill, or allow HPOPS and HMEPS to reestablish the deadline of the delivery of the POB proceeds, if the city fails to deliver the proceeds of the pension obligation bonds before March 31, 2018.

Accordingly, if any or all benefit changes are rescinded for HPOPS, the corridor minimum, maximum, and mid-point contributions would increase. The PRB does not have sufficient data to determine the magnitude of the impact. For HMEPS, based on the actuarial analysis each payment in the Legacy Liability amortization schedule would increase by approximately 10% and the corridor minimum, maximum, and mid-point contributions would increase approximately 1.4%.

Baseline and If Bill Enacted Scenarios

The following tables provide the key financial impact on HFRRF, HPOPS and HMEPS as provided in the actuarial analyses. The Baseline scenario utilizes assumptions, methods, and plan provisions described in the latest valuation reports from the systems (July 1, 2015 valuation reports for HFRRF, prepared by RHI for the City, and HMEPS and July 1, 2016 valuation report for HPOPS), with modifications, including a lowered 7.0% discount rate; the change from an open to a closed 30-year amortization period; and marking the assets to market.

Also, the Baseline scenario for HFRRF (prepared by Conduent) utilizes the assumptions, methods, and plan provisions described in a draft copy of the July 1, 2016 Valuation Report. The assumptions, methods, and plan provisions are substantially the same as the July 1, 2015 Valuation report but utilize a 7.00% assumed rate of return, an updated mortality table and calculates the City contribution based on a 30-year closed amortization period beginning July 1, 2015 (i.e. a 29-year amortization period as of July 1, 2016). Additionally, the Baseline scenario utilizes the smoothed value of assets as of July 1, 2016 and the If Bill Enacted scenario uses the market value of assets, as required by the bill. The If Bill Enacted scenario also makes changes to assumptions, methods, and benefits based on the provisions of the bill as well as expected changes in participant behavior. Please note, for HFRRF, the definition of payroll would be changed under the bill to exclude overtime.

The If Bill Enacted scenario shows the effect of the additional changes to assumptions, methods, increased employee contributions, and the decreased benefit provisions as contained in the bill.

The following tables outline the previously mentioned scenarios.

Houston Firefighters' Relief & Retirement Fund (Prepared by RHI at the Request of the City)	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,223,159	$4,249,641	($973,518)
Actuarial Value of Assets (AVA)	($3,729,670)	($3,729,670)	$0
Unfunded Actuarial Accrued Liability (millions)	$1,493,489	$519,971	($973,518)
Funded Ratio	71.41%	87.76%	16.35%
Employer Normal Cost	34.69%	13.14%	(21.55%)
Administrative Expense	2.00%*	2.00%	0.00%
Amortization Payment**	34.28%	10.68%	(23.60%)
Total Employer Contribution for FYE 2018***	70.97%	25.82%	(45.15%)
Total Employer Contributions for FYE 2018 (as a percentage of gross pay)****	64.59%	23.50%	(41.09%)

**The provision for administrative expenses expressed here exceeds the maximum allowable under the bill, which is 1.25%.*

***The amortization payment for the Baseline scenario has been calculated using a 30-year amortization period in accordance with the City's interpretation of Section 13(d), Article 6243e.2(1), Title 109 Revised Civil Statutes, which means that the retirement system's UAAL will never be completely paid off.*

****The definition of payroll would be changed under the bill to exclude overtime. The City contribution has been calculated as a percentage of pensionable pay, excluding overtime for both the Baseline and If Bill Enacted scenarios.*

*****For comparison purposes, the total employer contribution has also been calculated as a percentage of* *gross pay (including overtime).*

Houston Firefighters' Relief & Retirement Fund (Prepared by Conduent at the Request of HFRRF)	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,189,396	$4,551,412	($637,984)
Actuarial Value of Assets (AVA)*	($4,089,047)	($3,729,670)	$359,377
Unfunded Actuarial Accrued Liability (millions)	$1,100,349	$821,742	($278,607)
Funded Ratio	78.80%	81.95%	3.15%
Employer Normal Cost	29.90%	14.35%	(15.55%)
Administrative Expense	N/A**	1.25%	1.25%
Amortization Payment***	22.30%	18.0%	(4.30%)
Total Employer Contribution for FYE 2018	52.20%	33.60%	(18.60)%
Total Employer Contributions for FYE 2018 (as a percentage of gross pay)	52.20%	30.60%****	(21.60%)

**Smoothed value of assets for the Baseline scenario and market value of assets for the If Bill Enacted scenario.*
***The actuarial analysis does not indicate if there is an explicit assumption for administrative expenses under the Baseline scenario.*
****The amortization payment for the Baseline scenario has been calculated using a 29-year amortization period as of July 1, 2016. The HFRRF Board of Trustees voted October 18, 2016 to interpret Section 13(d), Article 6243e.2(1), Title 109 Revised Civil Statutes to require a finite 30-year amortization period, effective July 1, 2015, rather than an open 30-year amortization period. The PRB is not aware of any reason to change the existing interpretation of the statute at this time.*
*****The total employer contribution has been calculated as a percentage of gross pay (including overtime).*

Houston Police Officer's Retirement System	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.0%	7.0%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$6,894,274	$6,081,391	($812,883)
Actuarial Value of Assets (AVA)	($4,758,079)	($4,758,079)	$0
Unfunded Actuarial Accrued Liability (millions)	$2,136,195	$1,323,312	($812,883)
Funded Ratio	69.01%	78.24%	9.23%
Employer Normal Cost	29.82%	12.86%	(16.96%)
Administrative Expense	1.00%	1.00%	0.00%
Amortization Payment	22.14%	17.91%	(4.23%)
Total Employer Contribution for FYE 2018	52.96%	31.77%	(21.19%)

Both scenarios include the discounted value of expected POB proceeds ($750 million).

Houston Municipal Employees Pension System	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,509,951	$4,734,999	($774,952)

Actuarial Value of Assets (AVA)	($2,400,023)	($2,625,896)	$225,873
Unfunded Actuarial Accrued Liability (millions)	$3,109,928	$2,109103	($1,000,825)
Funded Ratio	43.56%	55.46%	11.90%
Normal Cost (% of payroll)	8.39%	6.98%	(1.41%)
Administrative Expenses	1.19%	1.19%	0.00%
Amortization Payment	29.64%	19.67%	(9.97%)
Total Employer Contribution for FYE 2018	39.22%	27.84%	11.38%

If Bill Enacted scenario includes the discounted value of expected POB proceeds ($250 million).

Corridor Midpoint

The bill establishes a unique funding policy that establishes a "target" contribution rate for the City, develops a minimum and maximum corridor around the City's target contribution rate, and defines steps that must be taken should the annual calculated contribution move outside this corridor. Generally, for all three retirement systems, the retirement system and the city must jointly determine the expected contribution requirements for the 31-year period beginning with the fiscal year starting July 1, 2017, consisting of the expected normal cost plus a closed 30-year amortization of the unfunded liability as it exists on June 30, 2016. For HFRRF and HPOPS, the sum of the expected normal cost, amortization payment and a provision for administrative expenses for each of the next 31 years becomes the "target" rate or corridor mid-point. For HMEPS, the corridor mid-point is the sum of the normal cost and provision for administrative expenses. The minimum and maximum contribution "corridor" then becomes the rates equal to /-5% of the projected mid-point.

The 30-year amortization schedule of the unfunded liability as of June 30, 2016, known as the legacy liability, is established and treated separately from the corridor for HMEPS, therefore, generally any reference in this statement to outstanding amortization payments, as it relates to HMEPS, does not include the amortization of the legacy liability. Without regard to the legacy liability for HMEPS, the corridor mechanisms for all three systems are similar.

Additionally, in future years, a new base would be established to amortize gains and losses. The losses are amortized over a closed 30-year period, while the gains are amortized over the same period as the largest outstanding liability loss base, the gain and associated loss base are treated as a single base for any future actions.

Once the corridor is established in the initial valuation, it will not change. The following tables outline the estimated 31-year projections of the corridor mid-point for the three systems (and legacy liability amortization schedule for HMEPS) as provided in the actuarial analyses. While the actuarial analysis prepared by Conduent included an estimate of the immediate impact on the FYE 2018 cost, it did not include a projection of annual costs after FY 2018.

Forecast of Corridor Midpoint for HFRRF
Provided by RHI at the Request of the City;

FY	City Normal Cost Rate	Admin Expenses	Amort. Of UAAL	City Cont. Rate
2017				36.48%
2018	13.14%	2.00%	10.68%	25.82%
2019	13.14%	2.00%	10.68%	25.82%
2020	13.14%	2.00%	10.68%	25.82%
2021	13.14%	2.00%	10.68%	25.82%
2022	13.14%	2.00%	10.68%	25.82%
2023	13.14%	2.00%	10.68%	25.82%
2024	13.14%	2.00%	10.68%	25.82%
2025	13.14%	2.00%	10.68%	25.82%
2026	13.14%	2.00%	10.68%	25.82%
2027	13.14%	2.00%	10.68%	25.82%

2028	13.14%	2.00%	10.68%	25.82%
2029	13.14%	2.00%	10.68%	25.82%
2030	13.14%	2.00%	10.68%	25.82%
2031	13.14%	2.00%	10.68%	25.82%
2032	13.14%	2.00%	10.68%	25.82%
2033	13.14%	2.00%	10.68%	25.82%
2034	13.14%	2.00%	10.68%	25.82%
2035	13.14%	2.00%	10.68%	25.82%
2036	13.14%	2.00%	10.68%	25.82%
2037	13.14%	2.00%	10.68%	25.82%
2038	13.14%	2.00%	10.68%	25.82%
2039	13.14%	2.00%	10.68%	25.82%
2040	13.14%	2.00%	10.68%	25.82%
2041	13.14%	2.00%	10.68%	25.82%
2042	13.14%	2.00%	10.68%	25.82%
2043	13.14%	2.00%	10.68%	25.82%
2044	13.14%	2.00%	10.68%	25.82%
2045	13.14%	2.00%	10.68%	25.82%
2046	13.14%	2.00%	10.68%	25.82%
2047	13.14%	2.00%	10.68%	25.82%
2048	13.14%	2.00%	0.00%	15.14%

Corridor Projection Results for HPOPS

Valuation as of July 1,	Employer Normal Cost	Employer Cont Rate for FY Following Val Date	Employer Cont. Rate	Comp (in Millions)	Employer Cont (in Millions)
2016	13.86%	31.77%	31.35%	424.3	133
2017	13.89%	31.85%	31.77%	436	138.5
2018	13.86%	31.82%	31.85%	448	142.7
2019	13.88%	31.84%	31.82%	460.3	146.5
2020	13.95%	31.92%	31.84%	472.9	150.6
2021	14.00%	31.98%	31.92%	485.9	155.1
2022	14.04%	32.03%	31.98%	499.3	159.7
2023	14.07%	32.07%	32.03%	513	164.3
2024	14.09%	32.10%	32.07%	527.1	169.1
2025	14.10%	32.12%	32.10%	541.6	173.9
2026	14.11%	32.13%	32.12%	556.5	178.8
2027	14.11%	32.13%	32.13%	571.8	183.7
2028	14.11%	32.13%	32.13%	587.5	188.8
2029	14.12%	32.14%	32.13%	603.7	194
2030	14.12%	32.14%	32.14%	620.3	199.4
2031	14.12%	32.14%	32.14%	637.4	204.8
2032	14.13%	32.15%	32.14%	654.9	210.5
2033	14.13%	32.14%	32.15%	672.9	216.3
2034	14.13%	32.14%	32.14%	691.4	222.2
2035	14.14%	32.14%	32.14%	710.4	228.3
2036	14.14%	32.14%	32.14%	730	234.6
2037	14.14%	32.13%	32.14%	750.1	241.1
2038	14.15%	32.14%	32.13%	770.7	247.6

2039	14.15%	32.13%	32.14%	791.9	254.5
2040	14.15%	32.13%	32.13%	813.6	261.5
2041	14.16%	32.13%	32.13%	836	268.6
2042	14.16%	32.13%	32.13%	859	276
2043	14.16%	32.13%	32.13%	882.6	283.6
2044	14.17%	32.13%	32.13%	906.9	291.4
2045	14.17%	32.13%	32.13%	931.9	299.4
2046	14.17%	14.17%	32.13%	957.5	307.7
2047	14.18%	14.18%	14.17%	983.8	139.4

Corridor Projection Results for HMEPS

Valuation as of July 1,	Normal Cost/Employer Contribution Rate for Fiscal year Following Valuation Date	Employer Contribution Rate for Fiscal Year	Comp (in Millions)	Legacy Liability Contributions (in Millions)	Employer Contributions (in Millions)
2016	8.17%	29.36%	613.8		180.2
2017	8.21%	8.17%	630.7	124	175.5
2018	8.25%	8.21%	648	127.4	180.6
2019	8.29%	8.25%	665.8	130.9	185.8
2020	8.34%	8.29%	684.1	134.5	191.3
2021	8.37%	8.34%	702.9	138.2	196.9
2022	8.41%	8.37%	722.3	142	202.4
2023	8.44%	8.41%	742.1	145.9	208.4
2024	8.47%	8.44%	762.5	149.9	214.2
2025	8.50%	8.47%	783.5	154.1	220.4
2026	8.52%	8.50%	805.1	158.3	226.8
2027	8.54%	8.52%	827.2	162.7	233.1
2028	8.56%	8.54%	849.9	167.1	239.6
2029	8.58%	8.56%	873.3	171.7	246.4
2030	8.60%	8.58%	897.3	176.4	253.3
2031	8.62%	8.60%	922	181.3	260.5
2032	8.63%	8.62%	947.4	186.3	267.9
2033	8.64%	8.63%	973.4	191.4	275.4
2034	8.64%	8.64%	1,000.20	196.7	283.1
2035	8.65%	8.64%	1,027.70	202.1	290.8
2036	8.65%	8.65%	1,056.00	207.6	299
2037	8.66%	8.65%	1,085.00	213.3	307.1
2038	8.66%	8.66%	1,114.80	219.2	315.8
2039	8.67%	8.66%	1,145.50	225.2	324.5
2040	8.67%	8.67%	1,177.00	231.4	333.5
2041	8.68%	8.67%	1,209.40	237.8	342.6
2042	8.68%	8.68%	1,242.60	244.3	352.1
2043	8.69%	8.68%	1,276.80	251.1	361.9
2044	8.69%	8.69%	1,311.90	258	372
2045	8.70%	8.69%	1,348.00	265.1	382.2
2046	8.70%	8.70%	1,385.00	272.3	392.9
2047	8.71%	8.70%	1,423.10	-	123.9

Actuarial Assumptions and Methods
PRB actuarial review notes that the non-prescribed assumptions and methods used in the analyses from HMEPS, HPOPS and the City for HFRRF are reasonable.

The actuarial review also notes that the HFRRF analysis prepared by Conduent relies on assumptions and methods outlined in the draft July 1, 2016 actuarial valuation report. The PRB has not had an opportunity to completely review the assumptions and methods underlying the actuarial analysis and is therefore unable to speak to their reasonableness.

Additionally, the bill mandates the use of the Ultimate Entry Age Normal (UEAN) cost method and a 7.00% assumed rate of investment return, rather than what the systems used in the most recently published actuarial valuations.

The Entry Age Normal (EAN) level percent of payroll cost method is a mathematical construct designed to spread the costs of a participant's total benefit as a level amount over their entire career. This is done by calculating an annual amount that will remain relatively constant when expressed as a percentage of pay, and be sufficient to fully fund the anticipated benefits when the participant separates service. This results in a relatively stable normal cost contribution requirement from year to year.

The PRB actuarial review further states that the UEAN cost method is a variation of the Entry Age Normal (EAN) cost method. The UEAN cost method calculates the total anticipated benefits, or Present Value of Future Benefits (PVFB), based on a member's actual benefit provisions, but calculates the future accruals or Present Value of Future Normal Costs (PVFFNC) using the benefit provisions for new hires. The Actuarial Accrued Liability (AAL) is the difference between the PVFB and PVFNC. The purpose of this approach is to produce a stable normal cost calculation over the anticipated careers of the entire population, not just over the individual participant's career. When comparing results between these two variations, the UEAN cost method will result in a higher AAL than EAN. However, this is offset by lower expected future normal costs. Both cost methods converge to the same values at the time the participant is expected to separate service.

The following tables show the changes to assumptions and methods for each system.

Summary of Changes in Assumptions for HFRRF
(For the Valuation Prepared by RHI)

	July 1, 2015 Val	Baseline	If Bill Enacted
Cost Method	Individual EAN	Ultimate EAN	Ultimate EAN
Discount Rate	8.50%	7.00%	7.00%
Inflation	3.00%	2.75%	2.75%
Payroll Growth	3.00%	2.75%	2.75%
Individual Pay Increase Rate	Nominal rate = Real rate inflation. No changes were made to the real rate so all nominal rates decreased in accordance with the change in inflation.		
Cost of Living Adjustment	3.00%	3.00%	2.00%
DROP Interest Crediting Rate	8.50%	7.00%	4.75%
DROP Duration	5% 3 years 30% 8 years 65% 10 years	9 years	9 years
Payment of DROP balances	Unknown	Installments over 15 years for active members and 10 years for inactive	A factor of 0.8654 was applied to active DROP balances and a factor of

		members.	0.9105 was applied to inactive DROP balances to account for the 4.75% DROP interest crediting rate.
Development of Valuation Pay	Valuation pay is projected by increasing the prior year's pay with the nominal individual pay increase rate.	Historical valuation pay was regressed with the nominal individual pay increase rate.	Based on input from the City of Houston and the HFRRF actuary, the valuation pay was reduced 9% for future years to account for the removal of overtime.
Load of Nature of Average Monthly Salaries	5% load applied to active liabilities and normal cost for differences between the definition of avg monthly salary (average of the highest 78 pay periods), and the average of the final 78 pay periods.		5% load was removed for members with under 20 years of service.

Summary of Changes in Assumptions for HFRRF
(For the Valuation Prepared by Conduent)

	July 1, 2015 Val	Baseline	If Bill Enacted
Cost Method	Individual EAN	Ultimate EAN	Ultimate EAN
Discount Rate	8.50%	7.00%	7.00%
Active Participant and Non-Disabled Pensioner Mortality	RP-2000 Table projected to year 2025 using Scale AA	RP-2000 Table projected to year 2026 using Scale AA	
Retirement Rates prior to 20 Years of Service	N/A	Members eligible to retire prior to 20 years of service would enter at a rate equal to 1%	
Cost of Living Adjustment	3.00%	3.00%	2.25% for FYE 2018, 2019, and 2020, 2.00% thereafter
DROP Interest Crediting Rate	8.50%	7.00%	4.55%
Development of Valuation Pay	Valuation pay is projected by increasing the prior year's pay with the nominal individual pay increase rate.		Overtime is assumed to represent 9% of eligible compensation
Load of Nature of Average Monthly Salaries	5% load applied to active liabilities and normal cost for differences between the definition of avg monthly salary (average of the highest 78 pay periods), and the average of the final 78 pay periods		5% load was removed for calculating average monthly salary for future normal cost

Asset Valuation Method	Smoothed Value of Assets	Market Value of Assets

Summary of Changes in Assumptions for HPOPS

	July 1, 2016 Val	Baseline	If Bill Enacted
Cost Method	PUC	Individual EAN	Ultimate EAN
Discount Rate	8.00%	7.00%	7.00%
Payroll Growth	3.00%	2.75%	2.75%
Ultimate Salary Increase Rate	2.00%	2.75%	2.75%
Cost of Living Adjustment	2.70%	2.70%	2.00%
DROP Interest Crediting Rate	6.40%	6.40%	5.10%
Retirement Rates	See age/service table in valuation	For members hired after October 9, 2004, 3% per year the member's first retirement eligibility exceeds 45 is added to the retirement rate at first eligibility up to a maximum increase of 30% at age 55. For members in DROP as of July 1, 2016, retirement rates are multiplied by 110% to reflect that future employee contributions are no longer credited to the DROP balance.	

Summary of Changes in Assumptions for HMEPS

	July 1, 2015 Val	Baseline	If Bill Enacted
Discount Rate	8.00%	7.00%	7.00%
Inflation	2.50%	2.25%	2.25%
Payroll Growth	3.00%	2.75%	2.75%
Ultimate Salary Increase Rate	3.25%	3.00%	3.00%
Cost of Living Adjustment	Pre-2005 hires: 3.00% Post-2004 hires: 2.00%	Pre-2005 hires: 3.00% Post-2004 hires: 2.00%	1.00%
DROP Interest Crediting Rate	4.65%	4.65%	4.00%

SYNOPSIS OF PROVISIONS

SB 2190, as engrossed, would amend and add sections to Title 109, Revised Civil Statutes Articles 6243e.2(1), 6243g-4, and 6243h to reduce benefits (summarized in tables below), increase employee contributions (summarized in tables below), outline funding policies, codify certain actuarial assumptions and methods for purposes of valuing benefits, and detail an approach to making modifications to the assumptions, methods and benefits under certain economic scenarios with the intent of minimizing the volatility of future contributions requirements for the affected retirement systems. The bill would also require the city to make contributions as outlined by the risk sharing sections.

Risk Sharing Corridor

The bill would set baseline assumptions in statute to implement the risk sharing corridor. The corridor sets a minimum and maximum city contribution rate. In a falling-cost environment, gains are used to accelerate the payoff of unfunded liabilities or reduce the interest rate. In a rising-cost environment, adjustments are made to the amortization period, employee contributions, or benefits to reduce the city contribution rate.

Additional Reporting Requirements

The bill would add reporting requirements for the three systems, including the requirement to conduct actuarial experience studies at least once every four years with the first experience study for HFRRF no later than September 30, 2020 and for HPOPS no later than September 30, 2022 and for HMEPS published no later than September 30, 2021. The systems must also contract with an investment consultant to perform an audit on investments at least once every three years.

PRB Review of Risk Sharing Valuation Study (RSVS)

The bill would require the systems and City to jointly submit a copy of the RSVS to the PRB for a determination that the pension systems and city are in compliance with the articles. The PRB shall notify the governor, lieutenant governor, the speaker of the house of representatives, and the legislative committees having principal jurisdiction over legislation governing public retirement systems if the PRB determines the system or city is not in compliance with the applicable sections.

City Approval of POBs

The bill would amend Chapter 107, Local Government Code to require voter approval for POBs issued to fund the Houston pension systems.

Delivery of POBs

The bill would allow HFRRF, HPOPS and HMEPS to rescind, prospectively, any or all benefit changes made effective under the bill, or and allow HPOPS and HMEPS to reestablish the deadline of the delivery of the POB proceeds, if the city fails to deliver the proceeds of pension obligation bonds before March 31, 2018. If HPOPS and HMEPS do not receive the proceeds from the POBs by December 31, 2017, the initial RSVS shall be re-prepared without assuming delivery of POB proceeds.

Alternative Retirement Plans

The bill would allow the three retirement systems' boards and the City to enter into a written agreement to offer an alternative retirement plan or plans, including a cash balance retirement plan, if both parties consider it appropriate.

The bill would also require the respective boards to close the existing plan to new entrants and establish a separate cash balance plan for new hires under the following circumstances:

1) For HFRRF and HPOPS, if the plan's ratio of assets to liabilities falls below 65% at any time after June 30, 2021, and
2) For HMEPS, if the plan's ratio of assets to liabilities falls below 60% at any time after June 30, 2027.

The requirement to establish a separate cash balance plan for new hires will not take effect for HMEPS if they do not receive the required POB proceeds. The requirement to establish a separate cash balance plan for new hires will not take effect for HFRRF or HPOPS if HPOPS does not receive the required POB proceeds.

Effective Date

Except as otherwise provided by the Act, the Act takes effect July 1, 2017 if it receives a vote of two-thirds of all the members elected to each house, or September 1, 2017.

Summary of Plan Benefit Changes for HFRRF

Employee Contributions

Current	9.00%
Proposed	10.50%

Final Average Salary

Current	Highest 78 pay periods of salary
Proposed	Hired before the effective date: Highest 78 pay periods of salary, excluding overtime for salary paid after the effective date Hired on or after the effective date: Final 78 pay periods of salary, excluding overtime

Retirement Benefit

Eligibility

Current	20 Years of Service
Proposed	Hired before effective date: 20 Years of Service Hired on or after effective date: Rule of 70

Amount

Current	Final Average Salary x [Years of Service (20 max) x 2.5% Years of Service (>20) x 3.0%; 80% max]
Proposed	Hired before effective date: Member's accrued benefit as of the effective date Final Average Salary x [Years of Service after effective date (20 max) x 2.75% per year Years of Service after effective date (>20) x 2.0%] (The Conduent analysis notes the benefit freeze, but uses average salary at retirement, not at the effective date, to calculate that portion of the benefit.) Hired on or after effective date: Final Average Salary x [Years of Service (20 max) x 2.25% Years of Service (>20) x 2,0%; 80% max]

Termination Benefit

Current	Terminate with at least 10 years of service but less than 20 years of service, choice of: Refund of employee contributions with 5% interest or Final Average Salary x 1.7% x Years of Service, payable at age 50
Proposed	Members hired before the effective date will not receive interest on employee contributions made after the effective date Members hired after the effective date receive a refund of employee contributions without interest only

Cost of Living Adjustment (COLA)

Current	3.0% compounded, beginning at age 48
Proposed	Crediting rate of 100% of the 5 year smoothed return minus 4.75%, not less than 0% or greater than 4%, beginning at age 55 with a 3 year freeze on COLAs for members under 70 years of age. (According to the bill language, this reduction is 5.00% for the fiscal years ending June 30, 2018 and June 30, 2019. The Conduent analysis assumes this is the reduction for FYE 2018, 2019 and 2020. The RHI analysis assumes the 4.75% reduction in all years.)

Deferred Retirement Option Plan (DROP)

Current	Eligibility is 20 Years of Service Interest credited is 100% of the 5 year average investment return, not less than 5.0% or greater than 10.0% COLA credited to account Member contributions credited to account for 10 years Participation limited to 13 years (Conduent actuarial analysis states the

maximum participation is 10 years; RHI actuarial analysis does not mention this maximum participation period, but assumes DROP participation of no more than 9 years, so the maximum has no effect)
Retirement annuity is increased upon exit by 2% per year of DROP participation up to a maximum of 20%

Proposed — Eligibility is 20 Years of Service and must be hired prior to effective date

Interest credited is 65% of the 5 year compounded average investment return, no less than 2.5%

COLA and member contributions not credited to account after effective date

Member's unused leave pay will be contributed and credited to member's DROP account (The Conduent analysis indicates this option is not available)

Participation limited to 13 years

Retirement annuity is increased upon exit by 2% per year of DROP participation up to a maximum of 20% as long as accrued at least 20 years of service as of the effective date (The Conduent analysis does not place any restriction on which DROP participants are eligible for this increase. The RHI actuarial analysis assumes members must be a DROP participant as of the effective date with at least 20 years of service to receive this increase.)

Post Retirement Option Plan (PROP)

Current	Up to 100% of DROP account, $5,000 Lump Sum payment, and/or a portion of monthly annuity may be deposited and earn the same interest credit as DROP accounts
Proposed	No new funds may be added to PROP accounts

Summary of Plan Benefit Changes for HPOPS

Employee Contributions

Current	If sworn prior to October 9, 2004	9.00%
	If sworn after October 9, 2004	10.20%
Proposed	All	10.50%

Retirement Benefit

Eligibility (if sworn after October 9, 2004)

Current	Age 55 with 10 Years of Service
Proposed	Rule of 70

Proposed

Termination Benefit (if sworn after October 9, 2004) (The actuarial analysis does not include this change.)

Eligibility

Current	None
Proposed	10 Years of Service

Amount

Current	None, refund of employee contributions (without interest) only
Proposed	Monthly annuity payable at age 60 equal to Years of Service x 2.25% x Final Average Salary or refund of employee contributions (without interest)

Cost of Living Adjustment (COLA)

Current — Crediting rate of 80% increase in CPI-U, not less than 2,4% or greater than

8.0%

Proposed — Crediting rate of 100% of the 5 year smoothed return minus 5.00%, not less than 0% or greater than 4%

Must be 70 years of age or older as of April 1 for fiscal years ending June 30, 2018, 2019 and 2020 and 55 years of age or older for fiscal years end on or after June 30, 2021

Deferred Retirement Option Plan (DROP) (if sworn prior to October 9, 2004)

Current — Eligibility is 20 Years of Service

Interest credited is 100% of the 5 year average investment return, not less than 3.0% or greater than 7.0%

COLA credited to account

8.75% of member contributions are credited to account

No maximum participation period

Retirement annuity is recalculated upon exit as the greater of annuity credited to DROP immediately prior to DROP exit (i.e. including COLA) or using service at DROP entry and Final Average salary at DROP exit

Proposed — No entry after June 30, 2027

Interest credited is 65% of the 5 year compounded average investment return, no less than 2.5%

COLAs occurring after effective date not credited to account

Member contributions not credited to account

Participation limited to 20 years

No recalculation of annuity at DROP exit

Post Retirement Option Plan (PROP) (if sworn prior to October 9, 2004)

Current — Up to 100% of DROP account, $5,000 Lump Sum payment, and/or a portion of monthly annuity may be deposited and earn the same interest credit as DROP accounts

Proposed — No new funds may be added to PROP accounts

Summary of Plan Benefit Changes for HMEPS

Employee Contributions

Current — Group A: 5.00%
Group B: 0.00%
Group D: 0.00%

Proposed — Group A: 7.00% for FYE 2018; 8.00% thereafter
Group B: 2.00% for FYE 2018; 4.00% thereafter
Group D: 3.00% (2.00% for service benefit; 1.00% for cash balance benefit)

Post-Retirement Survivor Benefit (Groups A &B)

Proposed — Group D: Cash Balance Benefit equal to 1.00% employee contributions credited with the DROP interest crediting rate.

Post-Retirement Survivor Benefit (Groups A &B)

Current	100% Joint & Survivor, no actuarial reduction
Proposed	80% Joint & Survivor, no actuarial reduction

Cost of Living Adjustment (COLA)

Current	Group A/B: 3.0% not compounded, if hired before 2005; 2.0% not compounded, if hired after 2004. Group D: 0%
Proposed	50% of the rolling 5 year net investment return minus 2.00% less than the assumed rate of return (currently 5.00%), not less than 0.00% or greater than 2.00%

Deferred Retirement Option Plan (DROP) (Groups A & B)

Current	Interest credited is 50% of the prior year investment return, not less than 2.5% or greater than 7.5% COLA credited to account
Proposed	Interest credited is 50% of the rolling 5 year net investment return, not less than 2.5% or greater than 7.5% COLA credited on or after 62 years of age

FINDINGS AND CONCLUSIONS

Given that the bill provisions for the three retirement systems would strengthen the funding policy and reduce current liabilities, it increases the long-term funding security for all members of the affected retirement systems. It impacts all current and future active members because it increases the employee contributions for all three affected systems. In addition, certain classes of active and inactive members are impacted by changes in plan provisions.

The actuarial review states that each of the affected retirement systems use different actuarial methods and assumptions to determine the annual required contribution. The bill mandates the use of the Ultimate Entry Age Normal cost method and a 7.00% assumed rate of investment return for purposes of determining the annual required contributions. The baseline scenarios in all 4 analyses use an assumed rate of return on assets of 7.00%. The baseline scenario of both HFRRF analyses and the HPOPS analysis use the Individual Entry Age Normal cost method, while HMEPS uses the Ultimate Entry Age Normal cost method.

The bill also requires the starting Actuarial Value of Assets be marked-to-market and recognize the discounted value of the proceeds for the anticipated POBs. The baseline scenario for HFRRF prepared by Conduent uses the smoothed value of assets, while the other 3 analyses use the market value of assets. In addition the analysis for HPOPS includes the discounted value of the POBs in the baseline scenario, while the HMEPS analysis does not. No POB proceeds are anticipated for HFRRF.

There are additional considerations to note for both HFRRF actuarial analyses:

The HFRRF analysis prepared by RHI relies on grouped census data for retirees, disabled members, beneficiaries, and members with deferred benefits, as well as aggregate DROP balances for inactive members as of from the July 1, 2015, provided by the HFRRF actuary. RHI also did not receive a formal actuarial communication from the HFRRF actuary to confirm the plan provisions or actuarial assumptions and methods being used. Given these issues, the actual costs and savings could be materially different from the results provided in the actuarial analysis provided by the City.

The HFRRF analysis prepared by Conduent relies on assumptions, methods, and plan provisions outlined in the draft July 1, 2016 actuarial valuation report. The PRB has not had an opportunity to completely review the assumptions and methods underlying the actuarial analysis, we are therefore unable to speak to the reasonableness of the calculations.

The HFRRF analysis prepared by Conduent under the If Bill Enacted scenario shows a total contribution requirement of 33.60% vs 25.82% for the RHI analysis. The majority of this difference is driven by the difference in AAL and the resulting amortization of the UAAL. The PRB has noted some areas of concern with both analysis (RHI relies on grouped census data) but did not have sufficient time to discuss these areas of concern or the cause of the differences in calculations with the respective actuaries. Therefore, the PRB have been unable to reconcile the differences for this review.

Based on the benefit provisions as provided in the analyses from HMEPS, HPOPS and the City for HFRRF, the establishment of the Baseline scenarios, and assuming the issues raised specifically with the HFRRF analysis prepared by RHI would not result in a material difference in results, the actuarial analyses prepared by GRS and RHI provide a reasonable estimate of the changes due to the bill.

Additionally, the actuarial review notes that the bill would require each of the systems to close the existing plan to new entrants and establish a separate cash balance plan for new hires if the funded ratio falls below a specified level in the future. The analysis for HMEPS indicates there is a 55—60% probability that they will fall below the threshold at some point after 2027 and therefore there is a higher probability of the trigger occurring than not occurring. Should this occur, the analysis indicates the estimated impact would be an increase in the discounted value of employer contributions ranging from $72 million to $222 million. The analysis further notes that if the bill language is clarified to indicate that a completely separate plan is not required, but instead the funds are comingled for cash flow purposes, the original analysis is not impacted. The PRB has not had an opportunity to review the assumptions and methods for developing the probability or the range so cannot speak to the reasonableness of this specific projection. The other analyses did not include an estimate of the respective systems falling below the stated thresholds.

GASB EFFECTS

All three actuarial analyses from HMEPS, HPOPS and the City for HFRRF include data showing impact on accounting information. The passage of SB 2190, as engrossed, with the assumption and benefit changes (lower discount rate, strengthened funding policy, employee contribution increases, and benefit reductions) is likely to have a positive impact on the retirement systems and the City under the Governmental Accounting Standards Board (GASB) reporting standards (GASB 67 & 68).

Houston Firefighters' Relief & Retirement Fund (Prepared by RHI at the Request of the City) ($ amount in 000s)	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$5,317,821	$4,164,952
Plan Fiduciary Net Position (FNP)	$3,729,670	$3,729,670
Net Pension Liability (NPL)	$1,588,151	$435,282

Houston Police Officer's Pension System ($ amount in 000s)	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$7,400,000	$6,394,000
Plan Fiduciary Net Position (FNP)	$4,080,000	$4,080,000
Net Pension Liability (NPL)	$3,320,000	$2,314,000

Houston Municipal Employees Pension System ($ amount in 000s)	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$5,584,635	$4,859,952
Plan Fiduciary Net Position (FNP)	$2,400,023	$2,400,023
Net Pension Liability (NPL)	$3,184,612	$2,459,929

METHODOLOGY AND STANDARDS

According to the PRB actuaries, to the best of their knowledge, no material biases exist with respect to the data, methods or assumptions used to develop the analyses other than those specifically identified above and in the actuarial review. The PRB did not audit the information provided but has reviewed the information for reasonableness and consistency with other information provided by or for the affected retirement systems. The PRB is not responsible for the accuracy or completeness of the information provided to the agency. All actuarial projections have a degree of uncertainty because they are based on the probability of occurrence of future contingent events. Accordingly, actual results will be different from the results contained in the analysis to the extent actual future experience varies from the experience implied by the assumptions. This analysis is based on the assumption that no other legislative changes affecting the funding or benefits of HFRRF, HPOPS, or HMEPS will be adopted. It should be noted that when several proposals are adopted, the effect of each may be compounded, resulting in a cost that is greater (or less) than the sum of each proposal considered independently.

SOURCES

City of Houston Cost Analysis for HFRRF by David A Sawyer, FSA, EA, MAAA; and Carly A. Nichols, FSA, EA, MAAA, Retirement Horizons Incorporated, March 15, 2017.

HFRRF Actuarial Analysis by David L. Driscoll, FSA, EA, MAAA, FCA, Conduent Business Services, LLC, May 2, 2017

HPOPS Actuarial Analysis by Mark R. Randall, FCA, MAAA, EA; and Joseph P. Newton, FSA, EA, MAAA, Gabriel Roeder Smith & Company, March 7, 2017.

HMEPS Actuarial Analysis by Lewis Ward; and Joseph P. Newton, FSA, EA, MAAA, Gabriel Roeder Smith & Company, May 3, 2017.

Actuarial Review by Kenneth J. Herbold, ASA, EA, MAAA, Staff Actuary, Pension Review Board, May 3, 2017.

GLOSSARY

Actuarial Accrued Liability (AAL) -The portion of the PVFB that is attributed to past service.

Actuarial Value of Assets (AVA) - The smoothed value of system's assets.

Amortization Payments - The yearly payments made to reduce the Unfunded Actuarial Accrued Liability (UAAL).

Amortization Period - The number of years required to pay off the unfunded actuarial accrued liability. The State Pension Review Board recommends that funding should be adequate to amortize the UAAL over a period which should not exceed 40 years, with 15-25 years being a more preferable target. An amortization period of 0-15 years is also a more preferable target.

Actuarial Cost Method - A method used by actuaries to divide the Present Value of Future Benefits (PVFB) into the Actuarial Accrued Liability (AAL), the Present Value of Future Normal Costs (PVFNC), and the Normal Cost (NC).

Funded Ratio (FR) - The ratio of actuarial assets to the actuarial accrued liabilities.

Net Pension Liability (NPL) - The liability of employers and non-employer contributing entities for pension benefits shown on the entity's balance sheet for FYE 6/30/2015 and later. The NPL equals the TPL minus the market value of plan assets. (If plan assets exceed the TPL, there is a Net Pension Asset.)

Total Pension Liability (TPL) - The portion of the actuarial present value of projected benefit payments attributed to past periods of employee service under the Entry Age Normal valuation method.

Discount Rate - A single rate used to discount and calculate the TPL which is equivalent to discounting future payments reflected in the TPL at the long-term expected rate of return until plan assets are projected to be exhausted, and discounting at the municipal bond rate for subsequent payments reflected in the TPL.

Market Value of Assets (MVA) - The fair market value of the system's assets.

Normal Cost (NC) - The portion of the PVFB that is attributed to the current year of service.

Present Value of Future Benefits (PVFB) - The present value of all benefits expected to be paid from the plan to current plan participants.

Present Value of Future Normal Costs (PVFNC) - The portion of the PVFB that will be attributed to future years of service.

Unfunded Actuarial Accrued Liability (UAAL) - The Actuarial Accrued Liability (AAL) less the Actuarial Value of Assets (AVA).

Source Agencies: 338 Pension Review Board

LBB Staff: UP, KFa

LEGISLATIVE BUDGET BOARD
Austin, Texas

ACTUARIAL IMPACT STATEMENT

85TH LEGISLATIVE REGULAR SESSION

March 26, 2017

TO: Honorable Joan Huffman, Chair, Senate Committee on State Affairs

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **Committee Report 1st House, Substituted**

The following new information was supplied by Agency 338 338 - Pension Review Board:

CSSB 2190 would make significant changes to Articles 6243e.2(1) (affecting the Houston Firefighters' Relief & Retirement Fund (HFRRF)), 6243g-4 (affecting the Houston Police Officer's Retirement System (HPOPS)), and 6243h (affecting the Houston Municipal Employees Retirement System (HMEPS)), Revised Civil Statues, to immediately reduce benefits,increase employee contributions, outline funding policies, codify certain actuarial assumptions and methods for purposes of valuing benefits, and detail an approach to making modifications to the assumptions, methods and benefits under certain economic scenarios with the intent of minimizing the volatility of future contribution requirements for the affected retirement systems. Currently,the City of Houston's (the "City") contribution structure for HFRRF is outlined in its governing statute, and for HMEPS and HPOPS the contributions are established through the most recent meet and confer agreements with the City.

The proposed changes of the bill, if enacted, would help strengthen the long-term sustainability and improve the actuarial soundness of the affected retirement systems by lowering the current and future liabilities.

Background on Actuarial Analyses

It is our understanding that the actuarial analyses relating to CSSB 2190 provided for HPOPS and HMEPS have been completed based on the language developed during negotiations between the City and the respective system. The actuarial analysis provided by HFRRF relies on assumptions,methods, and plan provisions outlined in the July 1, 2016 valuation report which has not been provided to the PRB. In accordance with Texas Government Code Section 802.302(h), the PRB is also including the actuarial analysis prepared by Retirement Horizons Incorporated (RHI) at the direction of the City. In some cases, the plan provisions used in the analyses differ from the language included in CSSB 2190. The PRB has noted in the Synopsis of Provisions section these differences and have provided commentary in the Findings and Conclusions section regarding the potential impact of these differences.

Baseline and If Bill Enacted Scenarios

The following tables provide the key financial impact on HFRRF, HPOPS and HMEPS as provided in the actuarial analyses. The Baseline scenario utilizes assumptions, methods, and plan provisions described in the latest valuation reports from the systems (July 1, 2015 valuation reports for HFRRF (prepared by RHI for the City) and HMEPS and July 1, 2016 valuation report for HPOPS), with modifications, including a lowered 7.0% discount rate; the change from an open to a closed 30-year amortization period; and marking the assets to market.

Also, the Baseline scenario for HFRRF (prepared by Conduent) utilizes the assumptions, methods,and plan provisions described in the July 1, 2016 Valuation Report with smoothed value of assets as of July 1, 2016. The PRB has not been provided with a copy of this report, but has been informed that this valuation uses a 7.00%assumed rate of return and calculates the City contribution based on a 30-year closed amortization period beginning July 1, 2015 (i.e. a 29-year amortization period as of July 1, 2016).

The If Bill Enacted scenario shows the effect of the additional changes to assumptions, methods, increased employee contributions, and the decreased benefit provisions as contained in the bill.

The following tables outline the previously mentioned scenarios.

Houston Firefighters' Relief & Retirement Fund (Prepared by RHI at the Request of the City)	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,223,159	$4,249,641	($973,518)
Actuarial Value of Assets (AVA)	($3,729,670)	($3,729,670)	$0
Unfunded Actuarial Accrued Liability (millions)	$1,493,489	$519,971	($973,518)
Funded Ratio	71.41%	87.76%	16.35%
Employer Normal Cost	34.69%	13.14%	(21.55%)
Administrative Expense	2.00%*	2.00%	0.00%
Amortization Payment	34.28%	10.68%	(23.60%)
Total Employer Contribution for FYE 2018**	70.97%	25.82%	(45.15%)
Total Employer Contributions for FYE 2018 (as a percentage of gross pay)***	64.59%	23.50%	(41.09%)

**The provision for administrative expenses expressed here exceeds the maximum allowable under the bill, which is 1.25%.*

***The definition of payroll would be changed under the bill to exclude overtime. The City contribution has been calculated as a percentage of pensionable pay, excluding overtime for both the Baseline and If Bill Enacted scenarios.*

****For comparison purposes, the total employer contribution has also been calculated as a percentage of gross pay (including overtime).*

Houston Firefighters' Relief & Retirement Fund **(Prepared by Conduent at the Request of HFRRF)**	Baseline	If Bill Enacted	Change
Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,189,396	$4,485,026	($704,370)
Actuarial Value of Assets (AVA)*	($4,089,047)	($3,729,670)	$359,377
Unfunded Actuarial Accrued Liability (millions)	$1,100,349	$755,356	($344,993)
Funded Ratio	78.80%	83.16%	4.36%
Employer Normal Cost	29.90%	13.85%	(16.05%)
Administrative Expense	N/A**	1.25%	1.25%
Amortization Payment***	22.30%	16.50%	(5.80%)
Total Employer Contribution for FYE 2018	52.20%	31.60%	(20.60%)
Total Employer Contributions for FYE 2018 (as a percentage of gross pay)	52.20%	28.80%****	(23.40%)

**Smoothed value of assets for the Baseline scenario and market value of assets for the If Bill Enacted scenario.*

***The actuarial analysis does not indicate if there is an explicit assumption for administrative expenses under the Baseline scenario.*

****The amortization payment for the Baseline scenario has been calculated using a 29-year amortization period as of July 1, 2016.*

*****The total employer contribution has been calculated as a percentage of gross pay(including overtime).*

Houston Police Officer's Retirement System	Baseline	If Bill Enacted	Change
Discount Rate	7.0%	7.0%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$6,894,274	$6,081,391	($812,883)
Actuarial Value of Assets (AVA)	($4,758,079)	($4,758,079)	$0
Unfunded Actuarial Accrued Liability (millions)	$2,136,195	$1,323,312	($812,883)
Funded Ratio	69.01%	78.24%	9.23%
Employer Normal Cost	29.82%	12.86%	(16.96%)
Administrative Expense	1.00%	1.00%	0.00%
Amortization Payment	22.14%	17.91%	(4.23%)
Total Employer Contribution for FYE 2018	52.96%	31.77%	(21.19%)

Both scenarios include the discounted value of expected POB proceeds ($750 million).

Houston Municipal Employees Pension System	Baseline	If Bill Enacted	Change
Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,509,951	$4,734,999	($774,952)
Actuarial Value of Assets (AVA)	($2,400,023)	($2,625,896)	$225,873
Unfunded Actuarial Accrued Liability (millions)	$3,109,928	$2,109103	($1,000,825)
Funded Ratio	43.56%	55.46%	11.90%
Normal Cost (% of payroll)	8.39%	6.98%	(1.41%)
Administrative Expenses	1.19%	1.19%	0.00%
Amortization Payment	29.64%	19.67%	(9.97%)
Total Employer Contribution for FYE 2018	39.22%	27.84%	11.38%

If Bill Enactedscenario includes the discounted value of expected POB proceeds ($250 million).

ACTUARIAL EFFECTS

PRB's actuarial review states that the affected retirement systems are currently identified as being actuarially sound under the PRB *Guidelines for Actuarial Soundness.* However, the City has stated that its pension liabilities for the three retirement systems have risen to $8.1 billion and it is facing the prospect of increasing costs that have the potential to outpace its ability to pay. The proposed changes help strengthen the long-term sustainability and improve the actuarial soundness of the affected retirement systems.

Also, the PRB actuarial review states that the differences in the bill provisions versus the provisions valued in the actuarial analyses would have no material impact on the conclusions regarding actuarial soundness. Further, while the bill requires voter approval for the issuance of POBs, the HPOPS and HMEPS actuarial analyses do not address the impact on future costs if the proceeds of the POBs are not received. However,if the POBs are not issued, the bill provides that the amortization schedule established for the initial liability layer should be adjusted beginning with the annual required contribution for the fiscal year ending June 30, 2019.Since the bill requires an automatic adjustment of the required contributions for HPOPS and HMEPS should the systems not receive the planned POB proceeds;the bill would still serve to improve the actuarial soundness of these two systems.

Corridor Midpoint

The bill establishes a unique funding policy that establishes a "target" contribution rate for the City, develops a minimum and maximum corridor around the City's target contribution rate, and defines steps that must be taken should the annual calculated contribution move outside this corridor. The following tables outline the projected corridor midpoint for the three systems.

Forecast of Corridor Midpoint for HFRRF

(This projection was included in the actuarial analysis provided by RHI.)

FY	City Normal Cost Rate	Admin Expenses	Amort. Of UAAL	City Cont. Rate
2017				36.48%
2018	13.14%	2.00%	10.68%	25.82%
2019	13.14%	2.00%	10.68%	25.82%
2020	13.14%	2.00%	10.68%	25.82%
2021	13.14%	2.00%	10.68%	25.82%
2022	13.14%	2.00%	10.68%	25.82%
2023	13.14%	2.00%	10.68%	25.82%
2024	13.14%	2.00%	10.68%	25.82%
2025	13.14%	2.00%	10.68%	25.82%
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2039	13.14%	2.00%	10.68%	25.82%
2040	13.14%	2.00%	10.68%	25.82%
2041	13.14%	2.00%	10.68%	25.82%
2042	13.14%	2.00%	10.68%	25.82%
2043	13.14%	2.00%	10.68%	25.82%
2044	13.14%	2.00%	10.68%	25.82%
2045	13.14%	2.00%	10.68%	25.82%
2046	13.14%	2.00%	10.68%	25.82%
2047	13.14%	2.00%	10.68%	25.82%
2048	13.14%	2.00%	0.00%	15.14%

Corridor Projection Results for HPOPS

Valuation as of July 1,	Employer Normal Cost	Employer Cont Rate for FY Following Val Date	Employer Cont. Rate	Comp (in Millions)	Employer Cont (in Millions)
2016	13.86%	31.77%	31.35%	424.3	133
2017	13.89%	31.85%	31.77%	436	138.5
2018	13.86%	31.82%	31.85%	448	142.7
2019	13.88%	31.84%	31.82%	460.3	146.5
2020	13.95%	31.92%	31.84%	472.9	150.6
2021	14.00%	31.98%	31.92%	485.9	155.1
2022	14.04%	32.03%	31.98%	499.3	159.7
2023	14.07%	32.07%	32.03%	513	164.3

2024	14.09%	32.10%	32.07%	527.1	169.1
2025	14.10%	32.12%	32.10%	541.6	173.9
2026	14.11%	32.13%	32.12%	556.5	178.8
2027	14.11%	32.13%	32.13%	571.8	183.7
2028	14.11%	32.13%	32.13%	587.5	188.8
2029	14.12%	32.14%	32.13%	603.7	194
2030	14.12%	32.14%	32.14%	620.3	199.4
2031	14.12%	32.14%	32.14%	637.4	204.8
2032	14.13%	32.15%	32.14%	654.9	210.5
2033	14.13%	32.14%	32.15%	672.9	216.3
2034	14.13%	32.14%	32.14%	691.4	222.2
2035	14.14%	32.14%	32.14%	710.4	228.3
2036	14.14%	32.14%	32.14%	730	234.6
2037	14.14%	32.13%	32.14%	750.1	241.1
2038	14.15%	32.14%	32.13%	770.7	247.6
2039	14.15%	32.13%	32.14%	791.9	254.5
2040	14.15%	32.13%	32.13%	813.6	261.5
2041	14.16%	32.13%	32.13%	836	268.6
2042	14.16%	32.13%	32.13%	859	276
2043	14.16%	32.13%	32.13%	882.6	283.6
2044	14.17%	32.13%	32.13%	906.9	291.4
2045	14.17%	32.13%	32.13%	931.9	299.4
2046	14.17%	14.17%	32.13%	957.5	307.7
2047	14.18%	14.18%	14.17%	983.8	139.4

Corridor Projection Results for HMEPS

Valuation as of July 1,	Normal Cost/Employer Contribution Rate for Fiscal year Following Valuation Date	Employer Contribution Rate for Fiscal Year	Comp (in Millions)	Legacy Liability Contributions (in Millions)	Employer Contributions (in Millions)
2016	8.17%	29.36%	613.8		180.2
2017	8.21%	8.17%	630.7	124	175.5
2018	8.25%	8.21%	648	127.4	180.6
2019	8.29%	8.25%	665.8	130.9	185.8
2020	8.34%	8.29%	684.1	134.5	191.3
2021	8.37%	8.34%	702.9	138.2	196.9
2022	8.41%	8.37%	722.3	142	202.4
2023	8.44%	8.41%	742.1	145.9	208.4
2024	8.47%	8.44%	762.5	149.9	214.2
2025	8.50%	8.47%	783.5	154.1	220.4
2026	8.52%	8.50%	805.1	158.3	226.8
2027	8.54%	8.52%	827.2	162.7	233.1
2028	8.56%	8.54%	849.9	167.1	239.6
2029	8.58%	8.56%	873.3	171.7	246.4
2030	8.60%	8.58%	897.3	176.4	253.3
2031	8.62%	8.60%	922	181.3	260.5

2032	8.63%	8.62%	947.4	186.3	267.9
2033	8.64%	8.63%	973.4	191.4	275.4
2034	8.64%	8.64%	1,000.20	196.7	283.1
2035	8.65%	8.64%	1,027.70	202.1	290.8
2036	8.65%	8.65%	1,056.00	207.6	299
2037	8.66%	8.65%	1,085.00	213.3	307.1
2038	8.66%	8.66%	1,114.80	219.2	315.8
2039	8.67%	8.66%	1,145.50	225.2	324.5
2040	8.67%	8.67%	1,177.00	231.4	333.5
2041	8.68%	8.67%	1,209.40	237.8	342.6
2042	8.68%	8.68%	1,242.60	244.3	352.1
2043	8.69%	8.68%	1,276.80	251.1	361.9
2044	8.69%	8.69%	1,311.90	258	372
2045	8.70%	8.69%	1,348.00	265.1	382.2
2046	8.70%	8.70%	1,385.00	272.3	392.9
2047	8.71%	8.70%	1,423.10	-	123.9

Actuarial Assumptions and Methods

The PRB actuaries have also noted in their review that the non-prescribed assumptions and methods used in the other three actuarial analyses are reasonable. The bill mandates the use of the Ultimate Entry Age Normal (UEAN) cost method and a 7.00% assumed rate of investment return, rather than what the systems used in the most recently published actuarial valuations.

The PRB actuarial review noted that the HFRRF analysis prepared by Conduent relies on assumptions,methods, and plan provisions outlined in the July 1, 2016 actuarial valuation report and the changes proposed in the bill. The PRB has not received a copy of this report. Since the PRB actuaries have not had the opportunity to review the majority of the assumptions, methods, or plan provisions underlying the actuarial analysis, they are unable to speak to its reasonableness.

The Entry Age Normal (EAN) level percent of payroll cost method is a mathematical construct designed to spread the costs of a participant's total benefit as a level amount over their entire career. This is done by calculating an annual amount that will remain relatively constant when expressed as a percentage of pay, and be sufficient to fully fund the anticipated benefits when the participant separates service. This results in a relatively stable normal cost contribution requirement from year to year.

The PRB actuarial review further states that the UEAN cost method is a variation of the Entry Age Normal (EAN) cost method. The UEAN cost method calculates the total anticipated benefits, or Present Value of Future Benefits (PVFB), based on a member's actual benefit provisions, but calculates the future accruals or Present Value of Future Normal Costs (PVFFNC)using the benefit provisions for new hires. The Actuarial Accrued Liability(AAL) is the difference between the PVFB and PVFNC. The purpose of this approach is to produce a stable normal cost calculation over the anticipated careers of the entire population, not just over the individual participant's career. When comparing results between these two variations, the UEAN cost method will result in a higher AAL than EAN. However, this is offset by lower expected future normal costs. Both cost methods converge to the same values at the time the participant is expected to separate service.

The following tables show the changes to assumptions and methods for each system.

Summary of Changes in Assumptions for HFRRF

(Prepared by RHI at the Request of the City)

	July 1, 2015 Val	Baseline	If Bill Enacted
Cost Method	Individual EAN	Ultimate EAN	Ultimate EAN
Discount Rate	8.50%	7.00%	7.00%
Inflation	3.00%	2.75%	2.75%
Payroll Growth	3.00%	2.75%	2.75%
Individual Pay Increase Rate	Nominal rate = Real rate inflation. No changes were made to the real rate so all nominal rates decreased in accordance with the change in inflation.		
Cost of Living Adjustment	3.00%	3.00%	2.00%
DROP Interest Crediting Rate	8.50%	7.00%	4.75%
DROP Duration	5% 3 years 30% 8 years 65% 10 years	9 years	9 years
Payment of DROP balances	Unknown	Installments over 15 years for active members and 10 years for inactive members.	A factor of 0.8654 was applied to active DROP balances and a factor of 0.9105 was applied to inactive DROP balances to account for the 4.75% DROP interest crediting rate.
Development of Valuation Pay	Valuation pay is projected by increasing the prior year's pay with the nominal individual pay increase rate.	Historical valuation pay was regressed with the nominal individual pay increase rate.	Based on input from the City of Houston and the HFRRF actuary, the valuation pay was reduced 9% for future years to account for the removal of overtime.
Load of Nature of Average Monthly Salaries	5% load applied to active liabilities and normal cost for differences between the definition of avg monthly salary (average of the highest 78 pay periods), and the average of the final 78 pay periods.		5% load was removed for members with under 20 years of service.

Summary of Changes in Assumptions for HPOPS

	July 1, 2016 Val	Baseline	If Bill Enacted
Cost Method	PUC	Individual EAN	Ultimate EAN
Discount Rate	8.00%	7.00%	7.00%
Payroll Growth	3.00%	2.75%	2.75%
Ultimate Salary Increase Rate	2.00%	2.75%	2.75%
Cost of Living Adjustment	2.70%	2.70%	2.00%
DROP Interest Crediting Rate	6.40%	6.40%	5.10%
Retirement Rates	See age/service table in valuation	For members hired after October 9, 2004, 3% per year the member's first retirement eligibility exceeds 45 is added to the retirement rate at first eligibility up to a maximum increase of 30% at age 55. For members in DROP as of July 1, 2016, retirement rates are multiplied by 110% to reflect that future employee contributions are no longer credited to the DROP balance.	

Summary of Changes in Assumptions for HMEPS

	July 1, 2015 Val	Baseline	If Bill Enacted
Discount Rate	8.00%	7.00%	7.00%
Inflation	2.50%	2.25%	2.25%
Payroll Growth	3.00%	2.75%	2.75%
Ultimate Salary Increase Rate	3.25%	3.00%	3.00%
Cost of Living Adjustment	Pre-2005 hires: 3.00% Post-2004 hires: 2.00%	Pre-2005 hires: 3.00% Post-2004 hires: 2.00%	1.00%
DROP Interest Crediting Rate	4.65%	4.65%	4.00%

SYNOPSIS OF PROVISIONS

CSSB 2190 would amend and add sectiȯns to Title 109, Revised Civil Statutes Articles 6243e.2(1), 6243g-4, and 6243h to reduce benefits (summarized in tables below), increase employee contributions (summarized in tables below), outline funding policies, codify certain actuarial assumptions and methods for purposes of valuing benefits, and detail an approach to making modifications to the assumptions, methods and benefits under certain economic scenarios with the intent of minimizing the volatility of future contributions requirements for the affected retirement systems. The bill would also require the city to make contributions as outlined by the risk sharing sections.

Risk Sharing Corridor

The bill would set baseline assumptions in statute to implement the risk sharing corridor. The corridor sets a minimum and maximum city contribution rate. In a falling-cost environment, gains are used to accelerate the payoff of unfunded liabilities or reduce the interest rate. In arising-cost environment, adjustments are made to the amortization period,employee contributions, or benefits to reduce the city contribution rate.

Additional Reporting Requirements

The bill would add reporting requirements for the three systems, including the requirement to conduct actuarial experience studies at least once every four years with the first experience study for HPOPS and HMEPS published no later than September 30, 2022. The systems must also contract with an investment consultant to perform an audit on investments at least once every three years.

City Approval of POBs

The bill would amend Chapter 107, Local Government Code to require voter approval for POBs issued to fund the Houston pension systems.

Effective Date

Except as otherwise provided by the Act, the Act takes effect July 1, 2017 if it receives a vote of two-thirds of all the members elected to each house, or September 1, 2017.

It is our understanding the actuarial analyses provided for HPOPS and HMEPS have been completed based on the language developed during negotiations between the City and the respective system. The actuarial analysis provided by HFRRF relies on assumptions, methods, and plan provisions outlined in the July 1, 2016 actuarial valuation and the proposed legislation.In accordance with Texas Government Code Section 802.302(h), the actuarial analysis prepared by RHI is also included at the direction of the City. In some cases, the plan provisions uses in the analyses differ from the language included in the bill. We have noted the differences in the following tables, which outline the primary changes to benefit provisions.

Summary of Plan Benefit Changes for HFRRF

Employee Contributions

Current	9.00%
Proposed	10.50%

Final Average Salary

Current	Highest 78 pay periods of salary
Proposed	Final 78 pay periods of salary, excluding overtime

Retirement Benefit

Eligibility

Current	20 Years of Service
Proposed	Hired before effective date: 20 Years of Service or age 50 and 10 Years of Service (RHI analysis does not include 55/10 as a retirement eligibility age) Hired on or after effective date; Rule of 70

Amount

Current	Final Average Salary x [Years of Service (20 max) x 2.5% Years of Service (>20) x 3.0%; 80% max]
Proposed	Hired before effective date: Final Average Salary x [Years of Service prior to effective date (20 max) x 2.5% Years of Service prior to effective date (>20) x 3.0% Years of Service after effective date (20 max) x 2.75% per year Years of Service after effective date (>20) x 2.0%; 80% max] (The RHI and Conduent analyses freeze the accrued benefit as of the effective date rather than just the multiplier) Hired on or after effective date: Final Average Salary x [Years of Service (20 max) x 2.25% Years of Service (>20) x 2,0%; 80% max]

Termination Benefit

Current	Terminate with at least 10 years of service but less than 20 years of service, choice of: Refund of employee contributions with 5% interest or Final Average Salary x 1.7% x Years of Service, payable at age 50
Proposed	Members hired before the effective date will not receive interest on employee contributions made after the effective date Members hired after the effective date receive a refund of employee contributions without interest only

Cost of Living Adjustment (COLA)

Current	3.0% compounded, beginning at age 48
Proposed	Simple crediting rate of 100% of the 5 year smoothed return minus 5.00%%, not less than 0% or greater than 4%, beginning at age 55 with a 3 year freeze on COLAs for members under 70 years of age.

Deferred Retirement Option Plan (DROP)

Current	Eligibility is 20 Years of Service

	Interest credited is 100% of the 5 year average investment return, not less than 5.0% or greater than 10.0%
	COLA credited to account
	Member contributions credited to account for 10 years
	Participation limited to 13 years (Conduent actuarial analysis states the maximum participation is 10 years; RHI actuarial analysis does not mention this maximum participation period, but assumes DROP participation of no more than 9 years, so the maximum has no effect)
	Retirement annuity is increased upon exit by 2% per year of DROP participation up to a maximum of 20%
Proposed	Must be hired prior to effective date
	Eligibility is 20 years of Service or age 55 and 10 years of Service
	Interest credited is 65% of the 5 year compounded average investment return, no less than 5.5%
	COLA and member contributions not credited to account after effective date
	Participation limited to 13 years (The actuarial analysis does not mention this maximum participation period, but assumed DROP participation of no more than 9 years, so the maximum has no effect.)
	Retirement annuity is increased upon exit by 2% per year of DROP participation up to a maximum of 20% as long as accrued at least 20 years of service as of the effective date (The RHI actuarial analysis assumes members must be current DROP participants to receive this increase.)

Post Retirement Option Plan (PROP)

Current	Up to 100% of DROP account, $5,000 Lump Sum payment, and/or a portion of monthly annuity may be deposited and earn the same interest credit as DROP accounts
Proposed	No new funds may be added to PROP accounts

Summary of Plan Benefit Changes for HPOPS

Employee Contributions

Current	If sworn prior to October 9, 2004	9.00%
	If sworn after October 9, 2004	10.20%
Proposed	All	10.50%

Retirement Benefit

Eligibility (if sworn after October 9, 2004)

Current — Age 55 with 10 Years of Service

Proposed — Rule of 70

Amount (if sworn prior to October 9, 2004)

Proposed — Total benefit will be subject to maximum 80% of Final Average Salary (The actuarial analysis does not take into account this maximum.)

Termination Benefit (if sworn after October 9, 2004) (The actuarial analysis does not include this change.)

Eligibility

Current — None

Proposed — 10 Years of Service

Amount

Current — None, refund of employee contributions (without interest) only

Proposed — Monthly annuity payable at age 60 equal to Years of Service x 2.25% x Final Average Salary or refund of employee contributions (without interest)

Cost of Living Adjustment (COLA)

Current — Simple crediting rate of 80% increase in CPI-U, not less than 2,4% or greater than 8.0%

Proposed — Simple crediting rate of 100% of the 5 year smoothed return minus 5.00%, not less than 0% or greater than 4%

Must be 70 years of age or older as of April 1 for fiscal years ending June 30, 2018 and 2019 and 55 years of age or older for fiscal years end on or after June 30, 2021 (The actuarial analysis assumes a COLA is granted for anyone 70 years of age or older for the fiscal year ending June 30, 2020.)

Deferred Retirement Option Plan (DROP) (if sworn prior to October 9, 2004)

Current — Eligibility is 20 Years of Service

Interest credited is 100% of the 5 year average investment return, not less than 3.0% or greater than 7.0%

COLA credited to account

8.75% of member contributions are credited to account

No maximum participation period

Retirement annuity is recalculated upon exit as the greater of annuity credited to DROP immediately prior to DROP exit (i.e. including COLA) or using service at DROP entry and Final Average salary at DROP exit

Proposed — No entry after June 30, 2027

Interest credited is 65% of the 5 year compounded average investment return, no less than 2.5%

COLAs occurring after effective date not credited to account

Member contributions not credited to account

Participation limited to 20 years

No recalculation of annuity at DROP exit

Post Retirement Option Plan (PROP) (if sworn prior to October 9, 2004)

Current — Up to 100% of DROP account, $5,000 Lump Sum payment, and/or a portion of monthly annuity may be deposited and earn the same interest credit as DROP accounts

Proposed — No new funds may be added to PROP accounts

Summary of Plan Benefit Changes for HMEPS

Employee Contributions

Current — Group A: 5.00%

Group B: 0.00%

Group D: 0.00%

Proposed — Group A: 7.00% for FYE 2018; 8.00% thereafter

Group B: 2.00% for FYE 2018; 4.00% thereafter

Group D: 3.00% (2.00% for service benefit; 1.00% for cash balance benefit)

Post-Retirement Survivor Benefit (Groups A &B)

Proposed	Group D: Cash Balance Benefit equal to 1.00% employee contributions credited with the DROP interest crediting rate.

Post-Retirement Survivor Benefit (Groups A &B)

Current	100% Joint & Survivor, no actuarial reduction
Proposed	80% Joint & Survivor, no actuarial reduction

Cost of Living Adjustment (COLA)

Current	Group A/B: 3.0% not compounded, if hired before 2005; 2.0% not compounded, if hired after 2004. Group D: 0%
Proposed	50% of the rolling 5 year net investment return minus 2.00% less than the assumed rate of return (currently 5.00%), not less than 0.00% or greater than 2.00%

Deferred Retirement Option Plan (DROP) (Groups A & B)

Current	Interest credited is 50% of the prior year investment return, not less than 2.5% or greater than 7.5% COLA credited to account
Proposed	Interest credited is 50% of the rolling 5 year net investment return, not less than 2.5% or greater than 7.5% COLA credited on or after 62 years of age

FINDINGS AND CONCLUSIONS

Given that the bill provisions for the three retirement systems would strengthen the funding policy and reduce current liabilities, it increases the long-term funding security for all members of the affected retirement systems. It impacts all current and future active members because it increases the employee contributions for all three affected systems. In addition, certain classes of active and inactive members are impacted by changes in plan provisions.

As noted elsewhere, the benefit provisions valued under the actuarial analyses differ in various ways from the bill language. The PRB's impact statement reviews the benefit provisions evaluated by the actuarial analyses and does not review the additional bill provisions *not* reviewed in the actuarial analyses received by the PRB. The differences are briefly noted below.

For the actuarial analysis of HFRRF prepared by RHI, we note four specific differences between the bill provisions and the actuarial analysis. We do not have sufficient data to determine the direction or magnitude of the impact of these differences, but believe it would be small.

For HPOPS, we note three specific differences between the bill provisions and the actuarial analysis. We do not have sufficient data to determine the direction or magnitude of the impact of these differences, but believe it would be small.

In addition to these changes, there are additional considerations to note for both HFRRF actuarial analyses. The HFRRF analysis prepared by RHI relies on grouped census data for retirees, disabled members,beneficiaries, and members with deferred benefits, as well as aggregate DROP balances for inactive members as of from the July 1, 2015, provided by the HFRRF actuary. RHI also did not receive a formal actuarial communication from the HFRRF actuary to confirm the plan provisions or actuarial assumptions and methods being used. Given these issues, the actual costs and savings could be materially different from the results provided in the actuarial analysis provided by the City.

The HFRRF analysis prepared by Conduent relies on assumptions, methods, and plan provisions outlined in the July 1, 2016 actuarial valuation report and the changes proposed in the bill.

Based on the benefit provisions as provided in the other three analyses, the establishment of the Baseline scenarios, and assuming the issues raised specifically with the HFRRF analysis prepared by RHI would not result in a material difference in results, the actuarial analyses prepared by GRS and RHI provide a reasonable estimate of the changes due to the bill.

GASB EFFECTS

All three actuarial analyses include data showing impact on accounting information. The passage of CSSB 2190 with the assumption and benefit changes (lower discount rate, strengthened funding policy, employee contribution increases, and benefit reductions) is likely to have a positive impact on the retirement systems and the City under the Governmental Accounting Standards Board (GASB) reporting standards (GASB 67 & 68).

Houston Firefighters' Relief & Retirement Fund **(Prepared by RHI at the Request of the City)** **($ amount in 000s)**	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$5,317,821	$4,164,952
Plan Fiduciary Net Position (FNP)	$3,729,670	$3,729,670
Net Pension Liability (NPL)	$1,588,151	$435,282

Houston Police Officer's Pension System **($ amount in 000s)**	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$7,400,000	$6,394,000
Plan Fiduciary Net Position (FNP)	$4,080,000	$4,080,000
Net Pension Liability (NPL)	$3,320,000	$2,314,000

Houston Municipal Employees Pension System **($ amount in 000s)**	**Baseline**	**If Bill Enacted**

Total Pension Liability (TPL)	$5,584,635	$4,859,952
Plan Fiduciary Net Position (FNP)	$2,400,023	$2,400,023
Net Pension Liability (NPL)	$3,184,612	$2,459,929

METHODOLOGY AND STANDARDS

According to the PRB actuaries, to the best of their knowledge, no material biases exist with respect to the data, methods or assumptions used to develop the analyses other than those specifically identified above and in the actuarial review. The PRB did not audit the information provided but has reviewed the information for reasonableness and consistency with other information provided by or for the affected retirement systems. The PRB is not responsible for the accuracy or completeness of the information provided to the agency. All actuarial projections have a degree of uncertainty because they are based on the probability of occurrence of future contingent events. Accordingly, actual results will be different from the results contained in the analysis to the extent actual future experience varies from the experience implied by the assumptions. This analysis is based on the assumption that no other legislative changes affecting the funding or benefits of HFRRF, HPOPS, or HMEPS will be adopted. It should be noted that when several proposals are adopted, the effect of each may be compounded, resulting in a cost that is greater (or less) than the sum of each proposal considered independently.

SOURCES

City of Houston Cost Analysis for HFRRF by David A Sawyer, FSA, EA, MAAA; and Carly A. Nichols, FSA, EA, MAAA, Retirement Horizons Incorporated, March 15, 2017.

HFRRF Actuarial Analysis by David L. Driscoll, FSA,EA, MAAA, FCA; and Janie Shaw, ASA, MAAA, Conduent Business Services, LLC,March 23, 2017

HPOPS Actuarial Analysis by Mark R. Randall, FCA, MAAA,EA; and Joseph P. Newton, FSA, EA, MAAA, Gabriel Roeder Smith & Company, March7, 2017.

HMEPS Actuarial Analysis by Lewis Ward; and Joseph P.Newton, FSA, EA, MAAA, , Gabriel Roeder Smith & Company, February 17, 2017.

Actuarial Review by Robert M. May, FSA, EA, MAAA,Board Actuary; and Kenneth J. Herbold, ASA, EA, MAAA, Staff Actuary, PensionReview Board, March 17, 2017.

GLOSSARY

Actuarial Accrued Liability(AAL) -The portion of the PVFB that is attributed to past service.

Actuarial Value of Assets (AVA)- The smoothed value of system's assets.

Amortization Payments - Theyearly payments made to reduce the Unfunded Actuarial Accrued Liability (UAAL).

Amortization Period - The numberof years required to pay off the unfunded actuarial accrued liability. TheState Pension Review Board recommends that funding should be adequate toamortize the UAAL over a period which should not exceed 40 years, with 15-25years being a more preferable target. An amortization period of 0-15 years isalso a more preferable target.

Actuarial Cost Method - Amethod used by actuaries to divide the Present Value of Future Benefits (PVFB)into the Actuarial Accrued Liability (AAL), the Present Value of Future NormalCosts (PVFNC), and the Normal Cost (NC).

Funded Ratio (FR) - The ratioof actuarial assets to the actuarial accrued liabilities.

Net Pension Liability (NPL) - Theliability of employers and non-employer contributing entities for pensionbenefits shown on the entity's balance sheet for FYE 6/30/2015 and later. TheNPL equals the TPL minus the market value of plan assets. (If plan assetsexceed the TPL, there is a Net Pension Asset.)

Total Pension Liability (TPL) - Theportion of the actuarial present value of projected benefit payments attributedto past periods of employee service under the Entry Age Normal valuationmethod.

Discount Rate - A single rate used todiscount and calculate the TPL which is equivalent to discounting futurepayments reflected in the TPL at the long-term expected rate of return untilplan assets are projected to be exhausted, and discounting at the municipalbond rate for subsequent payments reflected in the TPL.

Market Value of Assets (MVA) -The fair market value of the system's assets.

Normal Cost (NC) - The portionof the PVFB that is attributed to the current year of service.

Present Value of FutureBenefits (PVFB) - The present value of all benefits expected to be paid fromthe plan to current plan participants.

Present Value of Future NormalCosts (PVFNC) - The portion of the PVFB that will be attributed to future yearsof service.

Unfunded Actuarial AccruedLiability (UAAL) - The Actuarial Accrued Liability (AAL) less the ActuarialValue of Assets (AVA).

Source Agencies: 338 Pension Review Board

LBB Staff: UP, KFa

LEGISLATIVE BUDGET BOARD
Austin, Texas

ACTUARIAL IMPACT STATEMENT

85TH LEGISLATIVE REGULAR SESSION

March 18, 2017

TO: Honorable Joan Huffman, Chair, Senate Committee on State Affairs

FROM: Ursula Parks, Director, Legislative Budget Board

IN RE: **SB2190** by Huffman (Relating to the public retirement systems of certain municipalities.), **As Introduced**

The following new information was supplied by Agency 338 338 - Pension Review Board:

SB 2190 would make significant changes to Articles 6243e.2(1) (affecting the Houston Firefighters' Relief & Retirement Fund (HFRRF)), 6243g-4 (affecting the Houston Police Officer's Retirement System(HPOPS)), and 6243h (affecting the Houston Municipal Employees Retirement System (HMEPS)), Revised Civil Statues, to reduce benefits, increase employee contributions, outline funding policies, codify certain actuarial assumption sand methods for purposes of valuing benefits, and detail an approach to making modifications to the assumptions, methods and benefits under certain economic scenarios with the intent of minimizing the volatility of future contribution requirements for the affected retirement systems. Currently, the City of Houston's (City) contribution structure for HFRRF is outlined in its governing statute, and for HMEPS and HPOPS the contributions are established through the most recent meet and confer agreements with the City.

The proposed changes of the bill, if enacted, would help strengthen the long-term sustainability and improve the actuarial soundness of the affected retirement systems by lowering the current and future liabilities.

Background on Actuarial Analyses

It is the our understanding that the actuarial analyses relating to SB 2190 provided for HFRRF, HPOPS, and HMEPS have been completed based on the language developed during negotiations between the City of Houston and the respective system. In some cases, this language differs from the language included in SB 2190. The PRB has noted in the Synopsis of Provisions section the differences between the plan provisions as outlined in the bill and the actuarial analyses and we have provided commentary in the Findings and Conclusions section regarding the potential impact of these differences. In addition, HFRRF did not provide an analysis of the bill. Per Texas Government Code Section 802.302(h), the PRB used an actuarial analysis prepared by Retirement Horizons Incorporated (RHI) at the direction of the City of Houston.

Baseline and If Bill Enacted Scenarios

The following table provides the key financial impact on HFRRF, HPOPS and HMEPS as provided in the actuarial analyses. The Baseline scenario utilizes assumptions, methods, and plan provisions described in the latest valuation reports from the systems (July 1, 2015 valuation reports for HFRRF and HMEPS and July 1, 2016 valuation report for HPOPS), with modifications, including a lowered 7.0% discount rate; the change from an open to a closed 30-year amortization period; and marking the assets to market.

The If Bill Enacted scenario shows the effect of the additional changes to assumptions, methods, increased employee contributions, and the decreased benefit provisions as contained in the bill.

The following tables outline the previously mentioned scenarios.

Houston Firefighters' Relief & Retirement Fund	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.00%	7.00%	
Amortization Method	Ultimate EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,223,159	$4,249,641	($973,518)
Actuarial Value of Assets (AVA)	($3,729,670)	($3,729,670)	$0
Unfunded Actuarial Accrued Liability (millions)	$1,493,489	$519,971	($973,518)
Funded Ratio	71.41%	87.76%	16.35%
Employer Normal Cost	34.69%	13.14%	(21.55%)
Administrative Expense	2.00%	2.00%	0.00%
Amortization Payment	34.28%	10.68%	(23.60%)
Total Employer Contribution for FYE 2018	70.97%	25.82%	(45.15%)

The definition of payroll changes under the bill to exclude overtime. To be consistent, total employer contribution and associated items making up that contribution are reported as a percentage of payroll excluding overtime in both the Baseline and If Bill Enacted scenarios. Also, the provision for administrative expenses expressed here exceeds the maximum allowable under the bill, which is 1.00%.

Houston Police Officer's Retirement System	**Baseline**	**If Bill Enacted**	**Change**
Discount Rate	7.0%	7.0%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$6,894,274	$6,081,391	($812,883)
Actuarial Value of Assets (AVA)	($4,758,079)	($4,758,079)	$0
Unfunded Actuarial Accrued Liability (millions)	$2,136,195	$1,323,312	($812,883)
Funded Ratio	69.01%	78.24%	9.23%
Employer Normal Cost	29.82%	12.86%	(16.96%)
Administrative Expense	1.00%	1.00%	0.00%
Amortization Payment	22.14%	17.91%	(4.23%)
Total Employer Contribution for FYE 2018	52.96%	31.77%	(21.19%)

Both scenarios include the discounted value of expected POB proceeds ($750 million).

Houston Municipal Employees Pension System	**Baseline**	**If Bill Enacted**	**Change**

Discount Rate	7.00%	7.00%	
Amortization Method	Individual EAN	Ultimate EAN	
Actuarial Accrued Liabilities (AAL)	$5,509,951	$4,734,999	($774,952)
Actuarial Value of Assets (AVA)	($2,400,023)	($2,625,896)	$225,873
Unfunded Actuarial Accrued Liability (millions)	$3,109,928	$2,109103	($1,000,825)
Funded Ratio	43.56%	55.46%	11.90%
Normal Cost (% of payroll)	8.39%	6.98%	(1.41%)
Administrative Expenses	1.19%	1.19%	0.00%
Amortization Payment	29.64%	19.67%	(9.97%)
Total Employer Contribution for FYE 2018	39.22%	27.84%	11.38%

If Bill Enacted scenario includes the discounted value of expected POB proceeds ($250 million).Also, the provision for administrative expenses expressed here exceeds the maximum allowable under the bill, which is 1.00%.

ACTUARIAL EFFECTS

PRB's actuarial review states that the affected retirement systems are currently identified as being actuarially sound under the PRB *Guidelines for Actuarial Soundness*. However, the City has stated that its pension liabilities for the three retirement systems have risen to $8.1 billion and it is facing the prospect of increasing costs that have the potential to outpace its ability to pay. The proposed changes help strengthen the long-term sustainability and improve the actuarial soundness of the affected retirement systems.

Also, the PRB actuarial review states that the differences in the bill provisions versus the provisions valued in the actuarial analyses would have no material impact on the conclusions regarding actuarial soundness. Further, while the bill requires voter approval for the issuance of POBs, the HPOPS and HMEPS actuarial analyses do not address the impact on future costs if the proceeds of the POBs are not received. However, if the POBs are not issued, the bill provides that the amortization schedule established for the initial liability layer should be adjusted beginning with the annual required contribution for the fiscal year ending June 30, 2019. Since the bill requires an automatic adjustment of the required contributions for HPOPS and HMEPS should the systems not receive the planned POB proceeds; the bill would still serve to improve the actuarial soundness of these two systems.

Corridor Midpoint

The bill establishes a unique funding and benefit policy that establishes a "target" contribution rate for the City, develops a minimum and maximum corridor around the City's target contribution rate, and defines steps that must be taken should the annual calculated contribution move outside this corridor. The following tables outline the projected corridor midpoint for the three systems.

Forecast of Corridor Midpoint for HFRRF

FY	City Normal Cost Rate	Admin Expenses	Amort. Of UAAL	City Cont. Rate
2017				36.48%
2018	13.14%	2.00%	10.68%	25.82%

2019	13.14%	2.00%	10.68%	25.82%
2020	13.14%	2.00%	10.68%	25.82%
2021	13.14%	2.00%	10.68%	25.82%
2022	13.14%	2.00%	10.68%	25.82%
2023	13.14%	2.00%	10.68%	25.82%
2024	13.14%	2.00%	10.68%	25.82%
2025	13.14%	2.00%	10.68%	25.82%
2026	13.14%	2.00%	10.68%	25.82%
2027	13.14%	2.00%	10.68%	25.82%
2028	13.14%	2.00%	10.68%	25.82%
2029	13.14%	2.00%	10.68%	25.82%
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2038	13.14%	2.00%	10.68%	25.82%
2039	13.14%	2.00%	10.68%	25.82%
2040	13.14%	2.00%	10.68%	25.82%
2041	13.14%	2.00%	10.68%	25.82%
2042	13.14%	2.00%	10.68%	25.82%
2043	13.14%	2.00%	10.68%	25.82%
2044	13.14%	2.00%	10.68%	25.82%
2045	13.14%	2.00%	10.68%	25.82%
2046	13.14%	2.00%	10.68%	25.82%
2047	13.14%	2.00%	10.68%	25.82%
2048	13.14%	2.00%	0.00%	15.14%

Corridor Projection Results for HPOPS

Valuation as of July 1,	Employer Normal Cost	Employer Cont Rate for FY Following Val Date	Employer Cont. Rate	Comp (in Millions)	Employer Cont (in Millions)
2016	13.86%	31.77%	31.35%	424.3	133
2017	13.89%	31.85%	31.77%	436	138.5
2018	13.86%	31.82%	31.85%	448	142.7
2019	13.88%	31.84%	31.82%	460.3	146.5
2020	13.95%	31.92%	31.84%	472.9	150.6
2021	14.00%	31.98%	31.92%	485.9	155.1
2022	14.04%	32.03%	31.98%	499.3	159.7
2023	14.07%	32.07%	32.03%	513	164.3
2024	14.09%	32.10%	32.07%	527.1	169.1
2025	14.10%	32.12%	32.10%	541.6	173.9
2026	14.11%	32.13%	32.12%	556.5	178.8
2027	14.11%	32.13%	32.13%	571.8	183.7
2028	14.11%	32.13%	32.13%	587.5	188.8

2029	14.12%	32.14%	32.13%	603.7	194
2030	14.12%	32.14%	32.14%	620.3	199.4
2031	14.12%	32.14%	32.14%	637.4	204.8
2032	14.13%	32.15%	32.14%	654.9	210.5
2033	14.13%	32.14%	32.15%	672.9	216.3
2034	14.13%	32.14%	32.14%	691.4	222.2
2035	14.14%	32.14%	32.14%	710.4	228.3
2036	14.14%	32.14%	32.14%	730	234.6
2037	14.14%	32.13%	32.14%	750.1	241.1
2038	14.15%	32.14%	32.13%	770.7	247.6
2039	14.15%	32.13%	32.14%	791.9	254.5
2040	14.15%	32.13%	32.13%	813.6	261.5
2041	14.16%	32.13%	32.13%	836	268.6
2042	14.16%	32.13%	32.13%	859	276
2043	14.16%	32.13%	32.13%	882.6	283.6
2044	14.17%	32.13%	32.13%	906.9	291.4
2045	14.17%	32.13%	32.13%	931.9	299.4
2046	14.17%	14.17%	32.13%	957.5	307.7
2047	14.18%	14.18%	14.17%	983.8	139.4

Corridor Projection Results for HMEPS

Valuation as of July 1,	Normal Cost/Employer Contribution Rate for Fiscal year Following Valuation Date	Employer Contribution Rate for Fiscal Year	Comp (in Millions)	Legacy Liability Contributions (in Millions)	Employer Contributions (in Millions)
2016	8.17%	29.36%	613.8		180.2
2017	8.21%	8.17%	630.7	124	175.5
2018	8.25%	8.21%	648	127.4	180.6
2019	8.29%	8.25%	665.8	130.9	185.8
2020	8.34%	8.29%	684.1	134.5	191.3
2021	8.37%	8.34%	702.9	138.2	196.9
2022	8.41%	8.37%	722.3	142	202.4
2023	8.44%	8.41%	742.1	145.9	208.4
2024	8.47%	8.44%	762.5	149.9	214.2
2025	8.50%	8.47%	783.5	154.1	220.4
2026	8.52%	8.50%	805.1	158.3	226.8
2027	8.54%	8.52%	827.2	162.7	233.1
2028	8.56%	8.54%	849.9	167.1	239.6
2029	8.58%	8.56%	873.3	171.7	246.4
2030	8.60%	8.58%	897.3	176.4	253.3
2031	8.62%	8.60%	922	181.3	260.5
2032	8.63%	8.62%	947.4	186.3	267.9
2033	8.64%	8.63%	973.4	191.4	275.4
2034	8.64%	8.64%	1,000.20	196.7	283.1
2035	8.65%	8.64%	1,027.70	202.1	290.8
2036	8.65%	8.65%	1,056.00	207.6	299

2037	8.66%	8.65%	1,085.00	213.3	307.1
2038	8.66%	8.66%	1,114.80	219.2	315.8
2039	8.67%	8.66%	1,145.50	225.2	324.5
2040	8.67%	8.67%	1,177.00	231.4	333.5
2041	8.68%	8.67%	1,209.40	237.8	342.6
2042	8.68%	8.68%	1,242.60	244.3	352.1
2043	8.69%	8.68%	1,276.80	251.1	361.9
2044	8.69%	8.69%	1,311.90	258	372
2045	8.70%	8.69%	1,348.00	265.1	382.2
2046	8.70%	8.70%	1,385.00	272.3	392.9
2047	8.71%	8.70%	1,423.10	-	123.9

Actuarial Assumptions and Methods

The PRB actuaries have noted in their review that the non-prescribed assumptions and methods used in the actuarial analyses are reasonable. The bill mandates the use of the Ultimate Entry Age Normal (UEAN) cost method and a 7.00% assumed rate of investment return, rather than what the systems used in the most recently published actuarial valuations.

The Entry Age Normal (EAN) level percent of payroll cost method is a mathematical construct designed to spread the costs of a participant's total benefit as a level amount over their entire career. This is done by calculating an annual amount that will remain relatively constant when expressed as a percentage of pay, and be sufficient to fully fund the anticipated benefits when the participant separates service. This results in a relatively stable normal cost contribution requirement from year to year.

The PRB actuarial review further states that the UEAN cost method is a variation of the Entry Age Normal (EAN) cost method. The UEAN cost method calculates the total anticipated benefits, or Present Value of Future Benefits (PVFB), based on a member's actual benefit provisions, but calculates the future accruals or Present Value of Future Normal Costs (PVFFNC)using the benefit provisions for new hires. The Actuarial Accrued Liability(AAL) is the difference between the PVFB and PVFNC. The purpose of this approach is to produce a stable normal cost calculation over the anticipated careers of the entire population, not just over the individual participant's career. When comparing results between these two variations, the UEAN cost method will result in a higher AAL than EAN. However, this is offset by lower expected future normal costs. Both cost methods converge to the same values at the time the participant is expected to separate service.

The following tables show the changes to assumptions and methods for each system.

Summary of Changes in Assumptions for HFRRF

	July 1, 2015 Val	Baseline	If Bill Enacted
Cost Method	Individual EAN	Ultimate EAN	Ultimate EAN
Discount Rate	8.50%	7.00%	7.00%
Inflation	3.00%	2.75%	2.75%
Payroll Growth	3.00%	2.75%	2.75%
Individual Pay Increase Rate	Nominal rate = Real rate inflation. No changes were made to the real rate so all nominal rates decreased in accordance with the change in inflation.		

Cost of Living Adjustment	3.00%	3.00%	2.00%
DROP Interest Crediting Rate	8.50%	7.00%	4.75%
DROP Duration	5% 3 years 30% 8 years 65% 10 years	9 years	9 years
Payment of DROP balances	Unknown	Installments over 15 years for active members and 10 years for inactive members.	A factor of 0.8654 was applied to active DROP balances and a factor of 0.9105 was applied to inactive DROP balances to account for the 4.75% DROP interest crediting rate.
Development of Valuation Pay	Valuation pay is projected by increasing the prior year's pay with the nominal individual pay increase rate.	Historical valuation pay was regressed with the nominal individual pay increase rate.	Based on input from the City of Houston and the HFRRF actuary, the valuation pay was reduced 9% for future years to account for the removal of overtime.
Load of Nature of Average Monthly Salaries	5% load applied to active liabilities and normal cost for differences between the definition of avg monthly salary (average of the highest 78 pay periods), and the average of the final 78 pay periods.		5% load was removed for members with under 20 years of service.

Summary of Changes in Assumptions for HPOPS

	July 1, 2016 Val	Baseline	If Bill Enacted
Cost Method	PUC	Individual EAN	Ultimate EAN
Discount Rate	8.00%	7.00%	7.00%
Payroll Growth	3.00%	2.75%	2.75%
Ultimate Salary Increase Rate	2.00%	2.75%	2.75%
Cost of Living Adjustment	2.70%	2.70%	2.00%
DROP Interest Crediting Rate	6.40%	6.40%	5.10%
Retirement Rates	See	For members hired after	

age/service table in valuation	October 9, 2004, 3% per year the member's first retirement eligibility exceeds 45 is added to the retirement rate at first eligibility up to a maximum increase of 30% at age 55. For members in DROP as of July 1, 2016, retirement rates are multiplied by 110% to reflect that future employee contributions are no longer credited to the DROP balance.

Summary of Changes in Assumptions for HMEPS

	July 1, 2015 Val	Baseline	If Bill Enacted
Discount Rate	8.00%	7.00%	7.00%
Inflation	2.50%	2.25%	2.25%
Payroll Growth	3.00%	2.75%	2.75%
Ultimate Salary Increase Rate	3.25%	3.00%	3.00%
Cost of Living Adjustment	Pre-2005 hires: 3.00% Post-2004 hires: 2.00%	Pre-2005 hires: 3.00% Post-2004 hires: 2.00%	1.00%
DROP Interest Crediting Rate	4.65%	4.65%	4.00%

SYNOPSIS OF PROVISIONS

SB 2190 would amend and add sections to Title 109, Revised Civil Statutes Articles 6243e.2(1), 6243g-4, and 6243h to reduce benefits (summarized in tables below), increase employee contributions (summarized in tables below), outline funding policies, codify certain actuarial assumptions and methods for purposes of valuing benefits, and detail an approach to making modifications to the assumptions, methods and benefits under certain economic scenarios with the intent of minimizing the volatility of future contributions requirements for the affected retirement systems. The bill would also require the city to make contributions as outlined by the risk sharing sections.

Risk Sharing Corridor

The bill would set baseline assumptions in statute to implement the risk sharing corridor. The corridor sets a minimum and maximum city contribution rate. In a falling-cost environment, gains are used to accelerate the payoff of unfunded liabilities or reduce the interest rate. In a rising-cost environment, adjustments are made to the amortization period,employee contributions, or benefits to reduce the city contribution rate.

Additional Reporting Requirements

The bill would add reporting requirements, including the requirement to conduct actuarial experience studies at least once every four years with the first experience study published no later than September 30, 2022. The systems must also contract with an outside investment consultant to perform an audit on investments at least once every three years. Final risk sharing valuations must be jointly submitted by the pension systems and the city to the PRB for validation and confirmation that the system and the city are in compliance with the article.

Written Agreements

The bill would allow the system and the city to enter into a written agreement to offer an alternative plan or plans, including defined contribution plans, if both parties consider it appropriate.

City Approval of POBs

The bill would amend Chapter 107, Local Government Code to require voter approval for POBs issued to fund the Houston pension systems.

Effective Date

Except as otherwise provided by the Act, the Act takes effect immediately if it receives a vote of two-thirds of all the members elected to each house, or September 1, 2017.

It is our understanding the actuarial analyses provided for HFRRF, HPOPS and HMEPS have been completed based on the language developed during negotiations between the City of Houston and the respective system. In some cases, this language differs from the language included in the bill. We have noted the differences in the following tables, which outline the primary changes to benefit provisions.

Summary of Plan Benefit Changes for HFRRF

Employee Contributions

Current	9.00%
Proposed	10.50%

Final Average Salary

Current	Highest 78 pay periods of salary
Proposed	Highest 78 pay periods of salary, excluding overtime

Retirement Benefit

Eligibility

Current 20 Years of Service

Proposed Rule of 70 for new hires

Amount

Current Final Average Salary x [Years of Service (20 max) x 2.5% Years of Service (>20) x 3.0%; 80% max]

Proposed Hired on or before effective date:

Final Average Salary x [Years of Service prior to effective date (20 max) x 2.5% Years of Service prior to effective date (>20) x 3.0% Years of Service after effective date (20 max) x 2.75% per year Years of Service after effective date (>20) x 2.0%; 80% max] (The actuarial analysis states no maximum applies to the crediting rate earned after the effective date for members hired prior to the effective date.)

Termination Benefit

Current Terminate with at least 10 years of service but less than 20 years of service, choice of:

Refund of employee contributions with 5% interest or

Final Average Salary x 1.7% x Years of Service, payable at age 50

Proposed Members hire before the effective date will not receive interest on employee contributions made after the effective date

Members hired after the effective date receive a refund of employee contributions without interest only

Cost of Living Adjustment (COLA)

Current 3.0% compounded, beginning at age 48

Proposed Simple crediting rate of 100% of the 5 year smoothed return minus 5.00%%, not less than 0% or greater than 4%

For fiscal years ending June 30, 2018 and 2019, no minimum or maximum applies. For Fiscal years ending June 30, 2018, 2019 and 2020, the member must be 70 years of age or older. Members must be 55 years of age or older for fiscal years ending on or after June 30, 2021

Deferred Retirement Option Plan (DROP)

Current Eligibility is 20 Years of Service

Interest credited is 100% of the 5 year average investment return, not less than 5.0% or greater than 10.0%

COLA and member contributions credited to account

No maximum participation period

Retirement annuity is increased upon exit by 2% per year of DROP participation up to a maximum of 20%

Proposed — Must be hired prior to effective date

Interest credited is 65% of the 5 year compounded average investment return, no less than 5.5%

COLA or member contributions not credited to account for participants who enter DROP on or after effective date (The actuarial analysis assumes this change applies to all current DROP participants, not just those who enter on or after the effective date.)

Member contributions not credited to account

Participation limited to 13 years (The actuarial analysis does not mention this maximum participation period, but assumed DROP participation of no more than 9 years, so the maximum has no effect.)

Retirement annuity is increased upon exit by 2% per year of DROP participation up to a maximum of 20% as long as accrued at least 20 years of service as of the effective date (The actuarial analysis assumes members must be current DROP participants to receive this increase.)

Post Retirement Option Plan (PROP)

Current — Up to 100% of DROP account, $5,000 Lump Sum payment, and/or a portion of monthly annuity may be deposited and earn the same interest credit as DROP accounts

Proposed — No new funds may be added to PROP accounts

Summary of Plan Benefit Changes for HPOPS

Employee Contributions

Current	If sworn prior to October 9, 2004	9.00%
	If sworn after October 9, 2004	10.20%
Proposed	All	10.50%

Retirement Benefit

Eligibility (if sworn after October 9, 2004)

Current — Age 55 with 10 Years of Service

Proposed — Rule of 70

Amount (if sworn prior to October 9, 2004)

Proposed — Total benefit will be subject to maximum 80% of Final Average Salary (The actuarial analysis does not take into account this maximum.)

Termination Benefit (if sworn after October 9, 2004) (The actuarial analysis does not include this change.)

Eligibility

Current	None
Proposed	10 Years of Service

Amount

Current	None, refund of employee contributions (without interest) only
Proposed	Monthly annuity payable at age 60 equal to Years of Service x 2.25% x Final Average Salary or refund of employee contributions (without interest)

Cost of Living Adjustment (COLA)

Current	Simple crediting rate of 80% increase in CPI-U, not less than 2,4% or greater than 8.0%
Proposed	Simple crediting rate of 100% of the 5 year smoothed return minus 5.00%, not less than 0% or greater than 4%
	Must be 70 years of age or older as of April 1 of the fiscal year for fiscal years ending June 30, 2018 and 2019 and 55 years of age or older for fiscal years end on or after June 30, 2021 (The actuarial analysis assumes a COLA is granted for anyone 70 years of age or older for the fiscal year ending June 30, 2020.)

Deferred Retirement Option Plan (DROP) (if sworn prior to October 9, 2004)

Current	Eligibility is 20 Years of Service
	Interest credited is 100% of the 5 year average investment return, not less than 3.0% or greater than 7.0%
	COLA credited to account
	8.75% of member contributions are credited to account
	No maximum participation period
	Retirement annuity is recalculated upon exit as the greater of annuity credited to DROP immediately prior to DROP exit (i.e. including COLA) or using service at DROP entry and Final Average salary at DROP exit
Proposed	No entry after June 30, 2027
	Interest credited is 65% of the 5 year compounded average investment return, no less than 2.5%

COLA not credited to account for participants who enter DROP on or after effective date (The actuarial analysis assumes this change applies to all current DROP participants, not just those who enter on or after the effective date.)

Member contributions not credited to account

Participation limited to 20 years

No recalculation of annuity at DROP exit for participants who enter DROP on or after effective date (The actuarial analysis assumes this change applies to all current DROP participants, not just those who enter on or after the effective date.)

Post Retirement Option Plan (PROP) (if sworn prior to October 9, 2004)

Current — Up to 100% of DROP account, $5,000 Lump Sum payment, and/or a portion of monthly annuity may be deposited and earn the same interest credit as DROP accounts

Proposed — No new funds may be added to PROP accounts

Summary of Plan Benefit Changes for HMEPS

Employee Contributions

Current — Group A: 5.00%

Group B: 0.00%

Group D: 0.00%

Proposed — Group A: 7.00% for FYE 2018; 8.00% thereafter

Group B: 2.00% for FYE 2018; 4.00% thereafter

Group D: 3.00% (2.00% for service benefit; 1.00% for cash balance benefit)

Post-Retirement Survivor Benefit (Groups A &B)

Current — 100% Joint & Survivor, no actuarial reduction

Proposed — 80% Joint & Survivor, no actuarial reduction

Cost of Living Adjustment (COLA)

Current — Group A/B: 3.0% not compounded, if hired before 2005; 2.0% not compounded, if hired after 2004.

Group D: 0%

Proposed — 50% of the rolling 5 year net investment return minus 2.00% less than the assumed rate of return (currently 5.00%), not less than 0.00% or greater than 2.00%

Deferred Retirement Option Plan (DROP) (Groups A & B)

Current — Interest credited is 50% of the prior year investment return, not less than 2.5% or greater than 7.5%

	COLA credited to account
Proposed	Interest credited is 50% of the rolling 5 year net investment return, not less than 2.5% or greater than 7.5%
	COLA credited on or after 62 years of age

FINDINGS AND CONCLUSIONS

Given that the bill provisions for the three retirement systems would strengthen the funding policy and reduce current liabilities, it increases the long-term funding security for all members of the affected retirement systems. It impacts all current and future active members because it increases the employee contributions for all three affected systems. In addition, certain classes of active and inactive members are impacted by changes in plan provisions.

As noted elsewhere, the benefit provisions valued under the actuarial analyses differ in various ways from the bill language. The PRB's impact statement reviews the benefit provisions evaluated by the actuarial analyses and does not review the additional bill provisions *not* reviewed in the actuarial analyses received by the PRB. The differences are briefly noted below.

For HFRRF, we note four (4) specific differences between the bill provisions and the actuarial analysis. Three (3) of the four(4) are related to participation in the DROP. We do not have sufficient data to determine the direction or magnitude of the impact of these differences.

For HPOPS, we note five (5) specific differences between the bill provisions and the actuarial analysis. Overall, incorporating these differences would likely increase the total liability and required employer contributions shown in the analysis. We do not have sufficient data to determine the magnitude of the impact, but believe it would be small.

Additionally, all three analyses make some adjustments to the starting assumptions and methods used in the most recent actuarial valuation in order to establish a "baseline" scenario to "normalize" the calculated liabilities and provide a clearer picture of the impact associated with the assumption, method, and benefit changes required by the bill.

In addition to these changes, there are additional considerations to note for the HFRRF actuarial analysis given it was prepared at the request of the City, and not at the request of the retirement system itself. Specifically, RHI did not have a complete census file and therefore relied on grouped census data for retirees, disabled members, beneficiaries, and members with deferred benefits,as well as aggregate DROP balances for inactive members as of from the July 1,2015, provided by HFRRF actuary. RHI also did not receive a formal actuarial communication from the HFRRF actuary to confirm the plan provisions or actuarial assumptions and methods being used. Given these issues, the actual costs and savings could be materially different from the results provided in the actuarial analysis provided by the City.

Based on the benefit provisions as provided in the analyses, the establishment of the Baseline scenarios for all three retirement systems, and assuming the issues raised specifically with the HFRRF analysis would not result in a material difference in results, the actuarial analyses provide a reasonable estimate of the changes due to the bill.

GASB EFFECTS

All three actuarial analyses include data showing impact on accounting information. The passage of SB 2190 with the assumption and benefit changes (lower discount rate, strengthened funding policy, employee contribution increases, and benefit reductions) is likely to have a positive impact on the retirement systems and the City under the Governmental Accounting Standards Board (GASB) reporting standards (GASB 67 & 68).

Houston Firefighters' Relief & Retirement Fund **($ amount in 000s)**	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$5,317,821	$4,164,952
Plan Fiduciary Net Position (FNP)	$3,729,670	$3,729,670
Net Pension Liability (NPL)	$1,588,151	$435,282

Houston Police Officer's Pension System **($ amount in 000s)**	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$7,400,000	$6,394,000
Plan Fiduciary Net Position (FNP)	$4,080,000	$4,080,000
Net Pension Liability (NPL)	$3,320,000	$2,314,000

Houston Municipal Employees Pension System **($ amount in 000s)**	**Baseline**	**If Bill Enacted**
Total Pension Liability (TPL)	$5,584,635	$4,859,952
Plan Fiduciary Net Position (FNP)	$2,400,023	$2,400,023
Net Pension Liability (NPL)	$3,184,612	$2,459,929

METHODOLOGY AND STANDARDS

According to the PRB actuaries, to the best of their knowledge, no material biases exist with respect to the data, methods or assumptions used to develop the analyses other than those specifically identified above and in the actuarial review. The PRB did not audit the information provided but has reviewed the information for reasonableness and consistency with other information provided by or for the affected retirement systems. The PRB is not responsible for the accuracy or completeness of the information provided to the agency. All actuarial projections have a degree of uncertainty because they are based on the probability of occurrence of future contingent events. Accordingly, actual results will be different from the results contained in the analysis to the extent actual future experience varies from the experience implied by the assumptions. This analysis is based on the assumption that no other legislative changes affecting the funding or benefits of HFRRF, HPOPS, or HMEPS will be adopted. It should be noted that when several proposals are adopted, the effect of each may be compounded, resulting in a cost that is greater (or less) than the sum of each proposal considered independently.

SOURCES

City of Houston Cost Analysis for HFRRF by David A. Sawyer, FSA, EA, MAAA; and Carly A. Nichols, FSA, EA, MAAA, Retirement Horizons Incorporated, March 15, 2017.

HPOPS Actuarial Analysis by Mark R. Randall, FCA, MAAA, EA; and Joseph P. Newton, FSA, EA, MAAA, Gabriel Roeder Smith & Company, March 7, 2017.

HMEPS Actuarial Analysis by Joseph P. Newton, FSA, EA, MAAA; and Lewis Ward, Consultant, Gabriel Roeder Smith & Company, February 17, 2017.

Actuarial Review by Robert M. May, FSA, EA, MAAA, Board Actuary; and Kenneth J. Herbold, ASA, EA, MAAA, Staff Actuary, Pension Review Board, March 17, 2017.

GLOSSARY

Actuarial Accrued Liability(AAL) -The portion of the PVFB that is attributed to past service.

Actuarial Value of Assets (AVA)- The smoothed value of system's assets.

Amortization Payments - The yearly payments made to reduce the Unfunded Actuarial Accrued Liability (UAAL).

Amortization Period - The number of years required to pay off the unfunded actuarial accrued liability. The State Pension Review Board recommends that funding should be adequate to amortize the UAAL over a period which should not exceed 40 years, with 15-25 years being a more preferable target. An amortization period of 0-15 years is also a more preferable target.

Actuarial Cost Method - A method used by actuaries to divide the Present Value of Future Benefits (PVFB) into the Actuarial Accrued Liability (AAL), the Present Value of Future Normal Costs (PVFNC), and the Normal Cost (NC).

Funded Ratio (FR) - The ratio of actuarial assets to the actuarial accrued liabilities.

Net Pension Liability (NPL) - The liability of employers and non-employer contributing entities for pension benefits shown on the entity's balance sheet for FYE 6/30/2015 and later. The NPL equals the TPL minus the market value of plan assets. (If plan assets exceed the TPL, there is a Net Pension Asset.)

Total Pension Liability (TPL) - The portion of the actuarial present value of projected benefit payments attributed to past periods of employee service under the Entry Age Normal valuation method.

Discount Rate - A single rate used to discount and calculate the TPL which is equivalent to discounting future payments reflected in the TPL at the long-term expected rate of return until plan assets are projected to be exhausted, and discounting at the municipal bond rate for subsequent payments reflected in the TPL.

Market Value of Assets (MVA) -The fair market value of the system's assets.

Normal Cost (NC) - The portion of the PVFB that is attributed to the current year of service.

Present Value of Future Benefits (PVFB) - The present value of all benefits expected to be paid from the plan to current plan participants.

Present Value of Future Normal Costs (PVFNC) - The portion of the PVFB that will be attributed to future years of service.

Unfunded Actuarial Accrued Liability (UAAL) - The Actuarial Accrued Liability (AAL) less the Actuarial Value of Assets (AVA).

Source Agencies: 338 Pension Review Board

LBB Staff: UP, NV, KFa