City of El Paso Employees Retirement Trust

Actuarial Experience Study for the Period

September 1, 2018 to August 31, 2022

June 2023

June 6, 2023

Retirement Board
City of El Paso Employees Retirement Trust
1039 Chelsea St.
El Paso, TX 79903

Dear Members of the Board:

We were engaged by the Retirement Board (Board) to study the economic and demographic experience of active and retired members of the City of El Paso Employees Retirement Trust (Plan) for the period September 1, 2018 to August 31, 2022.

The experience study was prepared in accordance with generally accepted actuarial practices and best practices, which suggest that the actuary periodically undertake an experience study of the economic and demographic experience of active and retired members of the Plan, and that these studies generally take place every 4 years. The results of the experience study provide information to assist the Board in assessing whether to adopt new assumptions for determining the Plan's liabilities and contribution rates.

The estimated effects as of September 1, 2022 (the date of the most recent valuation) of the proposed assumptions are shown below (in $000's):

	Current Assumptions	Proposed Assumptions
Actuarial Accrued Liability (AAL)	$ 1,171,460	$ 1,193,501
Actuarial Value of Assets (AVA)	$ 947,404	$ 947,404
Unfunded Actuarial Accrued Liability (UAAL)	$ 224,056	$ 246,097
Funded Ratio (based on AVA)	80.9%	79.4%
Total Normal Cost	$ 21,441	$ 22,136
City's Actuarially Determined Contribution (ADC)		
- Amount	$ 20,690	$ 22,850
- Percent of Pay	11.02%	12.17%
Excess of City's Fixed Contribution Rate Over ADC	3.03%	1.88%
Years to Fund UAAL	14 years	17 years

The Board and staff of the City of El Paso Employees Retirement Trust may use this report for the review of the experience of the Plan. Use of this report for any other purposes or by anyone else may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods or inapplicability of the report for that purpose. Because of the risk of misinterpretation of results, Buck recommends requesting it to perform an advance review of any statement, document, or filing based on information contained in this report. Buck will accept no liability for any such statement, document or filing made without prior review by Buck.

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

The experience study was performed under the overall direction of David Kershner and Elizabeth Wiley, who meet the Qualifications of the American Academy of Actuaries to render the actuarial opinions herein. They are both Fellows of the Society of Actuaries, Enrolled Actuaries, Members of the American Academy of Actuaries, and Fellows of the Conference of Consulting Actuaries.

We would be pleased to discuss the results shown in this report at your convenience. David can be reached at (602) 803-6174 and Beth can be reached at (208) 724-5297 to answer any questions about the report.

Sincerely,

David J. Kershner, FSA, EA, MAAA, FCA
Principal
Buck

Elizabeth A. Wiley, FSA, EA, MAAA, FCA
Senior Consultant
Buck

Contents

Introduction

Assumptions are a key element in an actuarial valuation. In order to perform an actuarial valuation of the assets and liabilities of the Plan, the actuary uses assumptions with respect to each of the following:

1. Investment return on the Plan's funds over the period benefits to current members will be paid, including inflation during the same period.
2. The relative increases in the salary of a member from the date of the valuation to the expected date of separation from active service.
3. The expected mortality rates among retired persons (healthy and disabled).
4. The probabilities of members separating from active service on account of retirement, withdrawal, death and disability.

The actuarial valuation is the method by which the annual funding requirements are determined. Actuarial assumptions do not directly impact the total cost of a retirement program, but they are a key variable in determining the timing of that cost and the allocation of the cost between current and future contributions. The proposed changes in actuarial assumptions reflect the most recent experience as well as future expected experience. Each assumption should reflect the actuary's best estimate of anticipated long-term experience of the Plan.

The objectives of this study are to:

- Determine appropriate rates to anticipate the following events among active members:
  - termination from employment
  - mortality during active service
  - disability retirement
  - normal retirement
  - early retirement
  - salary increases
- Determine appropriate rates to anticipate mortality among healthy and disabled retirees and their dependents.
- Determine forms of payment elected by new retirees.
- Determine married assumption among active members.

Methodology

Data is supplied every two years to the actuary by the staff of the City of El Paso Employees Retirement Trust for purposes of the biennial actuarial valuations of the Plan. This data includes demographic characteristics of current and past members, and salaries for current members. These valuation data files are the basis for the experience study.

Tabulations were compiled that show the distribution by age and/or service of the number of members who were exposed during the 4-year period to the events of termination from employment, retirement, death and disability. A member is considered exposed to an event if he or she meets the age and/or service requirements for that event. The assumed rates of occurrence for each event, which are currently used in the actuarial valuations, were then applied

to the members exposed to determine the number of members expected to separate from service for each category.

The number of members who actually separated from service due to termination from employment, retirement, death or disability were then compared to the expected number. Data may be grouped by age and/or service increments to provide statistically significant results.

In addition to reviewing experience based on the number of members who terminated, retired, died or became disabled, we also reviewed demographic experience on a “benefits-weighted” basis. Benefits-weighted experience gives each member a weight based on the amount of their benefit under the plan, and experience is reviewed by the amount of liability which falls under the assumption studied.

The experience was analyzed for each demographic assumption based on the ratio of Actual experience to Current Expected or New Expected experience (“A/CE” or “A/NE”). The “Actual” experience represents experience which actually occurred for the population. The “Current Expected” experience represents the assumed experience based on the demographic assumptions currently being used in the valuations. The “New Expected” experience represents the assumed experience based on the proposed demographic assumptions had they been used in the most recent valuation. A ratio of 100% means that actual experience matches expected experience. The “A/CE” and “A/NE” ratios shown in this report are based on benefits-weighted experience. The expected salaries as of the end of each period were compared to actual salaries during these periods.

The results of the experience study are the basis for the actuary’s proposed assumption changes. The actuary must also take into account benefit changes that occurred during the experience period. If a change in benefit levels or benefit eligibility was made during the experience period, the actuary should consider the impact the change may have on the data used in the analysis. There have been no significant changes in Plan benefits during the 4-year period ending August 31, 2022.

In addition to comparing actual to expected experience and adjusting the results for special plan benefits and economic conditions, the actuary must consider future expectations of experience due to future plan changes or expected changes in the economy.

To summarize, the actuary’s proposed assumptions are based on the following:

- comparison of actual to expected experience during the most recent 4-year period
- adjustment for special plan benefits and past economic conditions
- adjustment for future plan changes and economic conditions

Each assumption should be the actuary’s best estimate of reasonable long-term expectations.

Actuarial Standards of Practice

The Actuarial Standards Board issues Actuarial Standards of Practice (ASOPs) that all actuaries must follow. The Actuarial Standards of Practice that are applicable to this experience study include No. 4 (Measuring Pension Obligations and Determining Pension Plan Costs or Contributions), No. 27 (Selection of Economic Assumptions for Measuring Pension Obligations), No. 35 (Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations), No. 51 (Assessment of Risks) and No. 56 (Use of Models). Please refer to the September 1, 2022 actuarial valuation report for further details regarding ASOP 51.

ASOPs 27 and 35 require the actuary to disclose the information and analysis used to support the actuary's determination that the assumptions selected by the actuary or with the actuary's advice are reasonable for the purpose of the measurement. Section 1 of this report provides the information and analysis used to support the selection of the proposed demographic and other noneconomic assumptions. Section 2 of this report provides the information and analysis used to support the selection of the proposed economic assumptions.

Actuarial Standard of Practice No. 56 (ASOP 56) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. For this report, Buck used the following:

- internally developed and third-party models to compare actual versus assumed experience and to determine proposed assumptions for valuing the liabilities in the third-party software,
- models described in Section 2 to analyze investment returns and inflation rates,
- third-party software to calculate the Plan's liabilities and costs based on current and proposed assumptions, and
- internally developed models that apply applicable funding methods and policies to the liabilities derived from the output of the third-party software and other inputs, such as plan assets and contributions, to determine contribution rates.

Buck has an extensive review process for annual valuations in which the results of the liability calculations are checked using detailed life sample output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other outputs and the internal models are similarly reviewed in detail and at a higher level for accuracy, reasonability, and consistency with prior results. The models used for annual valuations are used for this report, and any adaptations for this report are checked and reviewed by experts within Buck who are familiar with applicable funding methods, as well as the manner in which the model generates its output. If significant changes are made to the internal models, extra checking and review are completed.

Section 1: Demographic Assumptions

This section compares the actual demographic experience during the 4-year period ending August 31, 2022 with the expected experience (which is based on the current demographic assumptions that have been used since the September 1, 2018 actuarial valuation).

A. Mortality

1. Healthy Pensioners and Beneficiaries

The table below shows the actual and expected number of deaths of healthy pensioners and beneficiaries during the 4-year period ending August 31, 2022. "Exposed" represents the number of lives that could be affected by mortality in the experience study period. "Actual" represents the actual number of deaths that occurred during the 4-year period. "Current Expected" represents the expected number of deaths during the 4-year period based on the current assumptions. "New Expected" represents the expected number of deaths during the 4-year period using the proposed assumptions.

Exposed	Actual (A)	Current Expected (CE)	A/CE[1]	New Expected (NE)	A/NE[1]
13,546	465	466	92%	434	102%

The Society of Actuaries published the results of a major mortality study in October 2014. The standard base table based on that study is called "RP-2014".

The study completed in 2014 excluded experience from public-sector plans. In August 2018, the Society of Actuaries published the results of a study of mortality experience of public-sector plans only. The standard base table from that study, which was finalized in January 2019, is called "Pub-2010". We evaluated both RP-2014 and Pub-2010 and concluded that Pub-2010 was a better fit when compared to Plan experience.

The Society of Actuaries also publishes, generally on an annual basis, generational mortality improvement scales called "MP". The most recently published scale is called "MP-2021".

Because the experience during the 4-year period was not fully credible, we applied the procedure published by the Society of Actuaries[2] for situations with less than full credibility. Based on our analysis, we propose the following mortality assumption for healthy pensioners and beneficiaries:

Pensioner Mortality

- 112% of Pub-2010 General Retiree benefit-weighted table, with MP-2021 generational improvement

Beneficiary Mortality

- 112% of Pub-2010 Contingent Annuitant benefit-weighted table, with MP-2021 generational improvement

[1] Actual to expected ratios are shown on a benefits-weighted basis.

[2] Society of Actuaries August 2017 publication titled *Credibility Educational Resources for Pension Actuaries: Application of Credibility Theory to Mortality Assumption.*

2. Active Members

The experience during the 4-year period was not statistically credible for active members. Therefore, we propose the following mortality assumption for active members (and members who terminate with a deferred vested benefit):

- Active 100% of Pub-2010 General Employee benefit-weighted table, with MP-2021 generational improvement
- Deferred 100% of Pub-2010 General Employee (with a 112% load applied to post-commencement rates) benefit-weighted table, with MP-2021 generational improvement

3. Disabled Members

The experience during the 4-year period was not statistically credible for disabled members. Therefore, we propose the following mortality assumption for disabled members:

- 100% of Pub-2010 Non-Safety Disabled benefit-weighted table, with MP-2021 generational improvement

4. Mortality Improvement Scale

We propose that the mortality improvement scale is updated to the most recently-published MP scale released by the Society of Actuaries (SOA) at the time of the valuation. The MP scale is typically updated annually. However, in light of the COVID-19 pandemic, an MP-2022 scale was not released, and therefore the most up-to-date scale from the SOA at the time of this study is the MP-2021 scale.

B. Termination of Employment (Withdrawal)

The current withdrawal assumption uses a "select and ultimate" table. The withdrawal assumption is higher during the select period (the first five years of a member's career). For all service periods, the withdrawal rates vary based on age.

The following table shows the actual and expected number of terminations of active members during the 4-year period ending August 31, 2022. "Exposed" represents the number of active members that haven't met the age and/or service requirements for retirement under the Plan as of the valuation date over the 4-year period, and may be eligible for termination benefits. "Actual" means the actual number of terminations that occurred during the 4-year period. "Current Expected" means the expected number of terminations during the 4-year period based on the current assumptions. "New Expected" means the expected number of terminations during the 4-year period using the proposed assumptions.

Years of Service	Exposed	Actual (A)	Current Expected (CE)	A/CE[3]	New Expected (NE)	A/NE[4]
Less than 2 years	1,582	130	205	52%	152	69%
2 years	1,703	304	216	119%	234	108%
3 years	1,374	244	152	139%	182	115%
4 years	1,069	159	101	143%	123	121%
5 years	874	103	74	140%	76	129%
6 or more years	3,022	314	237	128%	261	110%

Based on our analysis, we propose changes to the withdrawal assumption as shown in Section 3 of this report.

C. Retirement

The tables below show the actual and expected number of retirements of active members during the 4-year period ending August 31, 2022. "Exposed" represents the number of active members that have met the age and/or service requirements for retirement under the provisions of the Plan as of the valuation date over the 4-year period. "Actual" means the actual number of retirements that occurred during the 4-year period. "Current Expected" means the expected number of retirements during the 4-year period based on the current assumptions. "New Expected" means the expected number of retirements during the 4-year period using the proposed assumptions.

[3] Actual to expected ratios are shown on a benefits-weighted basis.

1. Unreduced Retirement – Tier 1

	Exposed	Actual (A)	Current Expected (CE)	A/CE[4]	New Expected (NE)	A/NE[4]
Male	2,323	403	383	106%	395	103%
Female	1,168	211	181	130%	204	119%

2. Unreduced Retirement – Tier 2

	Exposed	Actual (A)	Current Expected (CE)	A/CE[4]	New Expected (NE)	A/NE[4]
Male	92	14	14	106%	14	106%
Female	33	6	1	149%	1	149%

3. Reduced Retirement – Tier 1

	Exposed	Actual (A)	Current Expected (CE)	A/CE[4]	New Expected (NE)	A/NE[4]
Male	2,311	111	83	140%	99	117%
Female	1,364	66	49	104%	51	102%

4. Reduced Retirement – Tier 2

	Exposed	Actual (A)	Current Expected (CE)	A/CE[4]	New Expected (NE)	A/NE[4]
Male	253	25	5	422%	8	238%
Female	114	8	1	415%	1	266%

Based on our analysis, we propose changes to the retirement assumption as shown in Section 3 of this report.

D. Disability

Data was not statistically credible to analyze disability experience. Currently no disability rates are assumed. We propose implementing a disability table based on the Employees Retirement System of Texas (ERS), interpolating between rates published in the August 1, 2022 ERS valuation report. The proposed disability rates are shown in Section 3 of this report.

E. Overtime

Overtime as a percentage of actual pay for all years included in the study was reasonably close to the current overtime assumption of 4% of base pay. Therefore, we propose no changes to this assumption.

F. Marriage

The current assumption is 100% of active members are married when they retire, with males assumed to be 3 years older than female spouses. Based on the plan experience of new retirees over the 4-year period, we propose no change to the assumed percent married, and we propose changing the spousal age difference to male participants assumed to be 2 years older than female spouses.

The table below summarizes the age difference between members and their spouses for new retirees over the 4-year period with joint life payment forms.

Member	Exposed	Average Age Difference	Current Assumed Age Difference	Proposed Assumed Age Difference
Male	333	2.29	3	2
Female	109	-1.47	-3	-2

G. Form of Payment

The current assumption is that 85% of active members will elect an annuity upon retirement or termination and 15% will elect a return of contributions. The current assumption is that a Single Life Annuity will be elected if the member is single and a 66-2/3% Joint & Survivor Annuity will be elected if member is married upon retirement. We propose no changes to these assumptions.

Section 2: Economic Assumptions

We performed a projection of expected returns and inflation rates using the GEMS© economic scenario generator, developed by Conning and Company. GEMS is an econometric model that incorporates historical data and randomly forecasts future values for inflation and expected returns for all relevant asset classes.

Our projections were done under the approach that the propensity for asset returns and inflation to revert (eventually) to historical norms occurs, recognizing the inherent difficulty in forecasting current conditions to persist for 30+ years. Under this approach, the expectation is that asset returns and inflation rates will center around historical averages.

A. Inflation

Although the inflation rate does not directly impact Plan liabilities, it is a core component of several of the economic assumptions, including the investment return assumption, salary increases and payroll growth rate. The current inflation assumption is 2.50% per year.

The projected inflation rates for the next 10, 20, and 30 years are as follows:

- 10 years: 3.11%
- 20 years: 2.81%
- 30 years: 2.72%

Recent inflation rates have been unusually higher than "normal", which are also reflected in the GEMS projections. Based on our analysis, we propose no change to the current 2.50% assumption for the inflation rate.

B. Investment Return

The investment return assumption is used to discount the projected benefits expected to be paid from the Plan. It is the assumption that has the largest impact on the Actuarial Accrued Liability and contribution rates.

The Plan's most recent asset allocation policy was used in our analysis of expected rates of return:

Asset Class	Allocation
Domestic Equity	31%
Global Equity (non U.S.)	21%
Fixed Income	24%
Private Equity	13%
Real Estate	10%
Cash	1%
Total	100%

The table below shows the GEMS geometric results[4]:

	10 year	20 year	30 year
Expected Value	7.90%	7.71%	7.74%
65th Percentile	9.30%	8.64%	8.59%
35th Percentile	6.46%	6.75%	6.89%

Based on our analysis, we propose no change to the current investment return assumption of 7.25%.

[4] The rates of return shown in this table are after reduction for expenses of approximately 39 basis points.

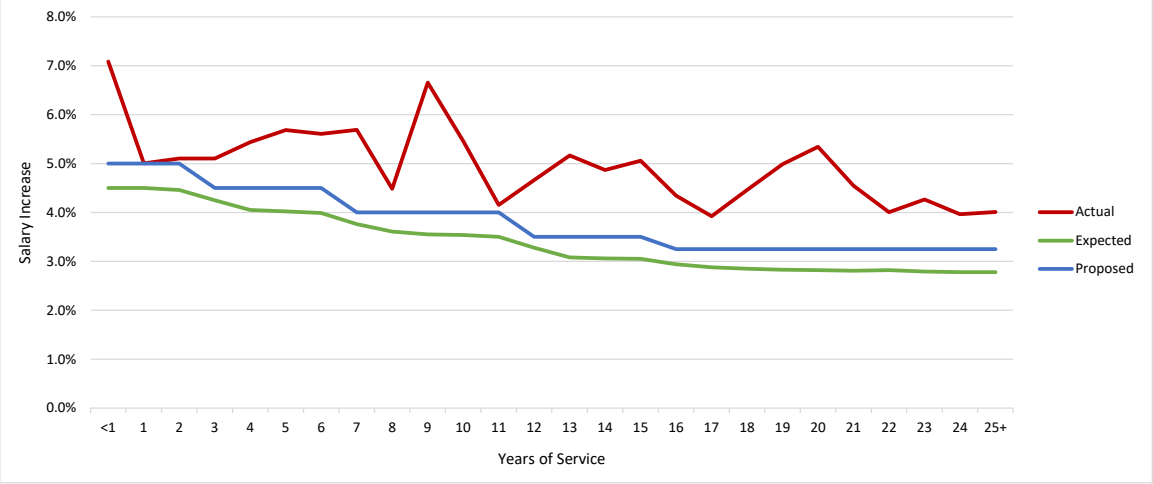
C. Salary Increases

We reviewed the salary increases that active members of the Plan received during the 4-year period ending August 31, 2022. The average annual increases by years of service are shown in the table and graph below.

Notably, the average annual increases from years 2020-2022 produced much higher salary increase rates than expected. We discussed with Plan staff whether these higher salary increase rates can be reasonably assumed to continue. While these higher salary increase rates are not expected to continue into the future, experience and projected future increases substantiate an increase in assumed salary increases. After discussion with Plan staff and input from the City, we propose increasing the assumed annual salary increases by 50 basis points from the current assumption.

Full proposed changes to the salary increase assumption are shown in Section 3 of this report.

Years of Service	Current Assumption	Actual Experience 2018-2020	Actual Experience 2020-2022	Proposed Assumption
0	4.50%	1.01%	6.82%	5.00%
5	4.00%	4.21%	8.10%	4.50%
10	3.50%	4.52%	7.61%	4.00%
15	3.00%	3.19%	6.93%	3.50%
20	2.75%	4.20%	6.88%	3.25%
25	2.75%	4.73%	5.31%	3.25%



Section 3: Current & Proposed Assumptions[5]

Mortality

	Current	Proposed[6]
Active Members	RP-2014 Employee Blue Collar table projected with Scale MP-2019 on a fully generational basis	Pub-2010 General Employee benefit-weighted table projected with Scale MP-2021 on a fully generational basis
Deferred Vested	RP-2014 Employee Blue Collar table projected with Scale MP-2019 on a fully generational basis	Pub-2010 General Retiree benefit-weighted table (with a 112% load applied to post-commencement rates) projected with Scale MP-2021 on a fully generational basis
Healthy Retirees	RP-2014 Healthy Annuitant Blue Collar table (92% of male rates and 100% of female rates) projected with Scale MP-2019 on a fully generational basis	112% of Pub-2010 General Retiree benefit-weighted table projected with Scale MP-2021 on a fully generational basis
Survivors	RP-2014 Healthy Annuitant Blue Collar table (92% of male rates and 100% of female rates) projected with Scale MP-2019 on a fully generational basis	112% of Pub-2010 Contingent Annuitant benefit-weighted table projected with Scale MP-2021 on a fully generational basis
Disabled Retirees	RP-2014 Disabled Annuitant Table projected with Scale MP-2019 on a fully generational basis	Pub-2010 Non-Safety Disabled benefit-weighted table projected with Scale MP-2021 on a fully generational basis

[5] The assumptions that were not studied or have no proposed changes are not shown in this section.
[6] We propose updating the mortality improvement scale to the most recently published mortality improvement scale as of the valuation date.

Salary Increases

Service	Current	Proposed
<3	4.50%	5.00%
3-6	4.00%	4.50%
7-11	3.50%	4.00%
12-15	3.00%	3.50%
16+	2.75%	3.25%

Marriage Assumption

	Current	Proposed
Married percentage	100%	100%
Males older than female spouse	3 years	2 years

Retirement Rates - Current

Age	First Tier			
	Early		Normal	
	Male	Female	Male	Female
40	0.030	0.030	0.000	0.000
41	0.030	0.030	0.000	0.000
42	0.030	0.030	0.000	0.000
43	0.030	0.030	0.000	0.000
44	0.030	0.030	0.000	0.000
45	0.030	0.035	0.060	0.090
46	0.030	0.035	0.060	0.090
47	0.030	0.035	0.060	0.090
48	0.030	0.035	0.060	0.090
49	0.030	0.035	0.060	0.090
50	0.040	0.035	0.060	0.090
51	0.040	0.035	0.060	0.090
52	0.040	0.035	0.060	0.090
53	0.040	0.035	0.120	0.090
54	0.040	0.035	0.120	0.090
55	0.040	0.040	0.120	0.100
56	0.040	0.040	0.120	0.100
57	0.040	0.040	0.120	0.100
58	0.040	0.040	0.120	0.100
59	0.040	0.040	0.120	0.100
60	0.000	0.000	0.120	0.100
61	0.000	0.000	0.120	0.100
62	0.000	0.000	0.175	0.150
63	0.000	0.000	0.175	0.150
64	0.000	0.000	0.175	0.150
65	0.000	0.000	0.250	0.200
66	0.000	0.000	0.250	0.200
67	0.000	0.000	0.250	0.200
68	0.000	0.000	0.400	0.250
69	0.000	0.000	0.400	0.250
70	0.000	0.000	0.400	0.250
71	0.000	0.000	0.400	1.000
72	0.000	0.000	0.400	1.000
73	0.000	0.000	0.600	1.000
74	0.000	0.000	0.600	1.000
75+	0.000	0.000	1.000	1.000

Retirement Rates - Proposed

Age	First Tier			
	Early		Normal	
	Male	Female	Male	Female
40	0.035	0.030	0.000	0.000
41	0.035	0.030	0.000	0.000
42	0.035	0.030	0.000	0.000
43	0.035	0.030	0.000	0.000
44	0.035	0.030	0.000	0.000
45	0.035	0.030	0.000	0.000
46	0.035	0.030	0.000	0.000
47	0.035	0.030	0.000	0.000
48	0.035	0.030	0.000	0.000
49	0.035	0.030	0.000	0.000
50	0.050	0.040	0.100	0.120
51	0.050	0.040	0.100	0.120
52	0.050	0.040	0.100	0.120
53	0.050	0.040	0.100	0.120
54	0.050	0.040	0.100	0.120
55	0.050	0.080	0.135	0.135
56	0.050	0.080	0.135	0.135
57	0.050	0.080	0.135	0.135
58	0.050	0.080	0.135	0.135
59	0.050	0.080	0.135	0.135
60	0.000	0.000	0.150	0.150
61	0.000	0.000	0.150	0.150
62	0.000	0.000	0.150	0.150
63	0.000	0.000	0.150	0.150
64	0.000	0.000	0.150	0.150
65	0.000	0.000	0.300	0.300
66	0.000	0.000	0.300	0.300
67	0.000	0.000	0.300	0.300
68	0.000	0.000	0.300	0.300
69	0.000	0.000	0.300	0.300
70	0.000	0.000	0.300	0.300
71	0.000	0.000	0.300	0.300
72	0.000	0.000	0.300	0.300
73	0.000	0.000	0.300	0.300
74	0.000	0.000	0.300	0.300
75+	0.000	0.000	1.000	1.000

Retirement Rates - Current

Age	Second Tier			
	Early		Normal	
	Male	Female	Male	Female
45	0.025	0.025	0.025	0.025
46	0.025	0.025	0.025	0.025
47	0.025	0.025	0.025	0.025
48	0.025	0.025	0.025	0.025
49	0.025	0.025	0.025	0.025
50	0.015	0.015	0.015	0.015
51	0.015	0.015	0.015	0.015
52	0.015	0.015	0.015	0.015
53	0.015	0.015	0.050	0.050
54	0.015	0.015	0.050	0.050
55	0.015	0.015	0.080	0.070
56	0.015	0.015	0.080	0.070
57	0.015	0.015	0.080	0.070
58	0.015	0.015	0.080	0.070
59	0.015	0.015	0.080	0.070
60	0.000	0.000	0.080	0.070
61	0.000	0.000	0.080	0.070
62	0.000	0.000	0.100	0.070
63	0.000	0.000	0.100	0.120
64	0.000	0.000	0.100	0.120
65	0.000	0.000	0.100	0.120
66	0.000	0.000	0.300	0.120
67	0.000	0.000	0.450	0.120
68	0.000	0.000	0.250	0.200
69	0.000	0.000	0.250	0.200
70	0.000	0.000	0.400	0.200
71	0.000	0.000	0.400	0.200
72	0.000	0.000	0.400	0.200
73	0.000	0.000	0.600	1.000
74	0.000	0.000	0.600	1.000
75+	0.000	0.000	1.000	1.000

Retirement Rates - Proposed

Age	Second Tier			
	Early		Normal	
	Male	Female	Male	Female
45	0.035	0.030	0.025	0.025
46	0.035	0.030	0.025	0.025
47	0.035	0.030	0.025	0.025
48	0.035	0.030	0.025	0.025
49	0.035	0.030	0.025	0.025
50	0.035	0.030	0.015	0.015
51	0.035	0.030	0.015	0.015
52	0.035	0.030	0.015	0.015
53	0.035	0.030	0.050	0.050
54	0.035	0.030	0.050	0.050
55	0.035	0.030	0.080	0.070
56	0.035	0.030	0.080	0.070
57	0.035	0.030	0.080	0.070
58	0.035	0.030	0.080	0.070
59	0.035	0.030	0.080	0.070
60	0.000	0.000	0.080	0.070
61	0.000	0.000	0.080	0.070
62	0.000	0.000	0.100	0.070
63	0.000	0.000	0.100	0.120
64	0.000	0.000	0.100	0.120
65	0.000	0.000	0.100	0.120
66	0.000	0.000	0.300	0.120
67	0.000	0.000	0.450	0.120
68	0.000	0.000	0.250	0.200
69	0.000	0.000	0.250	0.200
70	0.000	0.000	0.400	0.200
71	0.000	0.000	0.400	0.200
72	0.000	0.000	0.400	0.200
73	0.000	0.000	0.600	1.000
74	0.000	0.000	0.600	1.000
75+	0.000	0.000	1.000	1.000

Withdrawal Rates - Current

Age/Service	<2	2	3	4	5	6+
<25	0.150	0.150	0.120	0.120	0.100	0.090
25-29	0.150	0.150	0.120	0.120	0.100	0.090
30-34	0.150	0.150	0.120	0.120	0.100	0.090
35-39	0.150	0.150	0.090	0.120	0.100	0.070
40-44	0.100	0.100	0.090	0.080	0.070	0.070
45-49	0.100	0.100	0.090	0.080	0.070	0.070
50-54	0.075	0.075	0.060	0.040	0.070	0.060
55-59	0.075	0.075	0.060	0.040	0.040	0.060
60+	0.075	0.075	0.060	0.040	0.040	0.060

Withdrawal Rates - Proposed

Age/Service	<2	2	3	4	5	6+
<25	0.130	0.160	0.150	0.150	0.120	0.100
25-29	0.130	0.160	0.150	0.150	0.120	0.100
30-34	0.130	0.160	0.150	0.150	0.120	0.100
35-39	0.060	0.160	0.150	0.150	0.110	0.085
40-44	0.060	0.100	0.150	0.110	0.080	0.085
45-49	0.060	0.100	0.100	0.050	0.080	0.085
50-54	0.060	0.100	0.080	0.050	0.080	0.070
55-59	0.060	0.085	0.080	0.050	0.045	0.070
60+	0.060	0.085	0.080	0.050	0.045	0.070

Disability Rates – Current

None.

Disability Rates – Proposed

Age	Male	Female
25	0.000000	0.000000
26	0.000055	0.000027
27	0.000110	0.000054
28	0.000165	0.000081
29	0.000220	0.000108
30	0.000275	0.000135
31	0.000350	0.000196
32	0.000425	0.000258
33	0.000500	0.000319
34	0.000575	0.000381
35	0.000650	0.000442
36	0.000670	0.000533
37	0.000690	0.000624
38	0.000709	0.000714
39	0.000729	0.000805
40	0.000749	0.000896
41	0.000805	0.001008
42	0.000860	0.001120
43	0.000916	0.001231
44	0.000971	0.001343
45	0.001027	0.001455
46	0.001118	0.001578
47	0.001210	0.001702
48	0.001301	0.001825
49	0.001393	0.001949
50	0.001484	0.002072
51	0.001683	0.002355
52	0.001881	0.002638
53	0.002080	0.002922
54	0.002278	0.003205
55	0.002477	0.003488
56	0.002730	0.003907
57	0.002982	0.004326
58	0.003235	0.004745
59	0.003487	0.005164
60+	0.003740	0.005583