nyhart

Experience Study for

City of New Orleans Employees' Retirement System

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Table of Contents

Objectives and Process

The primary objectives of this study are to measure the recent experience of the City of New Orleans Employees' Retirement System, and recommend, as appropriate, a new set of actuarial assumptions to be used for the annual valuation.

Nyhart gathered data from valuations spanning 1/1/2011 through 1/1/2017. After utilizing the past valuation data as the seven necessary census files, we measured the experience for each of the six years individually. For instance, we determined the withdrawal rates during the period 1/1/2011 – 12/31/2011 by checking to see which members on the 1/1/2011 active file did not appear on the 1/1/2012 active file.

Each of the demographic assumptions analyzed could potentially vary by age or service. We initially looked to see if the structure of the current tables made sense. Did termination rates really differ by age? Did pay increases follow a more predictable pattern when broken down by age or by service?

Once satisfied with the structure of the tables, we charted both the current assumption and the recent actual experience. Our recommended assumption set was our attempt to blend the recent experience with both the current assumption and consideration for how things might change in the future, i.e. future expectations of pay increases. Then, we "smoothed" our rates in order to iron out data anomalies.

Objectives and Process

There are a few key points to note:

- **Plan provisions remained unchanged.** None of the results of this study have any impact on the actual benefits that will be paid out to participants. This study deals only with the underlying actuarial assumptions and thus only affects the levels and timing of the contributions to the plan.

- **Past experience doesn't necessarily predict future outcomes.** This is most often seen or heard in the investment arena. Just because employees behaved a certain way in the past doesn't mean their behavior will continue unchanged. Outside factors, such as economic conditions, often have a significant impact on behavior.

The actual assumptions that were reviewed are in the following list:

- **Economic**
  - Investment return
  - Annual pay increases

- **Demographic**
  - Rates of retirement
  - Rates of withdrawal
  - Rates of disability
  - Rates of mortality

- **Methodology**
  - Amortization of unfunded liability
  - Asset valuation methodology

Please note that not every assumption in this list was examined historically. There are a variety of reasons for not doing so, including materiality in the valuation, lack of historical data, and/or lack of exposures for analysis.

Certification

This report is prepared for the primary purposes of measuring the recent experience of the City of New Orleans Employees' Retirement System and recommending reasonable actuarial assumptions to be used in determining the annual funding requirements.

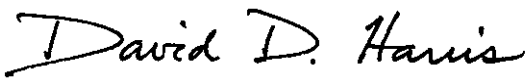
The information presented in this report is based on the information furnished to us by the actuary and the Plan Administrator. In our opinion, the assumptions recommended are reasonable and represent a reasonable expectation of future experience under the Retirement System. All calculations have been made in accordance with generally accepted actuarial principles and practice.

To our knowledge there have been no significant events prior to the current year's measurement date or as of the date of this report which could materially affect the results contained herein.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report.

Nyhart

Prepared by:



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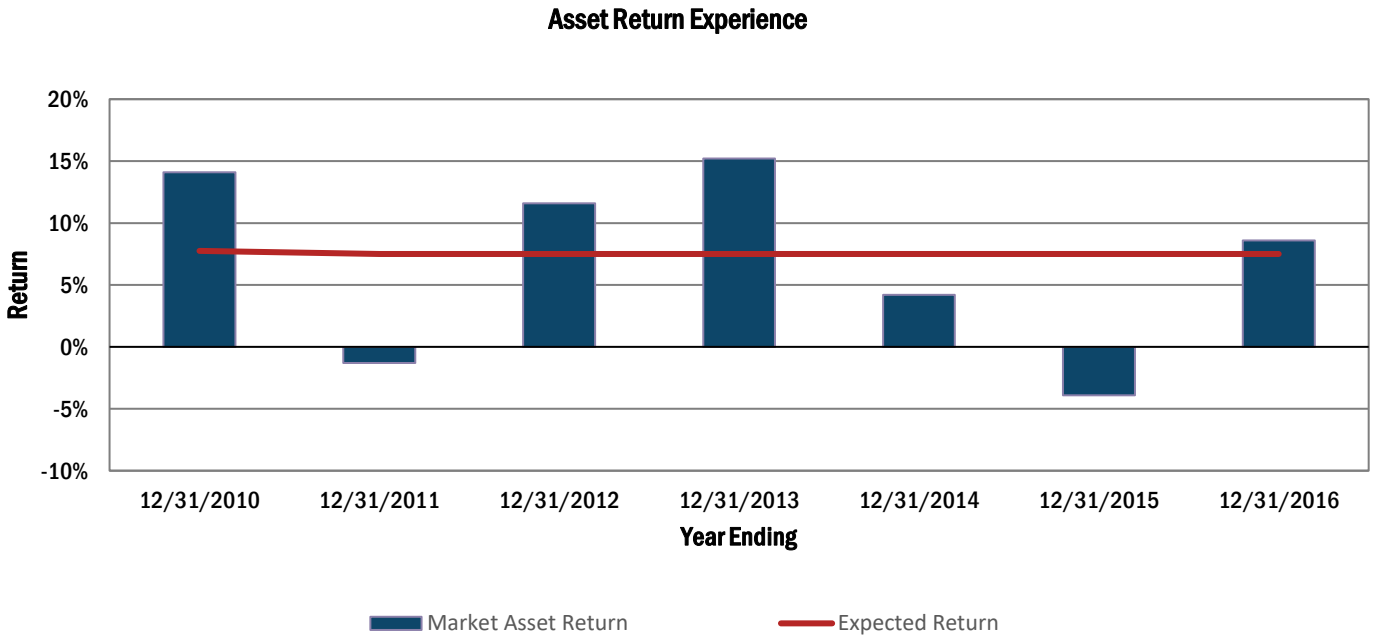
Economic Assumptions

A. Investment Return

The assumption that has one of the largest impact on pension liabilities is the interest rate used to discount benefit liabilities. The interest rate should be set at the expected long-term (30+ years) rate of return of the pension assets. Our review of this assumption consists of the following:

Historical review

The graph and table below shows historical rates of return for the Retirement System since 12/31/2010. While historical performance doesn't guarantee future returns, it is useful for seeing overall trends. The market value rate of return is based on annual market values with adjustments for cash inflows and outflows.



Economic Assumptions

Year Ending December 31	Actual Market Value Return	Long Term Assumption used in 1/1 Valuation
2010	14.10%	7.75%
2011	-1.30%	7.75%
2012	11.60%	7.50%
2013	15.20%	7.50%
2014	4.20%	7.50%
2015	-3.90%	7.50%
2016	8.60%	7.50%
Averages		
5 Years	6.93%	
7 Years	6.70%	

Peer Comparison

The National Association of State Retirement Administrators (NASRA) published its "Issue Brief: Public Pension Fund Plan Investment Return Assumptions" (February, 2018). Based on its survey of 129 State Pension Fund plans, the average return assumption as of December 31, 2017 was 7.36%. Nearly three-fourths have reduced their return assumption since 2010.

Future expectations

Pension plans are long-term obligations; as such, the investment horizon should be 30 to 50 years, a much longer time period than most people care to make predictions. Regardless, shorter-term predictions do provide guidance in terms of future expectations in comparison to past results.

Economic Assumptions

The following asset allocation information from the 2017 Morgan Stanley Forecast shows the basis of the total expected return. Based on the Fund's targeted asset mix, the expected annual return is 7.13% over the next 20 years. The underlying inflation assumption is approximately 2.1%.

	Investment	Allocation	Long-Term Return (20+ Yr)	Long-Term Volatility	Portfolio Long-Term Return
1	CASH	7.0%	3.4%	0.9%	0.24%
2	EQUITIES	50.0%	8.9%	16.4%	4.45%
3	FIXED INCOME & PREFERREDS	23.0%	4.8%	4.4%	1.10%
4	ALTERNATIVES	20.0%	6.7%	6.0%	1.34%
					7.13%

Economic Assumptions

Recommendation

The current interest rate assumption at January 1, 2017, is 7.50%. Based on the past experience of the pension plan and future expectations of market returns and long-term inflation, we recommend lowering the interest rate assumption to 7.00%.

Since changing the interest rate assumption can be impactful to costs, there are two common approaches to spread the cost increase over a few years to allow for better planning and preparation. The direct-rate smoothing technique phases in the increased contribution requirements over 3-5 years. Under a direct-rate smoothing technique, the fund immediately recognizes the impact on liabilities of the interest rate change; however, the resulting impact on contribution requirements is phased-in over a period of years (generally 3-5), allowing for better planning and preparation for the increase in costs.

The second method is the step-rate methodology where you lower the interest rate each year in a step-rate fashion until the ultimate rate is reached. Under the step-rate approach, you gradually recognize both the liability impact and the contribution impact. Under direct rate smoothing, you immediately recognize the liability impact of your "best guess" regarding the ultimate rate but phase-in recognition of increased contribution requirements.

B. Annual Pay Increases

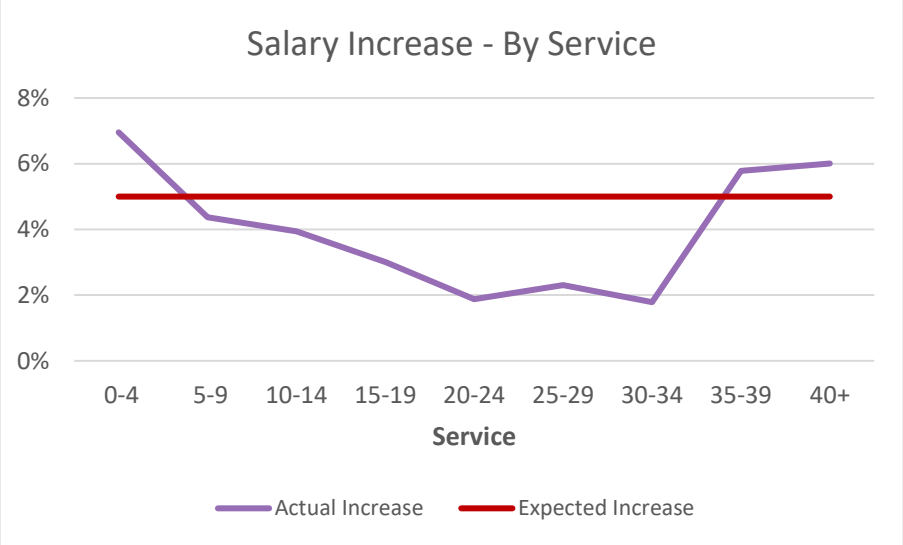
To examine the historical experience of pay increases, data from 2011 to 2017 was studied. Many plans employ salary scales based on age and/or service, and we have examined these options for the System (see Tables B.2 and B.3). As shown in Table B.2, service does not appear to be a good indicator of salary increases. When reviewing salary increases based on age, we see a general trend of pay increases being higher for younger employees while more experienced employees had pay increases closer to inflationary type amounts. This is a common trend we see for salary increases. To better estimate future benefits, we recommend to change the salary increase assumption from 5.0% at all ages to increases that vary by age as indicated in the Table B.3.

Table B.1 – Actual Salary Increase for the Year Ending December 31

2001-2005 Experience Study		2006-2010 Experience Study		2011-2017 Experience Study	
Year	**Salary Increase**	**Year**	**Salary Increase**	**Year**	**Salary Increase**
2001	2.12%	2006	(3.10%)	2011	6.87%
2002	0.38%	2007	16.48%	2012	0.18%
2003	12.51%	2008	11.13%	2013	4.78%
2004	8.04%	2009	9.47%	2014	8.95%
2005	0.79%	2010	0.10%	2015	1.48%
				2016	8.41%
5- Year	**4.92%**	**5- Year**	**6.49%**	**6-Year**	**5.05%**

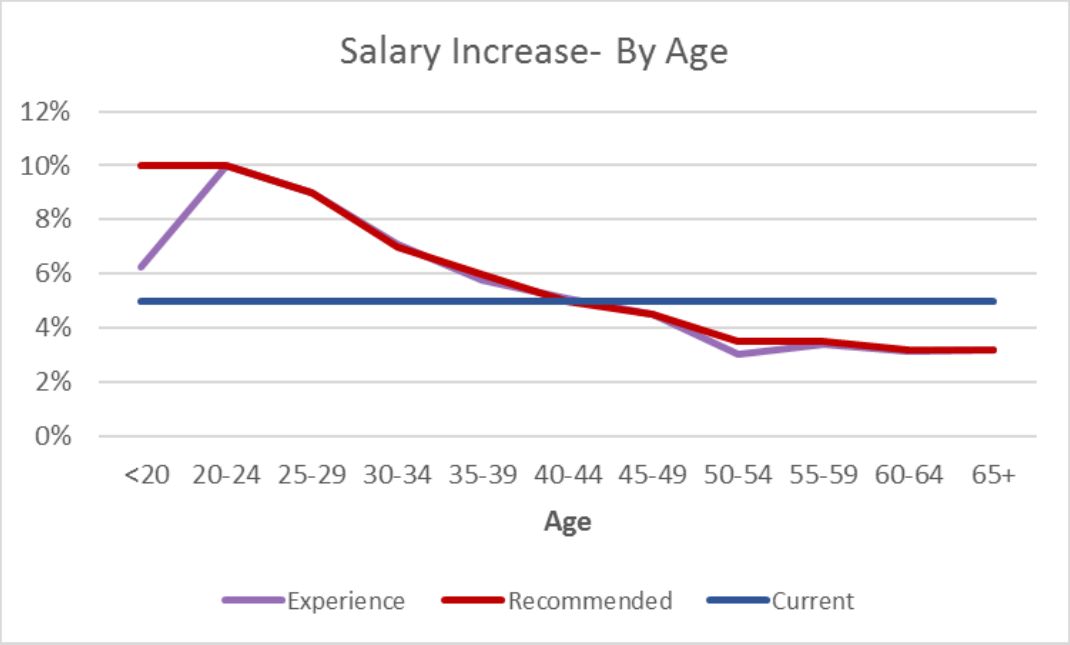
Economic Assumptions

Table B.2		
Service	Total Exposures	2011-2017 Salary Increase
0-4	5,522	6.05%
5-9	2,101	4.37%
10-14	1,216	3.94%
15-20	946	3.00%
20-24	864	1.87%
25-29	598	2.31%
30-34	149	1.79%
35-39	35	5.78%
40+	6	6.01%
Total	**11,437**	**5.05%**



Economic Assumptions

Table B.3			
Age	Total Exposures	2011-2017 Salary Increase	Recommended Salary Increase
<20	18	6.25%	10.0%
20-24	416	10.02%	10.0%
25-29	1,263	8.99%	9.0%
30-34	1,311	7.06%	7.0%
35-39	1,194	5.75%	6.0%
40-44	1,365	5.06%	5.0%
45-49	1,657	4.51%	4.5%
50-54	1,723	3.01%	3.5%
55-59	1,401	3.42%	3.5%
60-64	743	3.13%	3.2%
65+	346	3.20%	3.2%
Total	**11,437**	**5.05%**	



Demographic Assumptions

A. Rates of Retirement

Retirements over the period 2011-2017 were examined based on eligibility. The number of exposures for this period were 1,582 participants. The current rates are age based and provide the likelihood of retiring at a given age assuming a participant meets at least one of the retirement eligibility criteria. Under the System's plan of benefits, participants are eligible for retirement at age 65 with five years of service, age 60 with ten years of service, any age with thirty years of service, or upon satisfying the Rule of 80 where age plus service totals 80.

As the table below illustrates, there were fewer participants retiring than expected.

2011-2017 Experience Study- Retirement Table A.1

Experience Study	Retirement Eligible	Actual Retirements	Expected Retirements	Ratio of Actual to Expected Retirements
2011-2017	1,582	423	973	43%
2006-2010	1,510	500	1,251	40%
2001-2005	2,217	420	1,526	28%

After the last experience study, Nyhart recommended and the Board approved new retirement rates which were designed to narrow the gap between actual and expected retirements. The most recent experience shows that actual retirements are getting closer to expected retirements, but there is still room for improvement. Table A.2 shows the actual and expected retirements under the current assumption, and the expected retirements under our proposed assumptions.

Demographic Assumptions

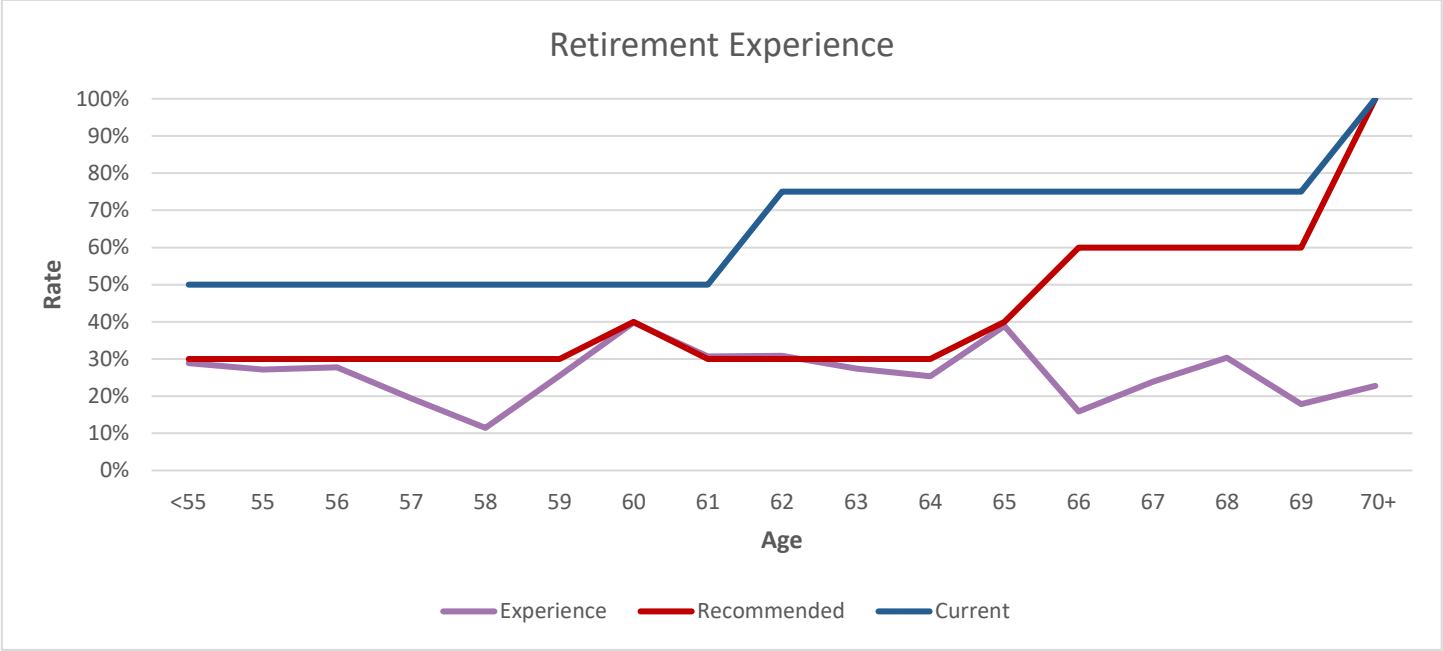
The impact on the number of assumed retirements is reflected in the table and graph below:

2011-2017 Experience Study- Retirement Table A.2

Age	Number of Exposures	Actual Retirements	Actual Retirement Rate	Expected Retirements	Current Retirement Rate	Recommended Retirement Rate	Recommended Expected Retirements
<55	256	74	28.91%	127	50%	30%	77
55	92	25	27.17%	46	50%	30%	28
56	101	28	27.72%	50	50%	30%	30
57	98	19	19.39%	49	50%	30%	29
58	96	11	11.46%	48	50%	30%	29
59	94	24	25.53%	47	50%	30%	28
60	108	43	39.81%	53	50%	40%	43
61	114	35	30.70%	56	50%	30%	34
62	94	29	30.85%	70	75%	30%	28
63	84	23	27.38%	62	75%	30%	25
64	67	17	25.37%	50	75%	30%	20
65	72	28	38.89%	53	75%	40%	29
66	63	10	15.87%	47	75%	60%	38
67	46	11	23.91%	34	75%	60%	28
68	33	10	30.30%	24	75%	60%	20
69	28	5	17.86%	21	75%	60%	17
70+	136	31	22.79%	136	100%	100%	136
Total	**1,582**	**423**	**26.74%**	**973**			**639**

Demographic Assumptions

Graph A.1



B. Turnover

Employee turnover is separation from employment for reasons other than retirement, disability, or death. Turnover rates cease upon eligibility for retirement. Currently, the turnover assumption used in the valuation for New Orleans' Employees' Retirement System participants is a select-and-ultimate scale of rates based on the member's age and gender, with higher rates applied in the first five years of employment. Experience over the six-year study period indicates that employees are terminating at higher rates than expected after the five-year select period. This is consistent with results of the previous study on the System.

Table B.1
Rates of Turnover After Five Years of Service (Historical)

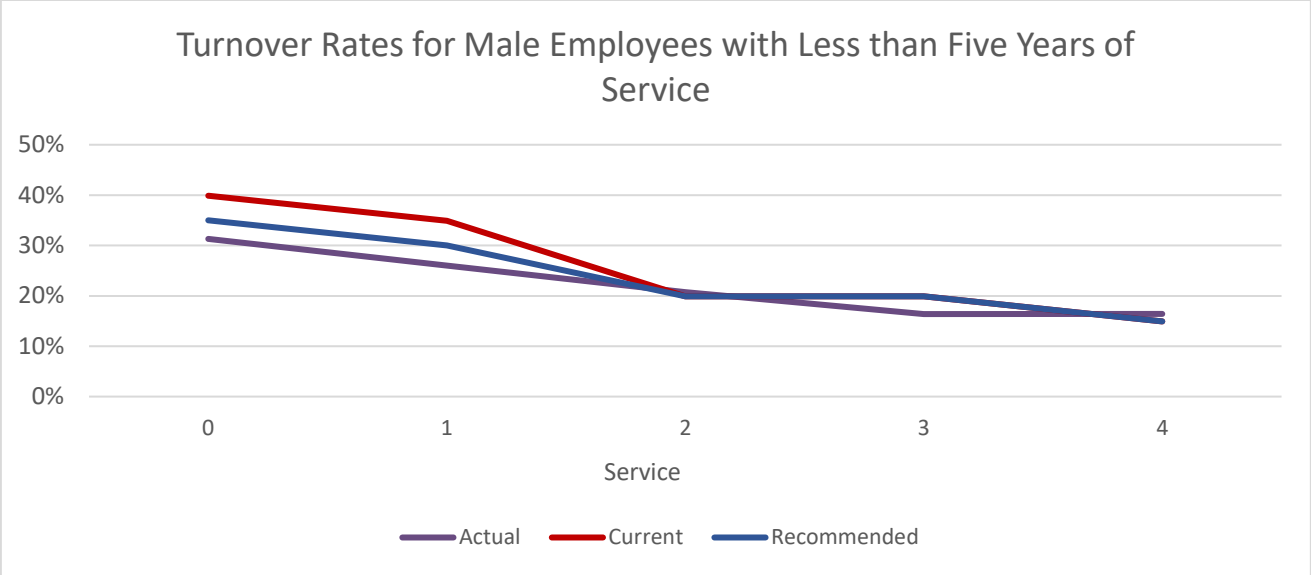
Turnover	Actual Turnover Rate	Expected Turnover Rate
Male		
2001-2004	7.93%	5.68%
2006-2010	6.32%	5.49%
2011-2017	10.98%	6.76%
Female		
2001-2004	6.08%	5.43%
2006-2010	7.06%	5.25%
2011-2017	9.43%	6.80%
Total		
2001-2004	6.86%	5.54%
2006-2010	6.76%	5.35%
2011-2017	10.04%	6.78%

* Results from 2005 were excluded due to the extraordinary impact of Hurricane Katrina.

Table B.2
Turnover Rates in First 5 Years
For Period January 1, 2011 through December 31, 2016

Service	Exposures	Actual Turnover	Actual Turnover Rate	Expected Turnover	Current Turnover Rate	Recommended Turnover Rate	Recommended Expected Turnover
Male							
0-1	444	139	31.31%	177	40%	35%	155
1-2	796	207	26.01%	278	35%	30%	239
2-3	632	131	20.73%	126	20%	20%	126
3-4	531	87	16.38%	106	20%	20%	106
4-5	451	74	16.41%	67	15%	15%	67
Total	**2,854**	**638**	**22.35%**	**754**	**26%**	**24.28%**	**693**
Female							
0-1	432	128	29.63%	151	35%	35%	151
1-2	919	247	26.88%	229	25%	25%	229
2-3	757	156	20.61%	151	20%	20%	151
3-4	664	119	17.92%	132	20%	20%	132
4-5	578	98	16.96%	86	15%	15%	86
Total	**3,350**	**748**	**22.33%**	**749**	**22%**	**22.36%**	**749**
Grand Total	**6,204**	**1,386**	**22.34%**	**1,503**	**24%**	**23.24%**	**1,442**

Graph B.1



Graph B.2

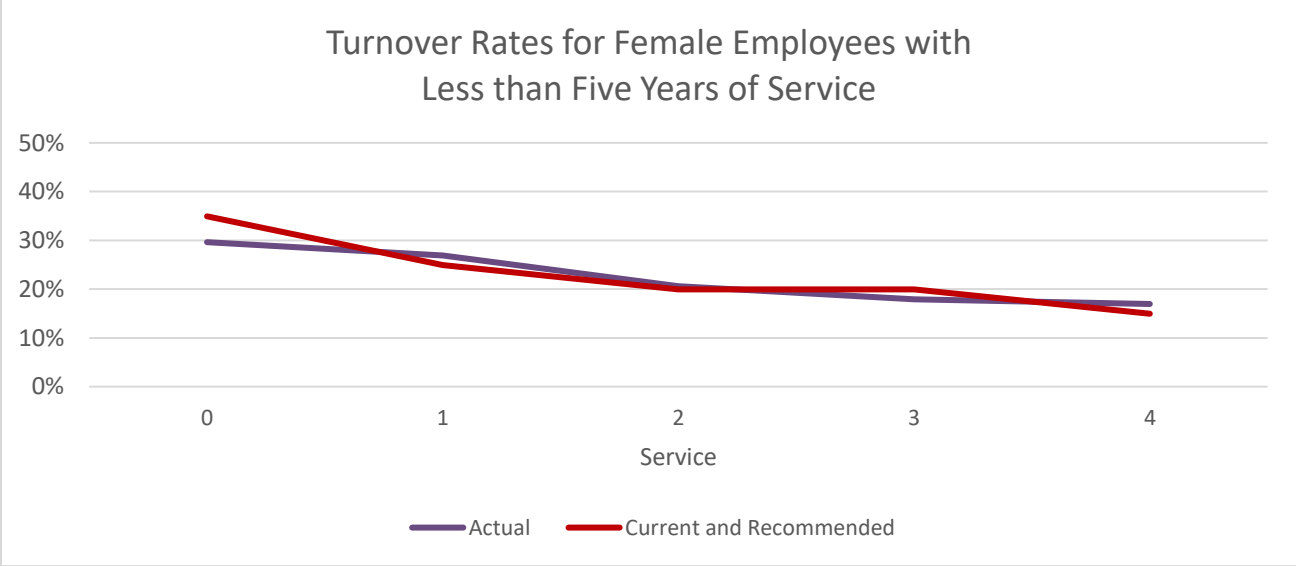
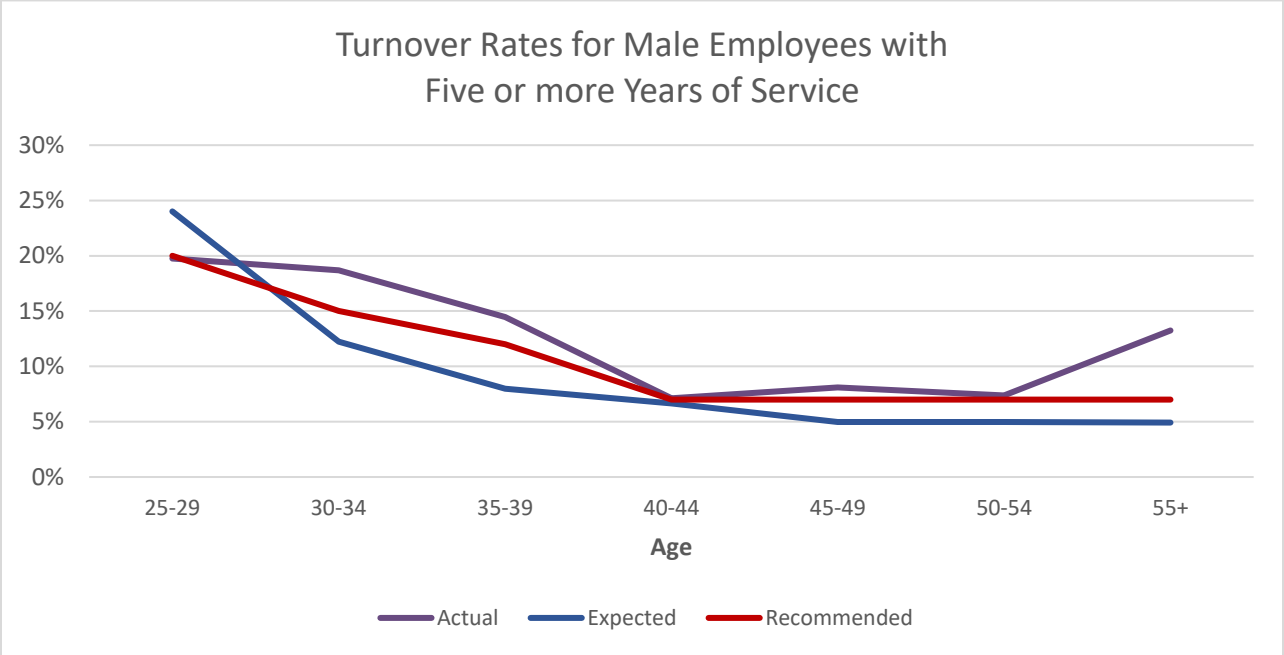


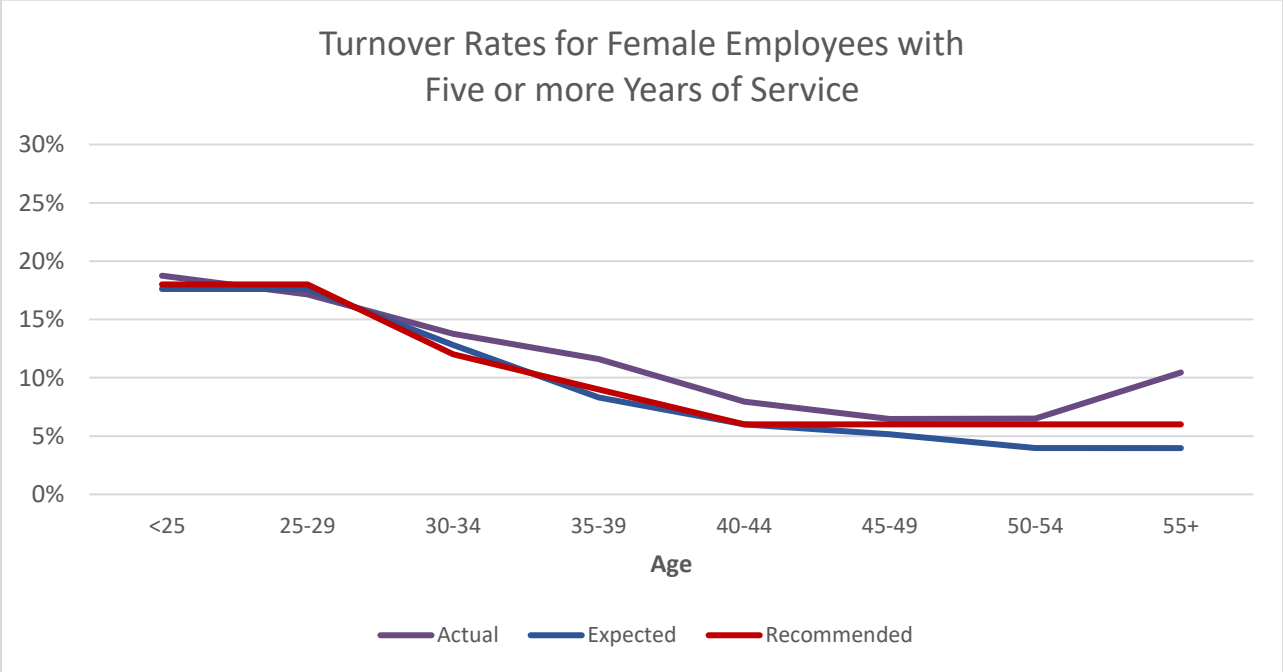
Table B.3
Turnover Rates After 5 Years
For Period January 1, 2011 through December 31, 2016

Age	Exposures	Actual Turnover	Actual Turnover Rate	Expected Turnover	Current Turnover Rate	Recommended Turnover Rate	Recommended Expected Turnover
Male							
<25	4	1	25.00%	1	24%	20%	1
25-29	81	16	19.75%	19	24%	20%	16
30-34	198	37	18.69%	24	12%	15%	30
35-39	235	34	14.47%	19	8%	12%	28
40-44	295	21	7.12%	20	7%	7%	21
45-49	481	39	8.11%	24	5%	7%	34
50-54	516	38	7.36%	26	5%	7%	36
55+	566	75	13.25%	28	5%	7%	40
Total	**2376**	**261**	**10.98%**	**161**	**6.78%**	**8.63%**	**205**
Female							
<25	16	3	18.75%	3	18%	18%	3
25-29	216	37	17.13%	38	18%	18%	39
30-34	392	54	13.78%	50	13%	12%	47
35-39	440	51	11.59%	37	8%	9%	40
40-44	540	43	7.96%	32	6%	6%	32
45-49	727	47	6.46%	38	5%	6%	44
50-54	738	48	6.50%	29	4%	6%	44
55+	641	67	10.45%	25	4%	6%	38
Total	**3,710**	**350**	**9.43%**	**252**	**6.79%**	**7.74%**	**287**
Grand Total	**6,086**	**611**	**10.04%**	**413**	**6.79%**	**8.08%**	**492**

Graph B.3



Graph B.4



C. Rates of Disability

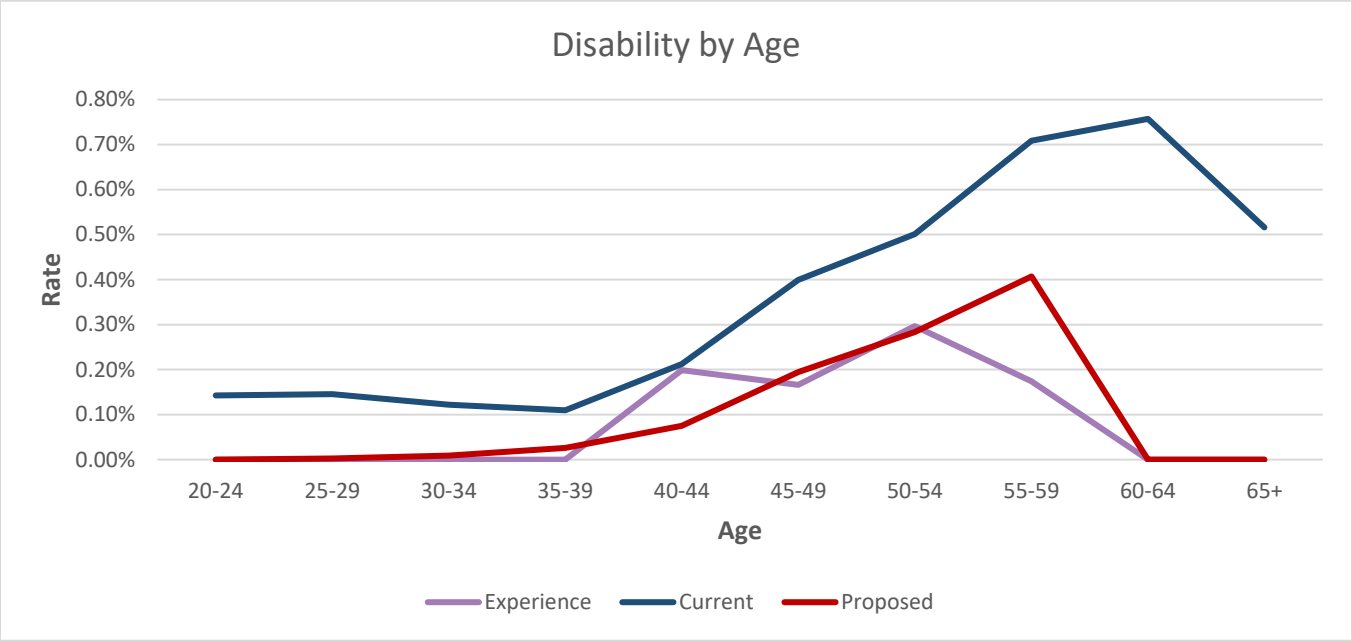
Based on the 2011-2017 experience, 15 (6 Male and 9 Female) individuals were designated as becoming disabled versus the expectation of 53. Given the lack of disabilities before 10 years of service, we recommend that disability rates be eliminated for participants with less than 10 years of service. In addition, we recommend that rates stop at age 60 (since a person age 60 with 10 years of service is eligible for retirement). These recommendations are consistent with the prior experience studies. A Unisex table, which was adopted after the prior experience study, continues to be appropriate.

Age	Number of Exposures	Actual Disablements	Expected Disablements
<20	9	0	0.01
20-24	379	0	0.54
25-29	1540	0	2.24
30-34	1714	0	2.10
35-39	1445	0	1.58
40-44	1508	3	3.21
45-49	1805	3	7.20
50-54	2022	6	10.14
55-59	1721	3	12.19
60-64	1164	0	8.81
65+	565	0	2.91
Total	**13,872**	**15**	**50.94**

Service	Number of Exposures	Actual Disablements	Expected Disablements
0-4	6212	0	17.46
5-9	2949	0	11.32
10-14	1405	5	5.5
15-19	1161	5	5.35
20-24	931	3	4.89
25-29	782	2	4.15
30-34	351	0	1.77
35-39	66	0	0.41
40+	15	0	0.09
Total	**13,872**	**15**	**50.94**

Demographic Assumptions

The graph below illustrates the change from the current disability assumption (blue) to the proposed assumption (red). The proposed rates are unchanged from the current rates except that rates are eliminated for participants with less than 10 years of service and for those past age 60.



Age	Number of Exposures	Actual Disablements	Expected Disablements (Proposed Rates)
<20	9	0	0.00
20-24	379	0	0.00
25-29	1540	0	0.04
30-34	1714	0	0.16
35-39	1445	0	0.37
40-44	1508	3	1.13
45-49	1805	3	3.51
50-54	2022	6	5.73
55-59	1721	3	7.01
60-64	1164	0	0.00
65+	565	0	0.00
Total	**13,872**	**15**	**17.95**

D. Healthy Rates of Mortality

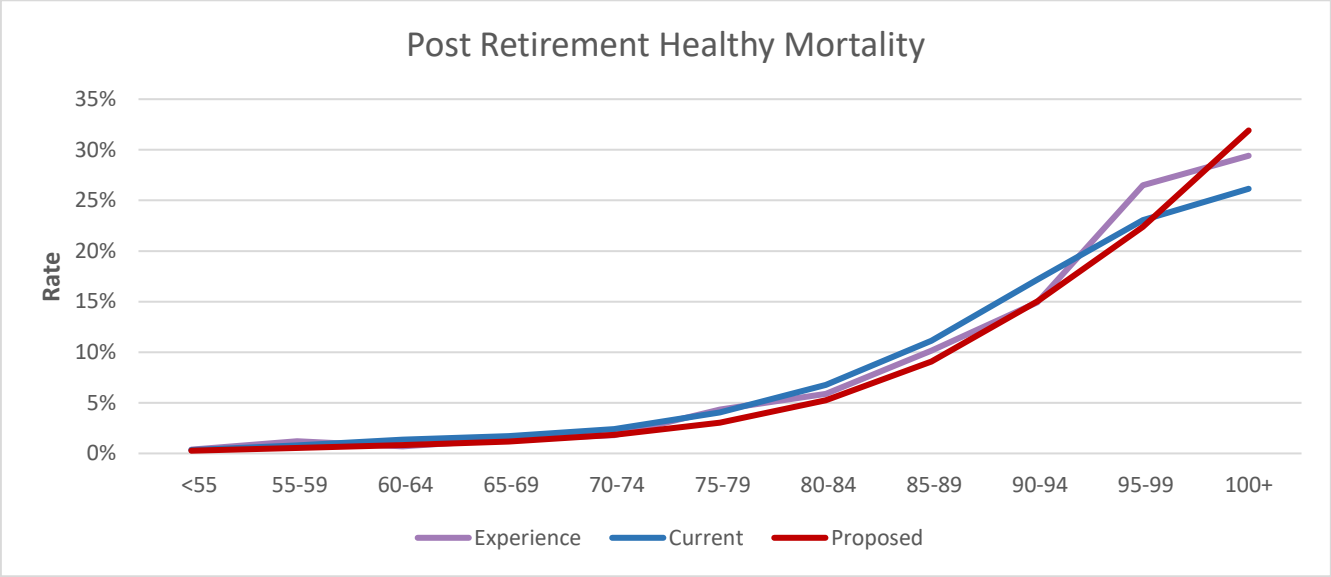
The mortality experience among the System's retirees and beneficiaries determines the durations over which retirement benefits are paid. Lower mortality rates mean longer benefit payment periods and, therefore, higher benefit costs.

The experience analysis for the System for the six-year study period (see Table D.1) reveals that postretirement participants have been dying at higher rates than expected. However, in order to have fully credible data, the System would need to experience at least 1,000 deaths per gender over the experience study period. Since the Retirement System does not have enough data to be fully credible, we recommend taking a "best practice" approach of using the most recent mortality table (RP-2014) and improvement scale (MP) released by the Society of Actuaries. However, we recognize that Louisiana trails most States in life expectancy as documented by the Centers for Disease Control and Prevention (CDC). Therefore, we recommend projecting mortality improvements to the valuation date. This approach will help reflect future mortality improvements but at a lower level as indicated with data from the CDC.

Table D.1 Healthy Mortality Rates

Post Retirement Healthy Mortality	Exposures	Actual Deaths	Expected Deaths Current Assumption	Expected Deaths Proposed Assumption
Male				
2011-2017	5,043	193	235	171
Female				
2011-2017	6,083	223	229	200
Total				
2011-2017	11,126	416	464	377

The graph below illustrates the change from the current mortality assumption (blue) to the proposed assumption (red). The proposed rates reflect the assumptions we propose to be used in the 2018 valuation: RP-2014 Total Mortality Table with improvements to 2018 based on Scale MP-2017.



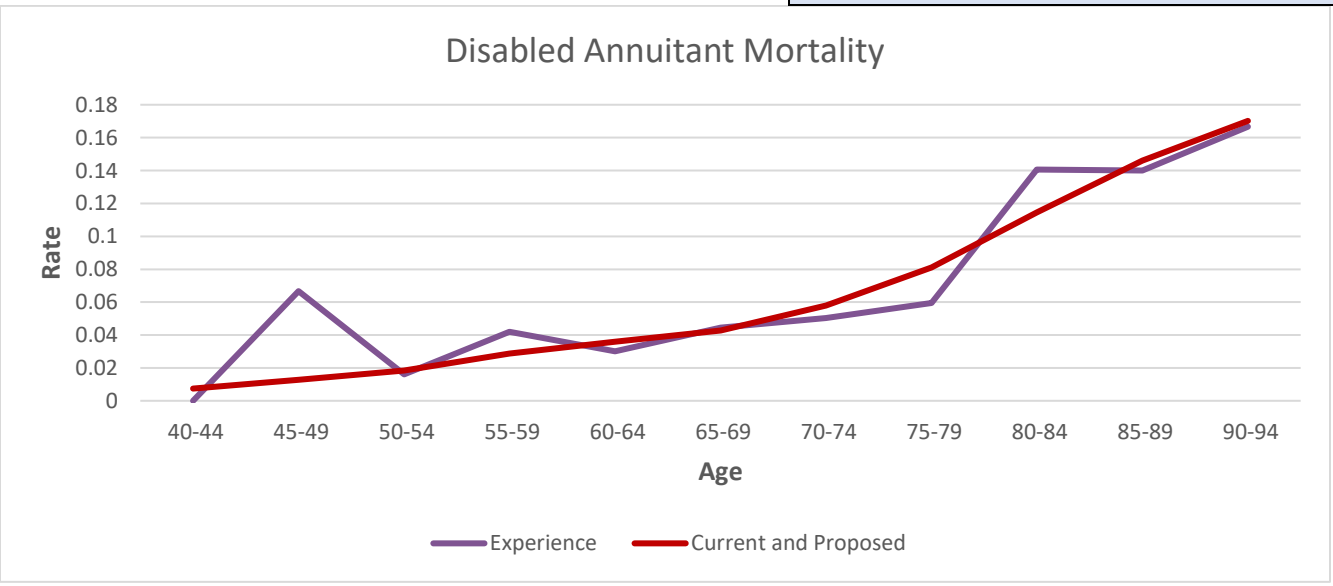
E. Pre-Retirement Rates of Mortality

Mortality experience for the System's population that has not entered pay status was not separately provided. We recommend using the same mortality for pre-retirement population, which is consistent with current practice.

F. Disabled Rates of Mortality

Mortality experience among disabled annuitants is studied separately from other retirees because of characteristically higher levels of mortality. The current assumption is the RP-2000 Disability Mortality Table (Sex-Distinct), without projection. This was changed from GAM71 following the last experience study and provides an expectation that aligns with actual experience. We recommend no change to the Disabled Rates of Mortality.

Age	Number of Exposures	Actual Deaths	Expected Deaths
<40	0	0	0
40-44	1	0	0.01
45-49	30	2	0.38
50-54	62	1	1.14
55-59	119	5	3.42
60-64	233	7	8.39
65-69	225	10	9.61
70-74	179	9	10.38
75-79	101	6	8.19
80-84	64	9	7.33
85-89	50	7	7.30
90-94	12	2	2.04
95+	0	0	0
Total	**1,076**	**58**	**58.19**



Amortization Method

The current amortization method is a level dollar 15-year open amortization.

The Conference of Consulting Actuaries (CCA) released a White Paper in October 2014[1] indicating the "best practice" approach is to use a reasonable amortization period (e.g. 15-20) as a level percent of pay. Below is a table of what the CCA consider to be "Model Practice".

CCA Model Practice

Source	Amortization Period
Plan Amendments	Lesser of expected future service or 15 years
Experience Gain/Loss	15 to 20 years
Assumption or Method Changes	15 to 25 years

We recommend transitioning to a 15-year closed amortization method based on level percent of pay liability, where the payroll growth assumption is 3%. The payroll growth assumption is based on payroll growth over the last 6 years of 5% minus 2% for active headcount growth.

[1] *"Actuarial Funding Policies and Practices for Public Pension Fund Plans"*, Conference of Consulting Actuaries Public Plans Community, October 2014.

Asset Valuation Method

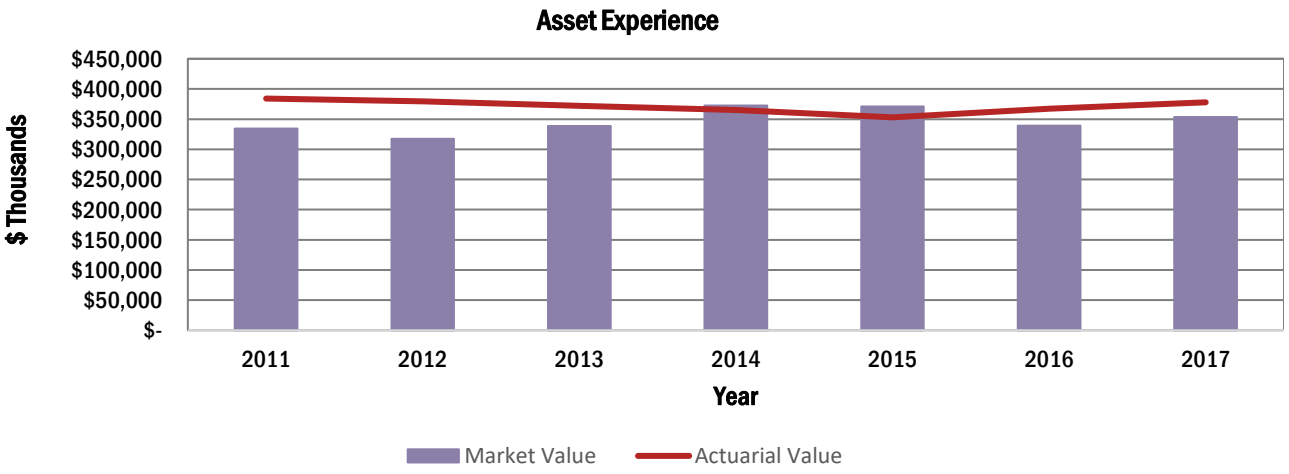
The Actuarial Value of Assets is determined using a method that reflects actual market value performance over a seven year period ending on the valuation date. The market value performance is averaged over the seven year period by reflecting the actual external cash flows and adjusting each prior year's market value to the current valuation date using the actuarial interest assumption in effect for each year.

Under the Actuarial Standards of Practice (ASOP) No. 44, an asset method other than market value should have the following qualities:

- Likely to produce actuarial value of assets sometimes greater and sometimes less than market value
- Fall within a reasonable range around the market value
- Differences recognized within a reasonable period of time
- No significant bias

According to the CCA White Paper released in 2014, 7 years is considered to be a reasonable period of time so long as the Actuarial Value of Assets falls within 60%/140% of the Market Value of Assets. Therefore, the only recommended change to the asset valuation method is to implement a 40% corridor around the Market Value of Assets.

The following chart compares the historical market value of assets to the actuarial value of assets.



Summary of Gain)/Loss Components

The table below is a summary of data provided in the Conefry and Company valuation reports over the last seven years. Each year, the plan experience is broken out by component to show the effect on the employer cost. Gains (-) result in lower employer cost than expected while losses (+) indicate plan experience that resulted in higher employer cost than expected. The costs are reflected as a percent of payroll.

Effect on Total Cost Gain (-) or Loss (+)							
	Net Actuarial Experience for the Plan Year Ending December 31						
Component	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**
Interest Assumption	+0.223%	-0.614%	+2.392%	+2.047%	+2.330%	+2.47%	+2.320%
Salary Scale	-0.836%	-0.913%	-0.460%	-0.403%	-0.663%	-0.363%	-1.469%
Inactive Data Changes	+1.204%	N/A	N/A	-0.131%	+1.973%	+0.965%	+1.454%
Active Data Changes	+0.903%	N/A	-3.221%	-1.707%	-2.962%	-1.370%	-2.074%
Net Changes from All Other Sources	+0.268%	+0.505%	+1.223%	0.994%	+0.648%	-0.783%	+1.834%
Grand Total	**+1.762%**	**-1.022%**	**-0.066%**	**+0.800%**	**+1.326%**	**+0.919%**	**+2.065%**

Five out of the last seven years have shown actual experience that resulted in higher employer cost than anticipated under the Plan's assumptions. On average over the last seven years, the actual experience of the Retirement System has resulted in a 0.8% of payroll cost increase when compared to the expectation.

Summary of Recommendations

Economic Assumptions

A. Investment Return – Recommend an interest rate of 7.00%

B. Annual Pay increases – Recommend an age-graded salary increase assumption

Age	Recommended Salary Increase
<20	10.0%
20-24	10.0%
25-29	9.0%
30-34	7.0%
35-39	6.0%
40-44	5.0%
45-49	4.5%
50-54	3.5%
55-59	3.5%
60-64	3.2%
65+	3.2%

Demographic Assumptions

A. Rates of Retirement

Age	Current Retirement Rate	Recommended Retirement Rate
<55	50%	30%
55	50%	30%
56	50%	30%
57	50%	30%
58	50%	30%
59	50%	30%
60	50%	40%
61	50%	30%
62	75%	30%
63	75%	30%
64	75%	30%
65	75%	40%
66	75%	60%
67	75%	60%
68	75%	60%
69	75%	60%
70+	100%	100%

Demographic Assumptions (Continued)

B. Turnover

Turnover Rates in First Five Years				
Service	Current Assumed Rate	Recommended Turnover Rate	Current Assumed Rate	Recommended Turnover Rate
	Male		Female	
0-1	40%	35%	35%	35%
1-2	35%	30%	25%	25%
2-3	20%	20%	20%	20%
3-4	20%	20%	20%	20%
4-5	15%	15%	15%	15%

Turnover Rates After 5 Years				
Age	Current Assumed Rate	Recommended Turnover Rate	Current Assumed Rate	Recommended Turnover Rate
	Male		Female	
<25	24.04%	20%	17.63%	18%
25-29	24.04%	20%	17.63%	18%
30-34	12.25%	15%	12.83%	12%
35-39	8.00%	12%	8.32%	9%
40-44	6.68%	7%	6.00%	6%
45-49	5.00%	7%	5.17%	6%
50-54	5.00%	7%	4.00%	6%
55+	5.00%	7%	4.00%	6%

Demographic Assumptions (Continued)

C. Rates of Disability – Eliminate disability rates for participants with less than 10 years of service, and stop rates at age 60.

D. Healthy Rates of Annuitant Mortality – RP-2014 Mortality Table with Improvements projected to the valuation date using scale MP.

E. Pre-Retirement Rates of Mortality – same as the Healthy Annuitant Mortality

F. Disability Rates of Mortality – no recommended changes

Amortization Method - 15-year closed amortization method based on level percent of pay liability, where the payroll growth assumption is 3%.

Asset Valuation Method - Implement a 40% corridor around Market Value of Assets