



***Employees' Retirement System
of the
City of Baton Rouge and Parish of East Baton Rouge***

*January 1, 2016
Actuarial Valuation Report*

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At the request of the plan sponsor, this report summarizes Employees' Retirement System of the City of Baton Rouge and Parish of East Baton Rouge as of January 1, 2016. The purpose of this report is to communicate the following results of the valuation:

- Funded Status; and
- Determine Recommended Contribution for the fiscal year January 1, 2017 through December 31, 2017.

This report has been prepared in accordance with the applicable Federal and State laws. Consequently, it may not be appropriate for other purposes. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than that explained above. Failure to do so may result in misrepresentation or misinterpretation of this report.

The results in this report were prepared using information provided to us by other parties. The census information has been provided to us by the employer. Asset information has been provided to us by the trustee. We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we have made assumptions we believe to be reasonable. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report. A summary of the data used in the valuation is included in this report.

The actuarial assumptions and methods were chosen by the Board. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period);
and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

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. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions

Nyhart

David D. Harris

David D. Harris, ASA, EA, MAAA
Enrolled Actuary No. 14-5609

Heath W Merlak

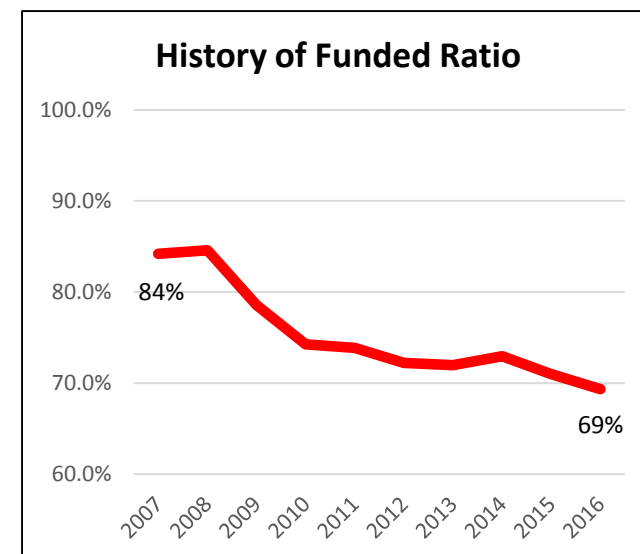
Heath Merlak, FSA, EA, MAAA
Enrolled Actuary No. 14-5967

May 11, 2016
Date

Summary Results

The actuarial valuation's primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. The second liability is based on an entry age level percentage of pay.

	January 1, 2015	January 1, 2016
Funded Status Measures		
Accrued Liability	\$1,559,275,063	\$1,614,978,634
Actuarial Value of Assets	1,106,575,866	1,119,731,517
Unfunded Accrued Liability	\$452,699,197	\$495,247,117
Funded Percentage	71.0%	69.3%
Cost Measures		
Required Contribution	\$39,173,320	\$41,887,796
Required Contribution (as a percentage of payroll)	28.9%	30.4%
Asset Information		
Market Value of Assets	\$1,072,492,947	\$1,021,631,460
Actuarial Value of Assets	\$1,106,575,866	\$1,119,731,517
Actuarial Value / Market Value	103.2%	109.6%
Member Information		
Active Members	3,181	3,138
Terminated Vested Members	22	20
Retirees, Beneficiaries, and Disabled Members	3,181	3,257
DROP Participants	332	341
Total	6,716	6,756
Total Payroll		
Total Payroll	\$135,556,888	\$137,591,450



Changes since Prior Valuation and Key Notes

The following changes in system provisions have changed since the last valuation:

For those members with dates of hire on or after September 1, 2015:

- Service retirement eligibility is age 55 for public safety members or age 60 for non-public safety members with at least 10 years of service or 20 years of service regardless of age.
- Full retirement eligibility (3% of final average compensation for each year of creditable service) is age 50 for public safety members or age 55 for non-public safety members with at least 25 years of service.
- Early retirement benefits are reduced to an actuarial equivalent benefit.
- The normal form of benefit is a life annuity.
- Final average compensation is based on the average compensation during the highest 60 consecutive months of creditable service.
- The policy of rounding service up to the next highest quarter has been abolished.

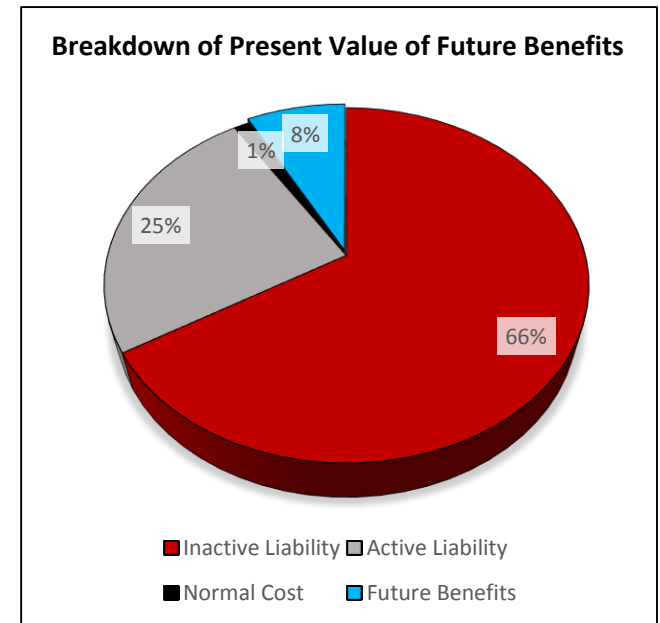
Leave accrual rates for new members hired on or after April 4, 2015 have been reduced. This may result in smaller leave balances being traded in for additional service upon their retirement.

There have been no changes to the assumptions since the last valuation date

Present Value of Future Benefits

The Present Value of Future Benefits represents the future benefits payable to the existing participants.

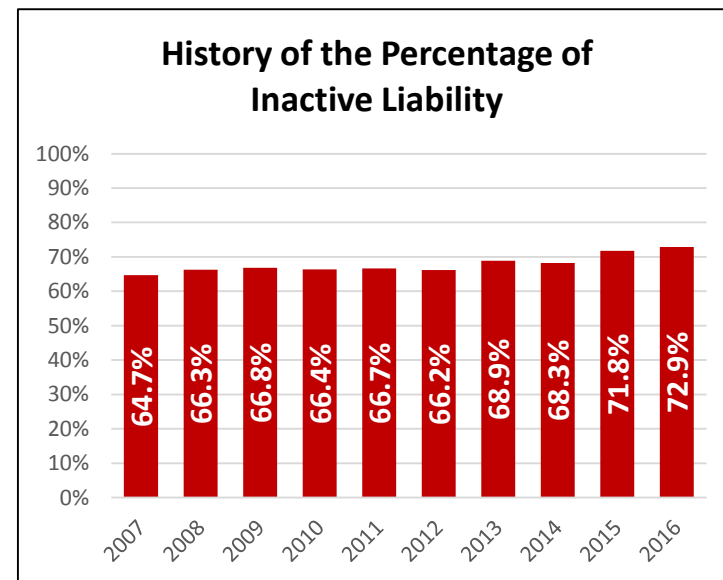
	January 1, 2016
Present Value of Future Benefits	
Active members	
Retirement	\$541,251,690
Disability	29,439,690
Death	8,495,579
Termination	17,785,017
Total active	\$596,971,976
Inactive members	
Retired members	\$693,555,330
DROP members	387,527,255
Beneficiaries	58,968,737
Disableds	29,285,979
Terminated vested members	8,283,666
Total inactive	\$1,177,620,967
Total	\$1,774,592,943
 Present value of future salaries	 \$970,204,430



Entry Age Accrued Liability

The Funding Liability measures the present value of benefits earned as of the valuation date, using a specified set of actuarial assumptions.

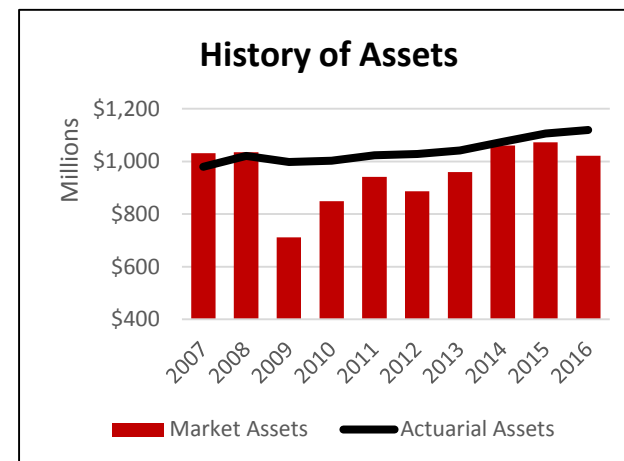
	January 1, 2016
Funding Liabilities	
Active members	
Retirement	\$405,647,236
Disability	17,580,287
Death	5,325,545
Termination	8,804,599
Total active	\$437,357,667
Inactive members	
Retired members	\$693,555,330
DROP members	387,527,255
Beneficiaries	58,968,737
Disableds	29,285,979
Terminated vested members	8,283,666
Total inactive	\$1,177,620,967
Total	\$1,614,978,634
 Normal Cost	 \$21,919,079



Asset Information

The amount of assets backing the pension promise is the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly impacts the ultimate cost.

	January 1, 2016
Market Value Reconciliation	
Market value of assets - beginning of prior year	\$1,073,878,697
Contributions	
Employer contributions	\$40,354,154
Employee contributions	13,596,282
Non-employer contributing entity	<u>2,491,426</u>
Total	56,441,862
Investment income	(2,674,967)
Investment expenses	(6,933,916)
Benefit payments ⁽¹⁾	(96,206,645)
Administrative expenses	<u>(1,318,104)</u>
Market value of assets - beginning of current year	\$1,023,186,927
Return on Market Value	-0.9%
Reserve assets ⁽²⁾	\$1,555,467
Market Value of assets available for pension benefits	\$1,021,631,460
 Actuarial value of assets	
Value at beginning of current year	\$1,119,731,517



⁽¹⁾ Includes benefit payments, contribution refunds, supplemental benefit payments, and DROP distributions

⁽²⁾ SBP account

Asset Information (continued)

Actuarial Value of Assets are used to develop funded percentages and contribution requirements.

	January 1, 2016
1. Expected actuarial value of assets	
(a) Actuarial value of assets, beginning of prior year	\$1,106,575,866
(b) Contributions	56,441,862
(c) Benefit payments	(96,206,645)
(d) Expenses	(1,318,104)
(e) Expected return	78,763,552
(f) Expected actuarial value of assets – end of year	\$1,144,256,531
2. Market value of assets – beginning of current year	\$1,021,631,460
3. Amount subject of phase in	(\$122,625,071)
4. Phase in of gain/(loss) (20% x (\$122,625,071))	(\$24,525,014)
5. Transfer of excess investment return	\$0
6. Preliminary actuarial value of assets, beginning of current year ((1f)+(4)+(5))	\$1,119,731,517
7. 80% Market value of assets	\$817,305,168
8. 120% Market value of assets	\$1,225,957,752
9. Adjusted actuarial value of assets	\$1,119,731,517
10. Final actuarial value of assets	\$1,119,731,517
11. Return on actuarial value of assets	5.0%

Reconciliation of Gain/Loss

January 1, 2016

Liability (gain)/loss

Actuarial liability, beginning of prior year	\$1,559,275,063
Normal cost	21,575,938
Benefit payments	(96,206,645)
Interest	111,185,225
Plan provision changes	<u>(248,311)</u>
Expected actuarial liability, beginning of current year	\$1,595,581,270
Actual actuarial liability	\$1,614,978,634
Liability (gain)/loss	\$19,397,364

Asset (gain)/loss

Actuarial value of assets, beginning of prior year	\$1,106,575,866
Contributions	56,441,862
Benefit payments and expenses	(97,524,749)
Expected investment return	<u>78,763,552</u>
Expected actuarial value of assets, beginning of current year	\$1,144,256,531
Actual actuarial value of assets, beginning of current year	\$1,119,731,517
Asset (gain)/loss	\$24,525,014

Total (gain)/loss

\$43,922,378

Development of Recommended Contribution

The minimum recommended contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws. The recommended contribution is composed of the normal cost, administrative expenses, plus an amortization charge.

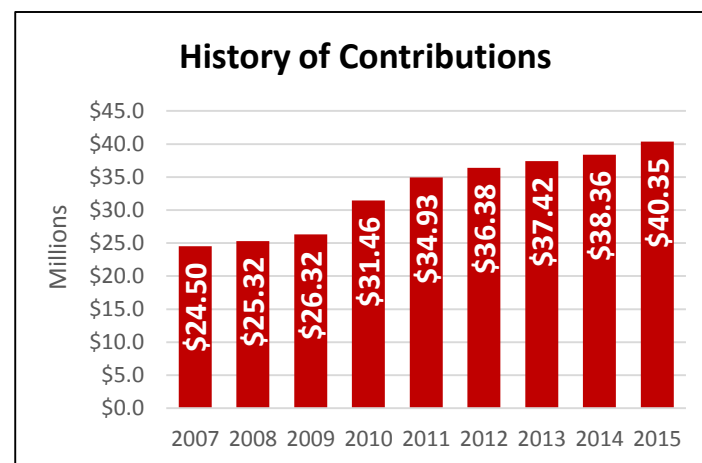
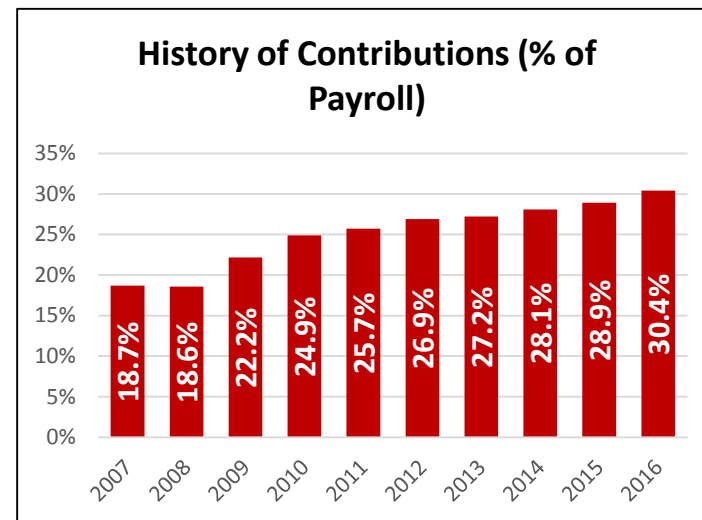
January 1, 2016

Funded Position

1. Entry age accrued liability	\$1,614,978,634
2. Actuarial value of assets	\$1,119,731,517
3. Unfunded actuarial accrued liability (UAAL)	\$495,247,117

Employer Contributions

1. Normal Cost	
(a) Total normal cost	\$21,919,079
(b) Expected member contributions	12,788,284
(c) Net normal cost	\$9,130,795
2. Administrative expenses	1,318,104
3. Amortization of UAAL	29,998,338
4. Applicable interest	1,440,559
5. Total recommended contribution	\$41,887,796
As a percentage of payroll	30.4%



The foundation of a reliable actuarial report is the member information provided by the plan sponsor. Monitoring trends in demographic information is crucial for long-term pension planning.

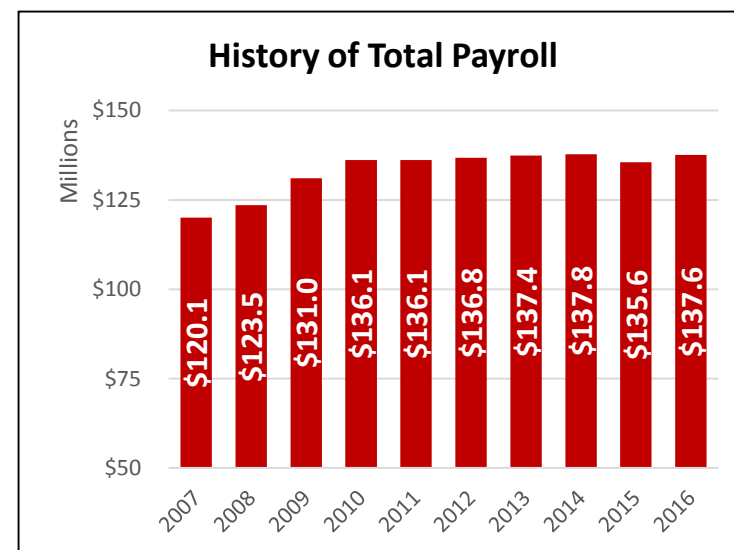
January 1, 2016

Member Counts

Active members	3,138
Retired members	2,401
Beneficiaries	654
Disabled members	202
Terminated vested members	20
DROP members	341
Total members	6,756

Active Members Demographics

Average age	43.4
Average service	8.8
Average compensation	\$43,847
Covered payroll	\$134,613,512
Total payroll	\$137,591,450



Demographic Information (continued)

	January 1, 2016
Retiree Statistics	
Average age	67.9
Average monthly benefit	\$2,272
Beneficiary Statistics	
Average age	70.7
Average monthly benefit	\$862
Disabled Members Statistics	
Average age	62.6
Average monthly benefit	\$1,301
Terminated Members Statistics	
Average age	54.6
Average monthly benefit	\$998
DROP Members Statistics	
Average age	57.7
Average monthly benefit	\$3,734

Employees' Retirement System of the City of Baton Rouge and Parish of East Baton Rouge
Actuarial Valuation as of January 1, 2016
Member Reconciliation

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	DROP	Totals
Prior Year	3,181	22	204	2,338	639	332	6,716
Active							
To Terminated Vested							
To Disabled	(4)		4				
To Retired	(28)			28			
To DROP	(107)					107	
To Terminated Non-Vested	(130)						(130)
To Lump Sum Cash-Out	(137)						(137)
To Death	(2)						(2)
Terminated Vested							
To Retired		(2)		2			
Disabled							
To Death			(8)				(8)
Retired							
To Lump Sum Cash-Out							
To Death				(71)			(71)
Survivor							
To Lump Sum Cash-Out					(3)		(3)
To Death					(26)		(26)
DROP							
To Retired				94		(94)	
To Lump Sum Cash-Out						(3)	(3)
To Death						(1)	(1)
Additions	365		2	10	44		421
Departures							
Current Year	3,138	20	202	2,401	654	341	6,756

Active Member Schedule

Active member information grouped based on age and service.

Age Group	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total	Average Pay
Under 25	59	56									115	31,100
25 to 29	87	223	57	1							368	34,879
30 to 34	45	166	166	58							435	40,940
35 to 39	38	105	117	104	46	2					412	47,006
40 to 44	35	82	91	70	104	36					418	48,841
45 to 49	24	67	69	72	75	82	12				401	49,988
50 to 54	22	59	69	70	64	68	14				366	45,202
55 to 59	23	61	90	50	47	55	11	1			338	41,936
60 to 64	13	42	52	24	27	30	2				190	45,779
65 to 69	6	16	17	9	12	8	2			1	71	45,096
70 & up		5	9	5	3	2					24	38,565
Total	352	882	737	463	378	283	41	1		1	3,138	43,847

Plan Effective Date

This plan was effective December 31, 1953 and was most recently amended effective August 12, 2015 (Ord. Nos. 16039 & 16040)

Fiscal Year

Calendar year

Authority for Provisions

The plan is established and amended by the City of Baton Rouge, Louisiana and Parish of East Baton Rouge acting through its board of trustees.

Eligibility for Membership

Any regular employee of the City-Parish, excluding Police employees who elected to transfer into Municipal Police Employees' Retirement System of Louisiana (MPERS) as of February 26, 2000 and Police employees hired after that date. Part-time council members with service prior to January 1, 1997, retroactive to December 31, 1976.

Accrued Benefit

For members whose date of hire is prior to September 1, 2015

Creditable Service not yet 25 years: 2.5% of Final Average Compensation for each year of Creditable Service

Creditable Service at least 25 years: 3.0% of Final Average Compensation for each year of Creditable Service

For public safety members whose date of hire is on or after September 1, 2015

Creditable Service not yet 25 years nor age 50: 2.5% of Final Average Compensation for each year of Creditable Service

Creditable Service at least 25 years and at least age 50: 3.0% of Final Average Compensation for each year of Creditable Service

For non-public safety members whose date of hire is on or after September 1, 2015

Creditable Service not yet 25 years nor age 55: 2.5% of Final Average Compensation for each year of Creditable Service

Creditable Service at least 25 years and at least age 55: 3.0% of Final Average Compensation for each year of Creditable Service

Maximum of 90% of Final Average Compensation

Benefits

Normal Retirement

Eligibility	For members whose date of hire is prior to September 1, 2015: Age 55 with 10 years of service, or 20 years of service regardless of age For public safety members whose date of hire is on or after September 1, 2015: Age 55 with 10 years of service; or 20 years of service regardless of age For non-public safety members whose date of hire is on or after September 1, 2015: Age 60 with 10 years of service; or 20 years of service regardless of age
Benefit	2.5% of Final Average Compensation for each year of Creditable Service
Eligibility	For members whose date of hire is prior to September 1, 2015: 25 years of service regardless of age For public safety members whose date of hire is on or after September 1, 2015: Age 50 with 25 years of service For non-public safety members whose date of hire is on or after September 1, 2015: Age 55 with 25 years of service
Benefit	3.0% of Final Average Compensation for each year of Creditable Service (Maximum of 90% of Final Average Compensation)

Early Retirement

For members whose date of hire is prior to September 1, 2015
Eligibility Less than 25 years of Creditable Service and prior to age 55

Benefit Benefits are reduced by 3%/year prior to age 55

For public safety members whose date of hire is on or after September 1, 2015
Eligibility Less than 25 years of Creditable Service and prior to age 50

Benefit Benefits are reduced to an actuarial equivalent benefits

For public non-safety members whose date of hire is on or after September 1, 2015
Eligibility Less than 25 years of Creditable Service and prior to age 55

Benefit Benefits are reduced to an actuarial equivalent benefits

Termination

Eligibility Member terminates employment, but does not retire

Benefit Accumulated contributions without interest

Eligibility Member terminates employment with at least 10 years of Creditable Service, but does not retire

Benefit Benefits, based on Creditable Service and Final Average Compensation at termination date, deferred to age 55. If Member contributions are withdrawn, benefit is forfeited.

Death

Eligibility Member eligible for retirement

Benefit (1) Surviving spouse may elect Option 2 benefits (including 100% Joint & Survivor actuarially equivalent to 50% Joint & Survivor, without reduction for early commencement) or a refund of the Member's contributions

Eligibility Member not eligible for retirement

Benefit (2) Surviving spouse may elect a monthly benefit of \$600 payable until remarriage, or a refund of the Member's contributions

Eligibility Eligible children under age 18

Benefit (3) Monthly benefit of \$150 per child (maximum \$300), payable until age 18. These benefits are in addition to any benefits payable under (1) or (2).

Eligibility Member died prior to May 24, 1989

Benefit (4) Monthly benefit to surviving spouse of \$600

Eligibility No benefits are payable under (1), (2), (3) or (4)

Benefit \$150 monthly benefit to unmarried dependent parent until death or remarriage

Disability

Eligibility	Ordinary Disability after 10 or more years of Creditable Service
Benefit	2.5% of Final Average Compensation times Creditable Service, with a minimum benefit of 50% of Final Average Compensation
Eligibility	Service Connected Disability
Benefit	50% of Final Average Compensation, plus 1.5% of Final Average Compensation times Creditable Service in excess of 10 years, with a combined maximum benefit of 90% of Final Average Compensation

Final Average Compensation

For members whose date of hire is prior to September 1, 2015:
Average compensation during the highest 36 consecutive months of Creditable Service

For members whose date of hire is on or after September 1, 2015:
Average compensation during the highest 60 consecutive months of Creditable Service

Date of Hire

The most recent date of hire for an active member, inactive member, or vested nonmember, or the date of hire on which a service retiree's or a disability retiree's original pension calculation was based

Creditable Service

Service credited under Retirement System; military service (maximum of three years); additional military service as required under USERRA for which member contributions are received

Vesting

If a member terminates employment for any reason other than retirement, death, or disability, he/she will be entitled to receive a nonforfeitable (vested) interest in their Accrued Benefit depending on years of service as shown below.

<u>Years of Service</u>	<u>Percentage Vested</u>
Less than 10	0%
10 or more	100%

Contributions

Members: 8% of compensation. Effective January 1, 2002, member contribution is equal to Maximum Employer Contribution, if less than 8%. If the Maximum Employer Contribution rate is 17% or greater, the member contribution rate will be 50% of the Employer Contribution rate, but not more than 9.5%. The Maximum Employer Contribution rate is the larger of the City rate and the Special Funds rate.

Employer Contribution: Balance, actuarially determined. Maximum Employer Contribution: Employer Contribution plus adjusting percentages for pro rata allocation of obligations for transfer of members to plans maintained by the State or a political subdivision thereof.

MERS payments received for 2006 and later are reserved for future Supplemental Benefit Payments

Payment Forms

Normal Form For members whose date of hire is before September 1, 2015: Normal form is joint and 50% contingent survivor. For members whose date of hire is on or after September 1, 2015: Normal form is a life annuity. For members entitled to Service Retirement Benefits, actuarially equivalent to regular retirement allowance.

Optional Forms Option 1: Refund of excess of Member's contributions over aggregate benefits paid;
Option 2: 100% Joint & Survivor to designated contingent annuitant;
Option 3: Any other form approved by the Board

Retirement Benefit Adjustments

For Members who retired before December 31, 1989, or surviving spouses of such Members, who did not enter DROP, an annual payment of \$600 at July 1, 1992 plus \$30 for each year retired since then (excluding first year)

Supplemental Benefit Payments

To be funded from (i) 1/10 of the first 2%, and 1/20 of the remainder, of excess return on the actuarial value of assets, provided the aggregate experience from all sources is an actuarial gain; (ii) decreases in Retirement Benefit Adjustment payments under 1:269 since July, 2002; and (iii) MERS payments received for 2006 and later

Deferred Retirement Option Plan (DROP):

- Duration For members whose date of hire is prior to September 1, 2015:
The lesser of 5 years, or 32 years minus Creditable Service at DROP entry
- For members whose date of hire is on or after September 1, 2015:
The lesser of 5 years; or 35 years minus Creditable Service at DROP entry; for those not eligible at 30 years of Creditable Service because of age: duration is the difference between (a) & (b) provided the difference is at least 2 years:
(a) Earliest eligibility plus 5 years and
(b) Election for DROP
- Eligibility Prior to July 1, 1991, eligible to retire with an immediate service retirement allowance and between 25 and 30 years of Creditable Service
- Benefit Service retirement allowances are paid into the Member's DROP account, and credited with interest at the rate set by the Board of Trustees. No further Member or employer contributions are payable, and no further benefits are accrued.
- Upon retirement and termination of DROP participation (or death), the Member (or beneficiary) may elect one of the following:
- (a) A lump sum of the DROP account balance;
 (b) A life annuity based on the DROP balance;
 (c) Any other method of payment approved by the Board of Trustees
- Normal survival benefits payable to survivors of retirees are paid upon death of the Member while a DROP participant
- Eligibility For members whose date of hire is prior to September 1, 2015:
On and after July 1, 1991, eligible to retire with an immediate service retirement allowance and between 25 and 30 years of Creditable Service.
On and after July 1, 2002, Member has at least ten (10) years of Creditable Service and has attained at least age 55, with DROP duration not greater than three (3) years.
- For non-public safety members whose date of hire is on or after September 1, 2015:
On and after July 1, 1991, eligible to retire at age 55 with an immediate service retirement allowance and between 25 and 33 years of Creditable Service.
On and after July 1, 2002, Member has at least ten (10) years of Creditable Service and has attained at least age 60, with DROP duration not greater than three (3) years.
- For non-public safety members whose date of hire is on or after September 1, 2015:
On and after July 1, 1991, eligible to retire at age 50 with an immediate service retirement allowance and between 25 and 33 years of Creditable Service.
On and after July 1, 2002, Member has at least ten (10) years of Creditable Service and has attained at least age 55, with DROP duration not greater than three (3) years.
- Benefit Comparable to pre-July 1, 1991 provisions, except interest is not credited to DROP account until the conditions of DROP participation have been satisfied. If the Member does not terminate employment at the end of the DROP period, potential interest credits are forfeited.

Compensated Absences

- Eligibility Upon written consent of the Member or his surviving spouse, the Retirement System will provide the following with respect to unused, accumulated vacation time and sick leave.
- Benefit
- (a) Cash payment for a portion, with the remainder added to the Member's Creditable Service, on the basis of one (1) hour for each two (2) hours of unused time
 - (b) Conversion of all of the accumulated time to Creditable Service, on the basis of one (1) hour for each hour of unused accumulated time and sick leave

Any unused time converted to service credit is included in determining eligibility for retirement and benefits. For purposes of determining Final Average Compensation, compensation at the time of retirement or death is assumed to continue for the period of added service.

System Provisions Not Included

We are not aware of any system provisions not included in the valuation

Adjustments Made for Subsequent Events

We are not aware of any event following the measurement date and prior to the date of this report that would materially impact the results of this report

Changes Since Prior Report

For those members with dates of hire on or after September 1, 2015:

- Service retirement eligibility is age 55 for public safety members or age 60 for non-public safety members with at least 10 years of service or 20 years of service regardless of age.
- Full retirement eligibility (3% of final average compensation for each year of creditable service) is age 50 for public safety members or age 55 for non-public safety members with at least 25 years of service.
- Early retirement benefits are reduced to an actuarial equivalent benefit.
- The normal form of benefit is a life annuity.
- Final average compensation is based on the average compensation during the highest 60 consecutive months of creditable service.
- The policy of rounding service up to the next highest quarter has been abolished.

Valuation Date	January 1, 2016
Participation and Asset Information Collected as of	January 1, 2016
Investment Return	7.25% per year, compounded annually, net of investment expenses
Inflation	2.75% per year
Annual Pay Increases	Inflation, plus

<u>Age</u>	<u>BREC/Regular</u> %	<u>Fire/Police</u> %
30	2.50	4.00
35	1.50	2.00
40	1.25	2.00
45	.75	1.00
50	.50	0
55	0	0

Aggregate Payroll Growth 2.50% per year

Mortality RP-2000 Healthy Combined Blue Collar Projected with Scale BB to 2019, producing following specimen rates:

<u>Age</u>	<u>Male</u> %	<u>Female</u> %
20	.0326	.0180
30	.0686	.0277
40	.1295	.0829
50	.2278	.1854
60	.7237	.4089
70	2.0079	1.4815

Disabled Mortality RP-2000 Disabled Mortality Projected with Scale BB to 2019

Withdrawal Rates

<u>Age</u>	<u>Turnover</u>
20	.079
25	.077
30	.072
35	.063
40	.052
45	.040
50	.026
55	.009
60	.001

Probabilities of turnover are in accordance with the Eleventh Actuarial Valuation of the Railroad Retirement System based on Table T-5. The turnover rates are modified as follows, based on years of employment:

<u>Years of Service</u>	<u>BREC/Regular</u>	<u>Fire/Police</u>
	<u>%</u>	<u>%</u>
0-1	400	110
2	270	85
3	220	45
4-10	180	45
11-15	70	25
16+	50	15

Retirement Rates

	Before 25 Years of creditable service	After 25 Years of creditable service	
<u>Age</u>	<u>Retirement</u>	<u>Service</u>	<u>Retirement</u>
55-60	10%	25	20%
61-63	20%	26	30%
64	25%	27	40%
65+	100%	28+	100%

Assumed Transfers to Retirement System (for accumulated vacation and sick leave, e.g.) (only for members hired on or before April 4, 2015)

	<u>Total</u>
BREC	1.00 year
Regular	1.00 year
Fire	1.75 years
Police	1.50 years

Disability Rates

<u>Age</u>	<u>Disability</u>
20	.0006
25	.0006
30	.0006
35	.0007
40	.0011
45	.0022
50	.0046
55	.0102
60	.0320
61	.0355
62	.0400
63	.0450
64	.0410
65	.0195

Probabilities of disability are in accordance with the Eleventh Actuarial Valuation of the Railroad Retirement System. The disability rates for all members are increased by 100%.

Type of Disability

A percentage of disabilities is assumed to be ordinary disabilities, as shown below:

BREC, Regular	25% service-connected, 75% ordinary
Fire	50% service-connected, 50% ordinary
Police	75% service-connected, 25% ordinary

Actuarial Value of Assets

Market Value as of January 1, 1996. Beginning January 1, 1997, adjusted Market Value with 20% of unrealized gains (or losses) recognized each year. Beginning January 1, 2002, Expected Value Method, with 20% of investment gains (or losses) recognized each year.

Actuarial Cost Method

Entry Age Normal. This method produces a normal cost as a level percentage of pay over the service life of each participant and amortization of the Unfunded Actuarial Accrued Liability (UAAL). Gains and losses are reflected in the UAAL and are included in its amortization.

Starting January 1, 2015, the UAAL is amortized over a 30-year period using an annual total payroll growth assumption. The period will be reduced in successive years until reaching a 15-year open period.

Percent Married

80% of employees are assumed married with males three years older than their female spouses.

Administrative Expense Load

The actual amount of the prior year's expense is added to the normal cost.

Withdrawal of Employee Contributions

100% of employees who terminate (other than retirement, death, or disability) are assumed to withdraw their contributions.

Other

The liability for Retirement Benefit Adjustments and the funding of the Supplemental Benefit Payments from decreases in the Retirement Benefit Adjustments is combined into a perpetuity

Sources of Data

Membership and asset data as of January 1, 2016 was furnished by Retirement Office staff.

Changes Since Prior Valuation

Members hired on or after April 4, 2015 are not assumed to transfer accumulated vacation and sick leave for additional service.

The actuarial report also shows the necessary items required for plan reporting and the any state requirements.

- ✓ Reconciliation of unfunded actuarial liability
- ✓ Statement of changes on value of assets
- ✓ Distribution of assets
- ✓ Supplemental benefit payments account
- ✓ Transfer of excess investment income
- ✓ Active member schedule by division
- ✓ Membership data detail
- ✓ Experience review
- ✓ Analysis of financial experience
- ✓ Accrued liability detail
- ✓ Summary of actuarial accrued liabilities and percentage covered by net assets available for benefits

Reconciliation of Unfunded Actuarial Liability

	January 1, 2016
1. Unfunded actuarial accrued liability, beginning of prior year	\$452,699,197
2. Normal cost	21,575,938
3. Expenses	1,318,104
4. Employer contributions	(40,354,154)
5. Non-employer contributions	(16,087,708)
6. Interest	32,421,673
7. Expected unfunded actuarial accrued liability	\$451,573,050
8. Liability changes due to:	
(a) Amendments	(248,311)
(b) Assumptions	0
(c) Funding methods	0
(d) (Gain)/Loss	43,922,378
(e) Total	\$43,674,067
9. Unfunded actuarial liability beginning of current year	\$495,247,117

**Employees' Retirement System of the City of Baton Rouge and Parish of East Baton Rouge
Actuarial Valuation as of January 1, 2016**

Other Measurements

Statement of Changes on Value of Assets

Additions

Contributions:

Employer	\$38,356,684	\$40,354,154
Member	14,907,221	15,054,222
Nonemployer contributing entity	1,006,487	1,033,486
Total contributions	\$54,270,392	\$56,441,862

Investment income

Net increase in fair value of investments	\$57,188,273	\$(3,043,423)
Interest and dividends	231,187	368,456
Less investment expense, other than from securities lending	(6,888,351)	(6,933,916)
Net income other than from securities lending	\$50,531,109	\$(9,608,883)
Securities lending income	0	0
Less securities lending expense	0	0
Net income from securities lending	\$0	\$0
Net investment income	\$50,531,109	\$(9,608,883)

Other	(92,611)	(140,371)
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Total additions	\$104,708,890	\$46,692,608
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Deductions

Benefit payments, including refunds of member contributions	\$90,949,249	\$96,206,645
Administrative expense	1,388,242	1,318,104
Other	0	0
Total deductions	\$92,337,491	\$97,524,749

Net increase in market value	\$12,371,319	\$(50,832,141)
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Market Value as of

Beginning of year	\$1,060,092,202	\$1,072,463,601
End of year	\$1,072,463,601	\$1,021,631,460

**Employees' Retirement System of the City of Baton Rouge and Parish of East Baton Rouge
Actuarial Valuation as of January 1, 2016**

	Other Measurements	
	December 31, 2014	December 31, 2015
Distribution of Assets		
Cash and deposits	\$17,428,674	\$16,264,555
Securities lending cash collateral	0	0
Total cash	\$17,428,674	\$16,264,555
Receivables:		
Contributions	\$6,458,736	\$3,921,563
Due from broker for investments sold	2,794,739	3,645,416
Investment income	14,708	5,704
Other	131,914	138,862
Total receivables	9,400,097	\$7,711,545
Investments:		
Fixed Income – Domestic	\$288,853,105	\$272,017,206
Fixed Income – International	\$21,687,936	24,610,440
Equities – Domestic	332,008,221	300,457,696
Equities – International	285,677,144	264,259,383
Real Estate	57,892,372	64,441,591
Alternative Investments	63,224,976	75,144,336
Properties at cost	571,724	565,317
Total investments	\$1,049,915,478	\$1,001,495,969
Total assets	\$1,076,744,249	\$1,025,472,069
Liabilities		
Payables		
Investment management fees	\$971,728	\$1,028,667
Due to broker for investments purchased	1,893,824	1,256,475
Collateral payable for securities lending	0	0
Other	0	0
Total liabilities	\$2,865,552	\$2,285,142
Total	\$1,073,878,697	\$1,023,186,927
Reserved Assets		
Supplemental Benefit Payments Account	\$(1,415,096)	\$(1,555,467)
Assets available for benefits	\$1,072,463,601	\$1,021,631,460

Supplemental Benefit Payments Account

1. RBA payments in 2002	\$783,450		
2. Accumulation of SBP account			
a. Year	<u>2013</u>	<u>2014</u>	<u>2015</u>
b. Valuation interest rate	7.50%	7.50%	7.25%
c. Balance at beginning of year	1,247,763	1,322,485	1,415,096
d. Interest on balance	93,582	99,186	102,594
e. RBA payments in year	548,490	518,160	471,570
f. Addition to SBP account (1-2 (e))	234,960	265,290	311,880
g. MERS Contribution for previous year			
i. Date received	6/3/2013	6/16/2014	6/26/2015
ii. Amount	939,361	973,406	1,005,503
iii. Days	212	199	189
h. Interest on g(ii)	40,920	39,803	37,748
i. MERS contribution for current year			
i. Date received	6/16/2014	6/26/2015	--/--/2016
ii. Amount	973,406	1,005,503	1,033,486
j. Distributions from SBP account			
i. Date of distributions	9/16/2013	9/15/2014	9/15/2015
ii. Amount	1,240,864	1,288,575	1,317,083
iii. Days	107	108	108
k. Interest on j(ii)	<u>27,282</u>	<u>28,596</u>	<u>28,254</u>
l. Balance at end of year (c+d+f+h+i(ii)-j(ii)-k)	1,322,485	1,415,096	1,555,467
m. Transfer of excess investment income ¹	<u>0</u>	<u>0</u>	<u>0</u>
n. Final balance at end of year	1,322,485	1,415,096	1,555,467

*1/10 of first 2% and 1/20 of additional excess returns

Transfer of Excess Investment Income

1. Actuarial value of assets as of 01/01/2015	\$1,106,575,866
2. Contributions from employer, members, other	56,441,862
3. Benefits, refunds, and administrative expense	(97,524,749)
4. Theoretical actuarial value of assets without return at 12/31/2015 (1.+ 2. + 3.)	\$1,065,492,979
5. Average actuarial value of assets during 2015 (1. + 4.)/2	\$1,086,034,423
6. Expected return at 7.25%	78,763,552
7. Actual return	54,238,538
8. Excess investment return	0
9. Excess Investment return transfer	
(a) 10% of first 2% (10% x \$0) =	0
(b) 5% of additional return (5% x \$0) =	<u>0</u>
(c) Total Preliminary excess return transfer	0
10. Experience gain/(loss) for 2015	\$(43,922,378)
11. Final excess investment return transfer (lesser of 9(c) and 10, but not less than zero)	\$0

Active Member Schedule

Active member information grouped based on age and service.

BREC

Age Group	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total	Average Pay
Under 25	13	4									17	22,490
25 to 29	10	23	4								37	31,131
30 to 34	12	23	10	4							49	35,684
35 to 39	12	15	14	14	1						56	41,885
40 to 44	7	17	13	10	5	2					54	42,724
45 to 49	3	13	7	10	1	2	1				37	43,492
50 to 54	4	15	14	17	5						55	41,547
55 to 59	11	9	19	5	4	2	2				52	39,980
60 to 64	2	10	10	5	3						30	40,159
65 to 69	3	3	3	2							11	36,615
70 & up		1	5	2							8	34,323
Total	77	133	99	69	19	6	3				406	38,893

Active Member Schedule

Active member information grouped based on age and service.

GENERAL

Age Group	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total	Average Pay
Under 25	33	23									56	29,485
25 to 29	64	147	25								236	33,190
30 to 34	29	113	114	11							267	38,615
35 to 39	26	78	83	47	16	1					251	43,531
40 to 44	28	63	70	47	60	10					278	43,822
45 to 49	21	54	59	54	54	46	8				296	45,587
50 to 54	18	44	55	52	53	51	11				284	42,811
55 to 59	12	52	71	45	43	49	7	1			280	41,565
60 to 64	11	32	41	19	23	29	2				157	46,043
65 to 69	3	13	14	7	12	8	2			1	60	46,650
70 & up		4	4	3	3	2					16	40,686
Total	245	623	536	285	264	196	30	1		1	2,181	41,665

Active Member Schedule

Active member information grouped based on age and service.

FIREFIGHTERS

Age Group	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total	Average Pay
Under 25	13	29									42	36,737
25 to 29	13	53	28	1							95	40,533
30 to 34	4	30	42	43							119	48,320
35 to 39		12	20	43	27	1					103	58,049
40 to 44		2	8	13	32	19					74	68,540
45 to 49			3	8	20	29	3				63	72,793
50 to 54				1	5	14	2				22	77,534
55 to 59						3	1				4	81,147
60 to 64			1		1	1					3	88,142
65 to 69												
70 & up												
Total	30	126	102	109	85	67	6				525	55,382

Active Member Schedule

Active member information grouped based on age and service.

POLICE

Age Group	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total	Average Pay
Under 25												
25 to 29												
30 to 34												
35 to 39					2						2	57,707
40 to 44					7	5					12	71,166
45 to 49						5					5	71,303
50 to 54					1	3	1				5	78,989
55 to 59						1	1				2	66,224
60 to 64												
65 to 69												
70 & up												
Total					10	14	2				26	71,281

Membership Data

1. Actives

	<u>Count</u>	<u>Average Salary</u>
		-\$-
BREC	406	38,893
Regular	2,181	41,665
Fire	525	55,382
Police	<u>26</u>	71,281
Total	3,138	43,847

2. Annuitants

	<u>Count</u>	<u>Average Annuity</u>
		-\$-
Retirees	2,401	27,268
Beneficiaries	654	10,341
Disabilities	202	15,609
DROP	<u>341</u>	44,804
Total	3,598	25,179

3. Inactive Members

	<u>Count</u>	<u>Average Deferred Annuity</u>
		-\$-
Deferred Vested	20	11,972

Retired and Terminated Members Data

	<u>Number</u>	<u>Benefits</u>
BREC		-\$-
DROP	14	297,333
Retired	142	3,204,615
Beneficiaries	27	191,339
Disabled	8	99,508
Vested Terminated	<u>2</u>	<u>23,577</u>
Subtotal	193	3,816,372
REGULAR		
DROP	241	9,353,441
Retired	1,602	38,979,723
Beneficiaries	376	3,720,564
Disabled	143	2,186,066
Vested Terminated	<u>15</u>	<u>148,683</u>
Subtotal	2,377	54,388,977
FIRE		
DROP	81	5,340,246
Retired	449	16,996,131
Beneficiaries	146	1,762,821
Disabled	27	541,516
Vested Terminated	<u>2</u>	<u>43,058</u>
Subtotal	705	24,683,772
POLICE		
DROP	5	286,510
Retired	208	6,290,132
Beneficiaries	105	1,088,505
Disabled	24	325,977
Vested Terminated	<u>1</u>	<u>24,129</u>
Subtotal	343	8,015,253
TOTAL		
DROP	341	15,278,030
Retired	2,401	65,470,602
Beneficiaries	654	6,763,228
Disabled	202	3,153,067
Vested Terminated	<u>20</u>	<u>239,447</u>
GRAND TOTAL	3,618	90,904,374

Experience Review

The following table quantifies the effects of each component of experience in 2015, based on the latest assumptions and method changes adopted by the Board as a result of the 2009-2013 Experience Study.

Table 1 - 2015 (Gain)/Loss Analysis

	No. Active	Unfunded actuarial liability -\$-	Employer contribution -\$- -%-	
2015 - Actual	3,181	452,699,197	39,173,320	28.90
2016 - Expected (for continuing members)	2,786	451,573,050	38,361,510	30.96
<u>Elements of Experience</u>				
Investment return		24,525,014	1,538,449	1.12
Salary increases		5,256,555	566,628	(0.19)
Retirements, DROP	(14)	10,489,140	657,982	0.53
Mortality	5	(3,173,491)	(199,072)	(0.16)
Disability	13	267,256	16,765	0.01
Turnover	(17)	1,411,162	88,522	0.07
New members	365	380,672	866,692	(1.92)
Data, other		<u>4,766,070</u>	<u>226,337</u>	<u>0.19</u>
Total	352	43,922,378	3,762,303	(0.35)
Assumption changes		0	0	0.00
Plan changes		<u>(248,311)</u>	<u>(236,017)</u>	<u>(0.17)</u>
2016 Actual	3,138	495,247,117	41,887,796	30.44

The expected 2016 components reflect a primary objective of the actuarial cost method, under which normal costs are a level percentage of payroll, and the January 1, 2016 unfunded liability is amortized over 29 years, increasing by 2.5% annually, while successive years amortization period will reduce until reaching a 15-year open period, if the aggregate experience of the Retirement System is the same as that predicted by the actuarial assumptions. This means that the expected 2016 Normal Cost is 6.9% of expected payroll, and the expected 2016 City/Parish contribution is \$38,361,510.

Analysis of Financial Experience

Gains and losses in unfunded actuarial liability during years ended 2010 - 2015
resulting from differences between assumed experience and actual experience

	\$ Gain or (Loss) for year					
<u>Elements of Experience</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Investment return	\$(20,396,885)	\$(35,231,052)	\$(20,304,794)	\$(3,486,533)	\$(8,520,730)	\$(24,525,014)
Salary increases	7,087,550	(623,723)	3,017,967	12,896,696	4,046,219	(5,256,555)
Retirements	26,986,427	15,933,989	3,351,339	(398,081)	(1,433,818)	(10,489,140)
Mortality	(9,830,807)	(14,988,684)	(3,643,276)	1,047,985	467,752	3,173,491
Disability	(570,786)	(10,597)	148,348	(698,808)	185,079	(267,256)
Turnover	(10,119,063)	1,878,566	571,654	(1,710,221)	1,375,127	(1,411,162)
New members	(1,461,549)	(1,671,178)	(2,204,660)	(1,417,682)	(570,624)	(380,672)
Contribution differences	3,620,538	5,303,016	N/A	N/A	N/A	N/A
Leaves, transfers, etc.	<u>(3,055,745)</u>	<u>702,493</u>	<u>3,124,006</u>	<u>0</u>	<u>(2,869,596)</u>	<u>(4,766,070)</u>
Gain or (loss) from Experience	(11,360,858)	(34,010,186)	(15,939,416)	6,233,356	(7,320,591)	(43,922,378)
Non recurring elements:						
Plan amendment	--	--	--	--	--	248,311
Assumption change	--	--	--	--	(47,540,972)	--
Actuarial method change						
Data (optional forms)	--	--	--	(12,509,006)	--	--
Valuation software	--	--	5,306,905	13,556,351	--	--
Composite gain/(loss) During year	<u>\$(11,360,858)</u>	<u>\$(34,010,186)</u>	<u>\$(10,632,511)</u>	<u>\$7,280,701</u>	<u>\$(54,861,563)</u>	<u>\$(43,674,067)</u>

Entry Age Accrued Liability (Detail)

	January 1, 2016
Funding liabilities	
Active members	
Retirement	\$405,647,236
Disability	17,333,755
Death	5,325,545
Termination	9,051,131
Total active	\$437,357,667
Inactive members	
Retired members	\$683,109,330
DROP (future benefits)	184,285,311
DROP (accounts)	203,241,944
Leave balances	6,277,801
Beneficiaries	58,968,737
RBA benefits	10,446,000
Disableds	29,285,979
Terminated vested members	2,005,865
Total inactive	\$1,177,620,967
Total	\$1,614,978,634

Summary of Actuarial Accrued Liabilities and Percentage Covered by Net Assets Available for Benefits

Valuation date	(1)	(2)	(3)	(4)	Net assets available for benefits	Percentage of actuarial liabilities covered by assets			
	Active members contributions*	Retirees and survivors**	Terminated vested members	Active members employer provided		(1)	(2)	(3)	(4)
	-\$-	-\$-	-\$-	-\$-	-\$-	-%-	-%-	-%-	-%-
01/01/06	185,590,714	592,961,470	2,777,542	329,752,003	926,869,870	100.0	100.0	100.0	44.1
01/01/07	196,143,559	629,048,416	3,398,410	334,584,762	1,031,031,076	100.0	100.0	100.0	60.5
01/01/08	212,407,644	660,297,629	3,229,816	330,713,124	1,035,391,227	100.0	100.0	100.0	48.2
01/01/09	235,554,734	689,274,354	3,719,456	341,556,008	711,989,579	100.0	69.1	0.0	0.0
01/01/10	256,663,672	720,761,899	4,156,485	368,492,011	848,628,273	100.0	82.1	0.0	0.0
01/01/11	267,075,592	742,436,557	4,396,791	371,813,179	941,863,350	100.0	90.9	0.0	0.0
01/01/12	270,043,946	762,106,926	4,255,920	386,811,384	887,029,701	100.0	81.0	0.0	0.0
01/01/13	270,204,544	788,868,802	3,909,968	383,826,148	960,010,682	100.0	87.4	0.0	0.0
01/01/14	271,758,390	831,113,713	2,267,254	366,837,917	1,060,092,202	100.0	94.9	0.0	0.0
01/01/15	284,306,327	932,088,088	2,236,906	340,643,742	1,072,492,947	100.0	84.6	0.0	0.0
01/01/16	306,319,701	966,095,357	2,005,865	340,557,711	1,021,631,460	100.0	74.0	0.0	0.0

* Including DROP accounts.

** Including DROP participants' future benefits.