

**JUDICIAL RETIREMENT BENEFITS TRUST  
STATE OF RHODE ISLAND**

ACTUARIAL VALUATION REPORT  
AS OF JUNE 30, 2006

July 11, 2007

Retirement Board  
40 Fountain Street, First Floor  
Providence, RI 02903-1854

Dear Members of the Board:

**Subject: Actuarial Valuation of the JRBT as of June 30, 2006**

This is the June 30, 2006 actuarial valuation of the Judicial Retirement Benefits Trust (JRBT). This report describes the current actuarial condition of the JRBT, determines the recommended employer contribution rate, and analyzes changes in the contribution rate. Valuations are prepared annually, as of June 30, the last day of the JRBT plan year. Benefits for state judges hired before January 1, 1990 are funded by the state from general assets, on a pay-as-you-go basis, and are not included in this valuation.

Under Rhode Island General Laws, the employer contribution rate for Judges is certified annually by the State of Rhode Island Retirement Board. This rate is determined actuarially, based on the plan provisions in effect as of the valuation date and the actuarial assumptions and methods adopted by the Board or set by statute. The Board's current policy is that the contribution rate determined by a given actuarial valuation becomes effective two years after the valuation date. For example, the rate determined by the June 30, 2006 actuarial valuation will be applicable for the year beginning July 1, 2008 and ending June 30, 2009.

**Financing objectives and funding policy**

The actuarial cost method and the amortization periods are set by statute. Contribution rates and liabilities are computed using the Entry Age actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The normal cost rate is determined as a percent of pay. The employer normal cost rate is the difference between this and the member contribution rate. The amortization rate is determined as a level percent of pay. It is the amount required to amortize the unfunded actuarial accrued liability over a closed period (30 years as of June 30, 1999, 23 years from June 30, 2006). The amortization rate is adjusted for the two-year deferral in contribution rates.

### **Progress toward realization of financing objectives**

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches 100%. The funded ratio, as can be seen on Table 3, decreased from 87.0% to 86.8%. The employer contribution rate increased from 32.07% to 32.35%. An analysis of the changes in the employer contribution rate appears on Table 10a. An analysis of the changes in the unfunded actuarial accrued liability appears on Table 10c.

### **Benefit provisions**

The benefit provisions reflected in this valuation are those which were in effect on June 30, 2006. There were no changes adopted since the previous actuarial valuation. The benefit provisions are summarized in Appendix B.

### **Assumptions and methods**

There were several changes to the assumptions and methods since the last actuarial valuation, prepared as of June 30, 2005. The assumptions for salary increases and the retirement assumption were modified based on an experience study performed in June of 2006.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods.

The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

### **Data**

The System's staff supplied data for active members and retirees as of June 30, 2006. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. The System's staff also supplied asset data as of June 30, 2006.

### **Certification**

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Board of Trustees

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In our opinion, our calculations also comply with the requirements of Rhode Island state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries. Both are Members of the Society of Actuaries and Members of the American Academy of Actuaries, they both meet the Qualification Standards of the American Academy of Actuaries, and they are experienced in performing valuations for large public retirement systems.

Sincerely,  
Gabriel, Roeder, Smith & Company

A handwritten signature in cursive script, appearing to read "J. Newton".

Joseph P. Newton, FSA, MAAA  
Consultant

A handwritten signature in cursive script, appearing to read "J. Christian Conradi".

J. Christian Conradi, ASA, MAAA  
Senior Consultant

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Item	Valuation Date:		
	June 30, 2006		June 30, 2005
	After Assumption Changes	Before Assumption Changes	
Membership			
• Number of:			
- Active members	45	45	44
- Retirees and beneficiaries	3	3	2
- Inactive members	-	-	-
- Total	48	48	46
• Payroll supplied by ERSRI, annualized	\$ 6,313,069	\$ 6,313,069	\$ 5,684,585
Contribution rates			
• Member	8.75%	8.75%	8.75%
• State	32.35%	33.16%	32.07%
Assets			
• Market value	\$ 25,055,824	\$ 25,055,824	\$ 19,892,509
• Actuarial value	23,873,009	23,873,009	19,347,372
• Return on market value	11.6%	11.6%	10.2%
• Return on actuarial value	8.8%	8.8%	5.9%
• Employer contribution	\$ 2,291,665	\$ 2,291,665	\$ 2,056,558
• Ratio of actuarial value to market value	95.3%	95.3%	97.3%
Actuarial Information			
• Employer normal cost %	28.99%	29.85%	29.63%
• Unfunded actuarial accrued liability (UAAL)	\$ 3,631,093	\$ 3,736,905	\$ 2,903,356
• Amortization rate	3.36%	3.31%	2.44%
• Funding period	23 years	23 years	24 years
• GASB funded ratio	86.8%	86.5%	87.0%
Projected employer contribution			
• Fiscal year ending June 30,	2009	2009	2008
• Projected payroll	\$ 7,204,260	\$ 7,360,492	\$ 6,627,734
• Projected employer contribution	2,330,578	2,440,739	2,125,514

### **Contribution Rates**

The employer contribution rate for JRBT is determined actuarially. The rate determined in this valuation becomes effective two years after the valuation date, in this case as of July 1, 2008.

The rate consists of two pieces: the employer's normal cost rate and the amortization rate. The normal cost rate is the Entry Age Normal cost as a percent of pay. The amortization rate is the unfunded actuarial liability amortized over 23 years as a level percent of pay.

The increase in the employer contribution rate, from 32.07% to 32.35%, was principally due to the actual salary increases being greater than expected.

An analysis of the changes in the employer contribution rate appears on Table 10a and a history of the employer contribution rates appears on Table 10b.

## **Financial Data and Experience**

Assets for JRBT are held in trust and are commingled with those of several other plans and programs—including the Employees' Retirement System of Rhode Island—for investment purposes. The State Treasurer is responsible for setting the asset allocation policy and for investing the funds.

Table 5 shows the net plan assets for JRBT. Table 6 shows a reconciliation of the assets between the previous valuation and this valuation. Table 7 shows the development of the actuarial value of assets. Table 8 shows the distribution of investments by category—74% of assets at market value are held in equities—and Table 9 shows a historical summary of the return rates. As can be seen, the market value rate of return was 11.6% for the year ended June 30, 2006, and the return on an actuarial asset value basis was 8.8%.

The average annual return based on the market value of assets over the last ten years (July 1, 1996 – June 30, 2006) was 7.45%. This is less than the current 8.25% annual investment return assumption.

The average annual return based on the actuarial value of assets over the same period was 8.36%.

The System's staff provided all of the financial information used in this report.



### **Member Data**

The System's staff supplied member data as of June 30, 2006. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall. Information provided for active members includes: name, identification number, sex, a code indicating whether the member was active or inactive, date of birth, service, salary, date of last contribution, and accumulated member contributions without interest. There were also three retirees as of June 30, 2006.

Table 11 and Table 12 show information and statistics about the active and retired members. Table 13 shows the distribution of active members by age and service.

The total payroll shown on the statistical tables is the amount that was supplied by the System's staff. For the liability calculations, reported pays were adjusted in accordance with the actuarial assumptions to reflect one year's salary increase.

## **Benefit Provisions**

Appendix B includes a summary of the benefit provisions for JRBT. There were no material changes in the benefit provisions since the preceding valuation.

There are no ancillary benefits—e.g., cost of living benefits—that are currently provided by a source independent of JRBT but that might be deemed a JRBT liability if continued beyond the availability of funding by the current funding source.

## **Actuarial Methods and Assumptions**

Appendix A includes a summary of the actuarial assumptions and methods used in this valuation. Costs are determined using the Entry Age Normal actuarial cost method. This method was adopted effective June 30, 1999.

The method used to determine the actuarial value of assets is a five-year smoothed market method. This technique is further described in Section III of Appendix A. The development of the actuarial value of assets utilizing this method is shown on Table 7.

### **Discussion of the Experience Study**

Between the June 30, 2005 actuarial valuation and this report, the Retirement Board asked GRS to analyze the assumptions and methods used in the JRBT actuarial valuation. The experience study was performed for the period June 30, 2000 to June 30, 2006. The study examined the assumptions used for expected investment rate, inflation rate, retirement, mortality, termination, disability, salary increases, payroll growth, and other miscellaneous assumptions.

Our recommended changes are:

1. Decrease the salary increase assumption from 5.25% to 4.50%, in line with the wage inflation assumption made for ERSRI.
2. Decrease the payroll growth assumption from 5.25% to 4.50% to be consistent with the change above. This does not include any allowance for future membership growth.
3. Modify the retirement assumption. Under the current assumption set, we assume that judges will retire when first eligible for unreduced retirement. However, in reviewing the data on judges who retired under the pay-as-you-go program (judges hired before Jan. 1, 1990), we found that it was common for judges to retire on the 75% reduced benefit. As a result, we have modified our assumption so that one-third of judges are assumed to retire when the first become eligible for a reduced retirement benefit, with the remainder retiring when first eligible for an unreduced retirement benefit. This is more conservative than the current assumption.
4. Active mortality rates were set as 65% of the post-retirement mortality rates, for reasons discussed in the ERSRI experience report.

All of the changes recommended by GRS were modified based on an experience study performed in June of 2006. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of JRBT.

## **GASB 25 and Funding Progress**

Accounting requirements for JRBT are set by Governmental Accounting Standards Board Statement No. 25 (GASB 25). Table 3 shows a historical summary of the funded ratios and other information for JRBT. Table 4 shows other information needed in connection with disclosure under GASB 25.

GASB 25 requires that plans calculate an Annual Required Contribution (ARC), and, if actual contributions received are less than the ARC, this must be disclosed. The ARC must be calculated in accordance with certain parameters. In particular, it must include a payment to amortize the unfunded actuarial accrued liability. This amortization payment must be computed using a funding period no greater than 30 years. Further, the amortization payment included in the ARC may be computed as a level amount, or it may be computed as an amount that increases with payroll. However, if payments are computed on a level percent of payroll approach, the payroll growth assumption may not anticipate future membership growth.

For JRBT, the calculated contribution rate shown in Table 1 is the ARC. The amortization period was established as 30 years as of June 30, 1999, and there are 23 years remaining as of June 30, 2006. The period and amortization method comply with the requirements of GASB 25. The payroll growth rate used in the amortization calculations does not include any allowance for membership growth.

Development of Contribution Rate (Judges)

	June 30, 2006		June 30, 2005
	After Assumption	Before Assumption	
	Changes	Changes	
	(1)	(2)	(3)
1. Compensation			
(a) Supplied by ERSRI, annualized	\$ 6,313,069	\$ 6,313,069	\$ 5,684,585
(b) Adjusted for one-year's pay increase	6,597,157	6,644,505	5,983,026
2. Actuarial accrued liability	27,504,102	27,609,914	22,250,728
3. Actuarial value of assets	23,873,009	23,873,009	19,347,372
4. Unfunded actuarial accrued liability (UAAL) (2 - 3)	3,631,093	3,736,905	2,903,356
5. Remaining amortization period at valuation date	23	23	24
6. Contribution effective for fiscal year ending:	June 30, 2009	June 30, 2009	June 30, 2008
7. Base pay projected for two-year delay	7,204,260	7,360,492	6,627,734
8. Amortization of UAAL	242,300	243,297	161,908
9. Normal cost			
(a) Total normal cost rate	37.74%	38.60%	38.38%
(b) Employee contribution rate	8.75%	8.75%	8.75%
(c) Employer normal cost rate ( a - b )	28.99%	29.85%	29.63%
10. Employer contribution rate as percent of payroll			
(a) Employer normal cost rate	28.99%	29.85%	29.63%
(b) Amortization payments ( 8 / 7 )	3.36%	3.31%	2.44%
(c) Total ( a + b )	32.35%	33.16%	32.07%
11. Estimated employer contribution amount (7 * 10(c))	\$ 2,330,578	\$ 2,440,739	\$ 2,125,514

**Actuarial Present Value of Future Benefits**

	June 30, 2006		June 30, 2005
	After Assumption	Before Assumption	
	Changes	Changes	
	(1)	(2)	(3)
1. Active members			
a. Service retirement benefits	\$ 41,837,765	\$ 43,603,602	\$ 37,490,180
b. Deferred termination benefits	-	-	-
c. Refunds	-	-	-
d. Pre-retirement death benefits	1,290,078	2,223,106	2,067,723
e. Non-occupational disability retirement benefits	-	-	-
f. Occupational disability retirement benefits	-	-	-
g. Total	\$ 43,127,843	\$ 45,826,708	\$ 39,557,903
2. Retired members			
a. Service retirements	\$ 842,499	\$ 842,499	\$ 853,167
b. Disability retirements	-	-	-
c. Beneficiaries	813,198	813,198	377,760
d. Total	\$ 1,655,697	\$ 1,655,697	\$ 1,230,927
3. Inactive members	\$ -	\$ -	\$ -
4. Total actuarial present value of future benefits	\$ 44,783,540	\$ 47,482,405	\$ 40,788,830
5. Determination of actuarial accrued liability			
a. Total actuarial present value of future benefits	\$ 44,783,540	\$ 47,482,405	\$ 40,788,830
b. Less present value of future normal costs	(17,279,438)	(19,872,491)	(18,538,102)
c. Actuarial accrued liability (a + b)	\$ 27,504,102	\$ 27,609,914	\$ 22,250,728

**Schedule of Funding Progress**  
**(As required by GASB #25)**

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL) (3)-(2)	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
June 30, 1999	5,521,693	7,415,237	1,893,544	74.5%	3,169,183	59.7%
June 30, 2000	7,374,851	9,719,608	2,344,757	75.9%	3,533,354	66.4%
June 30, 2001	9,190,325	12,026,257	2,835,932	76.4%	4,092,423	69.3%
June 30, 2002	11,129,208	16,243,709	5,114,501	68.5%	4,738,059	107.9%
June 30, 2003	13,270,977	18,435,395	5,164,418	72.0%	5,303,153	97.4%
June 30, 2004	16,019,053	21,845,744	5,826,691	73.3%	5,637,865	103.3%
June 30, 2005	19,347,372	22,250,728	2,903,356	87.0%	5,684,585	51.1%
June 30, 2006	23,873,009	27,504,102	3,631,093	86.8%	6,313,069	57.5%

**Notes to Required Supplementary Information**  
**(as required by GASB #25)**

Valuation date	June 30, 2006
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage, closed
Remaining amortization period	23 years
Asset valuation method	5-Yr Smoothed Market
Actuarial assumptions:	
Investment rate of return *	8.25%
Projected salary increase *	4.50%
* Includes inflation at:	3.00%
Cost of living adjustment	3.00%



**Plan Net Assets**  
**(Assets at Market or Fair Value)**

Item	June 30, 2006	June 30, 2005
(1)	(2)	(3)
1. Cash and cash equivalents	\$ 315,963	\$ 174,550
2. Receivables:		
a. Employer and member contributions	\$ -	\$ 17,901
b. Transfers receivable	-	-
c. Miscellaneous	6,755	-
d. Total receivables	<u>\$ 6,755</u>	<u>\$ 17,901</u>
3. Investments		
a. Pooled trust	\$ 24,849,236	\$ 19,699,922
b. Plan specific investments	-	-
c. Total	<u>\$ 24,849,236</u>	<u>\$ 19,699,922</u>
4. Invested securities lending collateral	\$ 4,784,720	\$ 2,987,786
5. Property and equipment	\$ 16,543	\$ 19,399
6. Total assets	\$ 29,973,217	\$ 22,899,558
7. Liabilities		
a. Due to other plans	\$ 118,008	\$ -
b. Securities lending liability	4,784,720	2,987,786
c. Accounts and vouchers payable	14,665	19,263
d. Total liabilities	<u>\$ 4,917,393</u>	<u>\$ 3,007,049</u>
8. Total market value of assets available for benefits		
Total (Item 6 - Item 7)	\$ 25,055,824	\$ 19,892,509

### Reconciliation of Plan Net Assets

	<u>June 30, 2006</u>	<u>June 30, 2005</u>
1. Market value of assets as of beginning of year	\$ 19,892,509	\$ 15,844,213
2. Contributions		
a. Members	\$ 564,695	\$ 497,233
b. State	2,291,665	2,056,558
c. Service purchases	-	-
d. Total	<u>\$ 2,856,360</u>	<u>\$ 2,553,791</u>
3. Investment earnings, net of investment expenses	\$ 2,478,300	\$ 1,764,696
4. Expenditures for the year		
a. Benefit payments	\$ (148,928)	\$ (145,209)
b. Cost-of-living adjustments	(12,062)	(7,706)
c. Post-retirement death benefits	-	-
d. Pre-retirement death benefits	-	-
e. Social security supplements	-	-
f. Supplemental pensions	-	-
g. Refunds	-	(91,431)
h. Administrative expenses	(10,355)	(25,845)
i. Total expenditures	<u>\$ (171,345)</u>	<u>\$ (270,191)</u>
5. Transfers and other adjustments	\$ -	\$ -
6. Market value of assets at end of year	\$ 25,055,824	\$ 19,892,509

**Development of Actuarial Value of Assets**

	<u>Year Ending June 30, 2006</u>
1. Market value of assets at beginning of year	\$ 19,892,509
2. Net new investments	
a. Contributions	\$ 2,856,360
b. Benefits paid	(160,990)
c. Refunds	0
d. Subtotal	<u>2,695,370</u>
3. Market value of assets at end of year	\$ 25,055,824
4. Net earnings (3-1-2)	\$ 2,467,945
5. Assumed investment return rate	8.25%
6. Expected return	\$ 1,752,316
7. Excess return (4-6)	\$ 715,629
8. Excess return on assets as of 06/30/2006:	
	<u>Deferred Amount</u>
<u>Period End</u>	<u>Excess Return</u>
(1)	(2)
June 30, 2002	(3)
June 30, 2003	(4)
June 30, 2004	(1,487,784)
June 30, 2005	(391,296)
June 30, 2006	1,216,769
	40%
	60%
	80%
	\$ 0
	(78,259)
	486,708
	201,863
	<u>572,503</u>
	\$ 1,182,815
9. Actuarial value of assets as of 06/30/2006, (Item 3 - Item 8)	\$ 23,873,009
10. Ratio of actuarial value to market value	95.3%

**Distribution of Assets at Market Value  
(Percentage of Total Investments)**

Item (1)	June 30, 2006 (2)	June 30, 2005 (3)
Cash & cash equivalents	2.1%	3.3%
U.S. government & agency securities	14.6%	14.3%
Corporate bonds & notes	8.4%	8.5%
Foreign bonds	0.5%	0.7%
U.S. equity securities	41.1%	45.1%
Foreign equity securities	22.8%	21.7%
Real estate, venture capital, other	10.5%	6.4%
Total investments	100.0%	100.0%

### History of Investment Return Rates

<u>Year Ending June 30 of</u> (1)	<u>Market</u> (2)	<u>Actuarial</u> (3)
1995	17.0%	10.2%
1996	13.7%	13.7%
1997	19.1%	19.1%
1998	16.1%	16.5%
1999	10.1%	14.7%
2000	9.1%	8.8%
2001	(11.0%)	4.9%
2002	(8.4%)	0.9%
2003	4.3%	1.4%
2004	18.0%	4.1%
2005	10.2%	5.9%
2006	11.6%	8.8%
Average Returns:		
Last 5 Years	6.77%	4.20%
Last 10 Years	7.45%	8.36%

### Analysis of Change in Employer Cost

Basis	Employer Cost
1. Employer contribution rates from prior valuation	32.07%
2. Impact of changes, gains and losses	
a. Non-salary liability experience (gain)/loss	0.40%
b. Salary (gain)/loss	1.03%
c. Total payroll growth (gain)/loss	(0.22%)
d. Investment experience (gain)/loss	(0.12%)
e. Changes in assumptions	(0.81%)
f. Changes in plan provisions	0.00%
g. Total	0.28%
3. Employer contribution rates from current valuation	32.35%

### History of Employer Contribution Rates

<u>Valuation Date as of</u> <u>June 30,</u> <u>(1)</u>	<u>Fiscal Year Ending</u> <u>June 30,</u> <u>(2)</u>	<u>Employer Contribution Rate</u> <u>(3)</u>
1998	2001	31.09%
1999	2002	31.58%
2000	2003	33.42%
2001	2004	33.90%
2002	2005	36.19%
2003	2006	35.51%
2004	2007	36.07%
2005	2008	32.07%
2006	2009	32.35%

**Analysis of Change in UAAL**

Basis (1)	June 30, 2006 (2)
1. UAAL as of June 30, 2005	\$ 2,903
2. Impact of changes, gains and losses	
a. Interest at 8.25% for one year	239
b. Expected amortization payments	(366)
c. Investment experience (gain)/loss	(123)
d. Salary (gain)/loss	947
e. Non-salary liability experience (gain)/loss	137
f. Changes in assumptions	(106)
g. Changes in plan provisions	0
i. Total	\$ 728
3. UAAL as of June 30, 2006	\$ 3,631

Note: All dollar figures are shown in thousands.



**Membership Data (State Judges)**

	<u>June 30, 2006</u>	<u>June 30, 2005</u>
	(1)	(2)
1. Active members		
a. Number	45	44
b. Number vested	8	7
c. Total annualized payroll supplied by State	\$ 6,313,069	\$ 5,684,585
d. Average salary	\$ 140,290	\$ 129,195
e. Average age	58.3	58.3
f. Average service	9.0	8.4
2. Inactive members		
a. Number	0	0
3. Service retirees		
a. Number	1	1
b. Total annual benefits	\$ 103,192	\$ 100,428
c. Average annual benefit	\$ 103,192	100,428
d. Average age	78.0	77.0
4. Disabled retirees		
a. Number	0	0
b. Total annual benefits	\$ -	\$ -
c. Average annual benefit	N/A	N/A
d. Average age	N/A	N/A
5. Beneficiaries and spouses		
a. Number	2	1
b. Total annual benefits	\$ 105,827	\$ 54,665
c. Average annual benefit	\$ 52,913	\$ 54,665
d. Average age	75.8	76.7

**Historical Summary of Active Member Data**

Valuation as of June 30,	Active Members		Covered Payroll		Average Salary		Average Age	Average Service
	Number	Percent Increase	Amount	Percent Increase	Amount	Percent Increase		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1996	27	---	\$ 2,596,860	---	\$ 96,180	---	51.5	3.2
1997	28	3.7%	2,815,218	8.4%	100,544	4.5%	53.0	4.1
1998	29	3.6%	3,039,957	8.0%	104,826	4.3%	54.0	4.9
1999	29	0.0%	3,169,183	4.3%	109,282	4.3%	55.0	5.9
2000	31	6.9%	3,533,354	11.5%	113,979	4.3%	55.9	6.5
2001	35	12.9%	4,092,423	15.8%	116,926	2.6%	55.4	6.4
2002	39	11.4%	4,738,059	15.8%	121,489	3.9%	55.6	7.5
2003	42	7.7%	5,303,153	11.9%	126,266	3.9%	55.8	7.6
2004	44	4.8%	5,637,865	6.3%	128,133	1.5%	56.9	8.2
2005	44	0.0%	5,684,585	0.8%	129,195	0.8%	58.3	8.4
2006	45	2.3%	6,313,069	11.1%	140,290	8.6%	58.3	9.0

**Distribution of Active Members by Age and by Years of Service  
 As of 06/30/2006**

Attained Age	Years of Credited Service												Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.
Under 30	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0
30-34	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0
35-39	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0
40-44	0 \$0	1 \$121,265	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$121,265
45-49	0 \$0	0 \$0	1 \$158,150	0 \$0	0 \$0	2 \$127,328	4 \$140,122	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	7 \$139,042
50-54	0 \$0	1 \$127,328	0 \$0	1 \$148,736	3 \$135,134	3 \$133,526	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	8 \$135,255
55-59	0 \$0	0 \$0	1 \$135,803	1 \$143,654	0 \$0	1 \$144,757	3 \$147,555	4 \$158,250	0 \$0	0 \$0	0 \$0	0 \$0	10 \$149,988
60-64	0 \$0	0 \$0	1 \$125,911	1 \$142,486	0 \$0	3 \$128,744	5 \$137,492	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	10 \$134,209
65-69	1 \$132,816	0 \$0	0 \$0	0 \$0	0 \$0	1 \$153,403	4 \$126,973	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	6 \$132,352
70 & Over	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$135,676	3 \$131,537	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	4 \$132,572
Total	0 \$0	3 \$130,749	3 \$139,955	3 \$144,959	3 \$135,134	9 \$131,803	20 \$142,073	4 \$158,250	0 \$0	0 \$0	0 \$0	0 \$0	45 \$140,290

## SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

### I. Valuation Date

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

### II. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal (EAN) actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial accrued liability (UAAL).

1. First, the actuarial present value of future benefits is determined by discounting the projected benefits for each member back to the valuation date using the assumed investment return rate as the discount rate. For active members, the projected benefits are based on the member's age, service, sex and compensation, and based on the actuarial assumptions. The calculations take into account the probability of the member's death, disability, or termination of employment prior to becoming eligible for a retirement benefit, as well as the possibility of the member will remain in service and receive a service retirement benefit. Future salary increases are anticipated. The present value of the expected benefits payable to all active members is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits. Liabilities for future members are not included.
2. The employer contributions required to support the benefits are determined as a level percentage of salary, and consist of a normal contribution and an amortization contribution.
3. The normal contribution is determined using the Entry Age Normal method. Under this method, a calculation is made to determine the rate of contribution which, if applied to the compensation of each new member during the entire period of anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. The salary-weighted average of these rates is the normal cost rate.
4. The employer normal cost rate is equal to (i) the normal cost rate, minus (ii) the member contribution rate.
5. The actuarial accrued liability is equal to the present value of all benefits less the present value of future normal costs. The unfunded actuarial accrued liability (UAAL) is then determined as (i) the actuarial accrued liability, minus (ii) the actuarial value of assets.

6. The amortization contribution rate is the level percentage of payroll required to reduce the UAAL to zero over the remaining amortization period. The UAAL is being amortized over the remainder of a closed 30-year period from June 30, 1999. The employer contribution rate determined by this valuation will not be effective until two years after the valuation date. The determination of the contribution rate reflects this deferral. The unfunded actuarial accrued liability (UAAL) and covered payroll are projected forward for two years, and we then determine the amortization charge required to amortize the UAAL over the remaining amortization period from that point. In projecting the UAAL, we increase the UAAL for interest at the assumed rate and we decrease it for the amortization payments. The amortization payments for these two years are determined by subtracting the current employer normal cost from the known contribution rates for these years, based on the two prior actuarial valuations. Contributions are assumed to be made monthly throughout the year.

### III. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

### IV. Actuarial Assumptions

#### A. Economic Assumptions

1. Investment return: 8.25% per year, compounded annually, composed of an assumed 3.00% inflation rate and a 5.25% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.
2. Salary increase rate: Salaries are assumed to increase at the rate of 4.50% per year.  
  
Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period between the valuation date and the first anniversary of the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption.
3. Payroll growth rate: In the amortization of the unfunded frozen liability, payroll is assumed to increase 4.50% per year. This assumption includes no allowance for future membership growth.

B. Demographic Assumptions

1. Post-termination mortality rates
  - a. Healthy males – Based on the 1994 Group Annuity Mortality Table for males. Rates are set forward one year.
  - b. Healthy females - Based on the 1994 Group Annuity Mortality Table for females.
2. Pre-termination mortality rates – 65% of the mortality rates for non-disabled retirees
3. Disability rates – None
4. Termination rates - None
5. Retirement rates – 33% of members are assumed to retire when eligible for a reduced retirement benefit (age 65 with 10 years of service, or any age with 20 years of service). After the initial reduced retirement eligibility, members are assumed to retire when eligible for an unreduced retirement benefit (age 65 with 20 years of service, or age 70 with 15 years of service). Judges who have not reached eligibility for a retirement benefit by age 75 are assumed to terminate at age 75 and receive either a reduced retirement benefit, if eligible, or a refund.

C. Other Assumptions

1. Percent married: 85% of employees are assumed to be married.
2. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
3. No surviving spouse will remarry and there will be no children's benefit.
4. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

V. Participant Data

Participant data was supplied in electronic files for active members and retirees. The data for active members included birth date, sex, service, salary and employee contribution account balance. For retired members and beneficiaries, the data included date of birth, sex, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and a form of payment code.

## Summary of Benefit Provisions

1. Effective Date and Authority: The Judicial Retirement Benefits Trust (JRBT) became effective on January 1, 1990 for judges hired on or after that date. Benefits are described in Rhode Island General Laws, Title 8, Chapters 3, 8, and 16, Title 28, Chapter 30, and Title 31, Chapter 43.
2. Plan Year: A twelve-month period ending June 30th.
3. Administration: The Judicial Retirement Benefits Trust is administered by the State of Rhode Island Retirement Board. However, the State Treasurer is responsible for the investment of the trust assets, including the establishment of the asset allocation policy. Assets are commingled for investment purposes with those of the Employees' Retirement System of Rhode Island and various other plans and programs.
4. Type of Plan: The Judicial Retirement Benefits Trust is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is a single-employer plan.
5. Eligibility: All judges or justices of the Supreme Court, a superior court, a district court, a family court, an administrative adjudication court or a workers' compensation court participate in this plan if they were hired on or after January 1, 1990. (These are referred to collectively as state judges.) Benefits for state judges hired before January 1, 1990 are being paid by the state from the general assets of the state, on a pay-as-you-go basis. Eligible state judges become members at their date of employment.
6. Salary: Contributions are based on the judge's salary. Benefits are based on the judge's salary at the time of retirement.
7. Employee Contributions: State judges contribute 8.75% of their salary per year. The state "picks up" the members' contributions for its employees under the provisions of Internal Revenue Code (IRC) Section 414(h).
8. Employer Contributions: The state contributes an actuarially determined percentage of the member's annual salary. Contributions determined in a given actuarial valuation go into effect two years after the actuarial valuation.

9. Final Average Compensation (FAC)

- a. For judges who became members on or before July 2, 1997, one-twelfth of the judge's annual salary at the time of retirement.
- b. For judges who became members after July 2, 1997, one-twelfth of the average of the judge's highest three consecutive annual salaries.
- c. Benefits for death while an active member are based on the member's salary at the time of death, regardless of when the judge became a member.

10. Full Retirement

- a. Eligibility: All judges are eligible for unreduced retirement at or after age 65 if the judge has served for 20 years, or at or after age 70 after 15 years of service.
- b. Monthly Benefit: 100% of FAC at retirement.
- c. Payment Form: Benefits are paid as a monthly life annuity. There are no optional forms of payment available.
- d. Death Benefit: After the death of a retired member, if the member was married, 50% of the retiree's benefit is paid to the surviving spouse for life (or until remarriage).

11. Reduced Retirement

- a. Eligibility: A judge is eligible for a reduced retirement benefit at age 65 if the judge has served for 10 years, or at any age after 20 years of service.
- b. Reduced Retirement Benefit: 75% of FAC at retirement.
- c. Payment Form: Same as for Full Retirement.
- d. Death Benefit: Same as for Full Retirement.



12. Refunds

- a. Eligibility: All judges leaving covered employment for a reason other than death or retirement.
- b. Benefit: A lump-sum payment equal to the sum of his/her employee contributions. No interest is credited on these contributions.

13. Death Benefit of Active Members

After the death of an active member, if the member was married, a benefit will be paid to the spouse until his/her death or remarriage. The benefit is equal to 25% of the judge's salary at death if the member had less than seven years of service. If the judge had at least seven but less than 15 years of service, the benefit is equal to 1/3 of the judge's salary at death. If the judge had at least 15 years of service or if the judge was eligible for retirement, the spouse receives 50% of the judge's salary at death. Benefits are payable until the spouse's death or remarriage. Benefits may be paid to any minor children after the death of the spouse.

14. Post-retirement Benefit Increase: Members receive an increase equal to 3.00% of the original benefit each year, beginning in January of the year in which the member reaches the third anniversary of retirement. The increase applies to both retirement and death benefits. This increase is not tied in any way to actual increases in the cost of living. (Judges of the administrative adjudication and workers compensation courts receive a compound 3.00% increase, rather than a simple 3.00% increase.)