Forty-sixth Actuarial Report for State Fiscal Year Ending June 30, 2003 and System Plan Year Beginning July 1, 2001

November 2001



TABLE OF CONTENTS

LETTER OF CERTIFICATION

SUMMARY OF ACTUARIAL REPORT

EXECUTIVE SUMMARY

Exhibit

<u>Number</u>	<u>Title</u>	Page
1	System Assets	1
2	Summary of Unfunded Frozen Actuarial Accrued Liability	4
3	Summary of Normal Cost and State Contribution	5
4	Actuarial (Gain)/Loss	6
5	Actuarial Balance Sheet	7
6	Accounting Information	8
7	Summary of Member Data	11
8	Forecast of Expected Disbursements	15
9	Summary of Plan Provisions	16
10	Summary of Actuarial Methods and Procedures	
	as of July 1, 2001	20
11	Summary of Actuarial Assumptions as of July 1, 2001	22



November 30, 2001

Public Employees Retirement Board Nebraska Public Employees Retirement System Post Office Box 94816 Lincoln, NE 68509

Certification of Actuarial Valuation State Patrol Retirement System

Ladies and Gentlemen:

This report summarizes the results of the actuarial valuation of the State Patrol Retirement System as of July 1, 2001 performed by Buck Consultants, Inc.

The actuarial valuation is based on unaudited financial and member data provided to us by the Nebraska Public Employees Retirement System as summarized in this report. The benefits considered are those delineated in Nebraska State Statutes, effective as amended July 1, 2001, including the plan changes made by LB 711 effective July 1, 2001.

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures, using actuarial cost methods which we believe are reasonable, and that follow the Nebraska State Statutes. This report fully and fairly discloses the actuarial position of the plan.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and reasonable expectations, and represent our best estimate of the anticipated experience under the plan. A summary of the actuarial assumptions used in this actuarial valuation are shown in Exhibit 11.

Based on the results of our actuarial valuation, the State Patrol Retirement System is actuarially sound. Annual funding required from the State as defined under statute for current plan members is equal to the member contributions and appropriations, plus an amortization payment for any unfunded liabilities. For the 2002 - 2003 fiscal year, the State amortization payment is \$0.

We are available to answer any questions on the material contained in this report, or to provide explanations to further details as may be appropriate.

Respectively submitted,

BUCK CONSULTANTS, INC.

David H. Slishinsky, A.S.A., E.A., M.A.A.A. Consulting Actuary William B. Fornia, F.S.A., E.A., M.A.A.A. Principal and Consulting Actuary

SUMMARY OF ACTUARIAL REPORT FOR CONTRIBUTION REQUIREMENTS AND FUNDED STATUS FOR PLAN YEAR 2001/2002

The main purposes of this report are:

- 1. To determine the level of State contributions for the fiscal year ending June 30, 2003 sufficient to meet the funding policy defined under Nebraska State statutes;
- 2. To review the current funded status of the system; and
- 3. To compare actual and expected experience under the plan during the plan year beginning July 1, 2001 and ending June 30, 2001.

The 2001 actuarial valuation is based upon the plan provisions as of July 1, 2001, as described in Exhibit 9. The actuarial methods and assumptions are described in Exhibit 10 and 11.

Highlights from the current valuation:

- 1. No State contribution is required for the 2001-2002 fiscal year to amortize any unfunded liabilities. Expected member contributions and State contributions exceed the total funding requirement. The system reserve has decreased from \$23,473,872 as of July 1, 2000 to \$21,088,150 as of July 1, 2001.
- 2. The maximum annual cost-of-living adjustment was increased from 2.0% to 2.5% under Legislative Bill 711. The impact of this change was to reduce the actuarial reserve by \$10,112,798.
- 3. A gain was experienced on the Actuarial Value of Assets during the 2000/2001 plan year. However, there was a loss on Market Value. The annual rate of return on Market Value was –4.2%. The rate of return on Actuarial Value of 10.1% exceeded the 8% assumed investment return rate by 2.1%, resulting in an increase to the actuarial reserve of \$3,999,312.
- 4. The plan experienced an increase in the actuarial liability since the July 1, 2000 actuarial valuation, primarily due to new members entering the system. The actuarial reserve decreased by \$2,249,104 as a result of total liability experience.
- 5. The funded status of the system as measured by the ratio of the system assets over the Pension Benefit Obligation (PBO) decreased. The PBO is calculated using the Projected Unit Credit Method, which determines the benefit by using service at the valuation date and projecting salary to assumed termination or retirement. Since the July 1, 2000 actuarial valuation, the funded percentage on Actuarial Value decreased from 113.3% to 112.5%. This decrease was primarily due to the increase in the maximum cost-of-living adjustment from 2.0% to 2.5% under Legislative Bill 711.



EXECUTIVE SUMMARY

Basic Actuarial Valuation Results

The 2001 actuarial valuation results are based upon the plan provisions as of July 1, 2001 as described in Exhibit 9. The actuarial methods and assumptions are described in detail in Exhibits 10 and 11, respectively.

1. State Contribution

The State's funding policy is to match the 11% of pay contributions paid by members, pay required appropriations through the 2010-2011 Fiscal Year, and make additional payments if necessary, to fund any unfunded actuarial accrued liability. Unfunded liabilities created due to plan changes or assumption changes are amortized over the lesser of the average future working lifetime of active members or 25 years.

Total expected State funding for 2001-2002 plan year is \$2,070,798. Member contributions and matching State contributions and appropriations are expected to exceed the total actuarially required funding.

Assets continue to exceed the actuarial accrued liability as of the valuation date. As a result, the unfunded actuarial accrued liability is less than \$0. Therefore, no additional payment is required toward unfunded actuarial accrued liabilities for the 2001-2002 plan year.

History of Expected State Contributions							
Plan Year	State Contribution*	Amortization Payment	Total				
2001-2002	\$ 2,257,610	\$ 0	\$ 2,257,610				
2000-2001	1,958,304	0	1,958,304				
1999-2000	2,298,256**	0	2,298,256**				
1998-1999	1,753,478	0	1,753,478				
1997-1998	1,714,946	0	1,714,946				
1996-1997	1,728,778	0	1,728,778				
1995-1996	1,340,120	0	1,340,120				
1994-1995	1,021,870	125,897	1,147,767				
1993-1994	1,063,484	0	1,063,484				

* Includes State Appropriations.

** Includes accrued State contributions of \$436,759.

2. Asset Values

The total assets of the system as of the current and prior valuation date at both market value and actuarial value, and the rate of return during the period is as follows:

		July 1, 2000	July 1, 2001	Annual Rate of Return
(a)	Market value	\$207,210,770*	\$ 194,547,235	-4.2%
(b)	Actuarial value, an adjusted value intended to reduce the effect of market fluctuations (See Exhibit 1)	\$ 193,019,673	\$ 208,372,640	10.1%

*After adjustment.

3. Actuarial Liability/(Reserve)

The actuarial liability of the system is the excess of the total benefit obligation (present value of future benefits) over the projected financial resources (sum of (i) the actuarial value of assets, (ii) the present value of future member and matching State contributions, and (iii) the present value of future State appropriations). If the projected financial resources exceed the total benefit obligation, the system has a Reserve. The actuarial position of the system as of the current and prior valuation dates are as follows:

		July 1, 2000	July 1, 2001
(a)	Present value of future benefits	\$ 207,075,040	\$ 227,496,005
(b)	Actuarial value of assets	193,019,673	208,372,640
(c)	Present value of future member contributions	18,014,243	19,400,461
(d)	Present value of matching State contributions	18,014,243	19,400,461
(e)	Present value of future State appropriations	1,500,753	1,410,593
(f)	Actuarial liability/(Reserve) (a-b-c-d-e)	\$ (23,473,872)	\$ (21,088,150)



4. Unfunded Frozen Actuarial Accrued Liability

Under the Frozen Entry Age Actuarial Cost Method, changes in the Entry Age Actuarial Accrued Liability due to plan or assumption changes are frozen and amortized pursuant to Nebraska State Statutes. When the unfunded actuarial accrued liability under the Entry Age Cost Method is less than \$0, all prior unfunded frozen actuarial accrued liability bases are considered fully amortized, and the unfunded frozen actuarial accrued liability is set equal to the entry age unfunded actuarial accrued liability. The unfunded frozen actuarial accrued liability as of the current and prior valuation dates follows:

July 1, 2000	July 1, 2001				
\$ (23,473,872)	\$	(21,088,150)			

5. Pension Benefit Obligation (PBO)

The Pension Benefit Obligation represents a standardized disclosure measure of the present value of pension benefits payable in the future, which incorporates the effects of projected salary increases, based on service earned at the valuation date. The measure is intended to provide information regarding the Plan's funded status on an ongoing-concern basis, progress made in accumulating sufficient assets to pay benefits when due, and comparability to other plans.

Funded Status	July 1, 2000	July 1, 2001
 (a) Pension Benefit Obligation i) retirees, disabled members and beneficiaries receiving benefits and deferred vested members not yet receiving benefits ii) active members iii) total pension benefit obligation 	\$ 101,237,113 <u>69,060,224</u> \$ 170,297,337	\$ 109,153,432 <u>76,117,162</u> \$ 185,270,594
(b) Assets available for benefit (actuarial value)	<u>193,019,673</u>	208,372,640
(c) Unfunded Pension Benefit Obligation/(Reserve)	\$ (22,722,336)	\$ (23,102,046)
 (d) Funded percentage on actuarial value of assets: (b) ÷ (a) (iii) 	113.3%	112.5%

6. Benefit Accrual Cost

The cost of benefits accruing over an active member's working career can be expressed as a level percentage of compensation. This cost represents the true cost of accruing benefits since it is not adjusted for any overfunding or underfunding which may exist on the valuation date. It is determined using the Entry Age Actuarial Cost Method and is also called the Normal Cost. The level benefit accrual cost determined during the current and prior valuation dates are as follows:

		July 1, 2000	July 1, 2001*
(a)	Benefit accrual cost amount:	\$ 3,959,055	\$ 4,456,714
(b)	Annual compensation:	\$ 15,789,104	\$ 16,727,477
(C)	Benefit accrual cost rate (a) ÷ (b):	25.075%	26.643%

*Includes increase in annual COLA maximum to 2.5% under LB 711.

7. Forecast of Disbursements

A forecast of the annual benefit disbursements expected over the next thirty years is presented in Exhibit 8. This forecast is based on the same actuarial assumptions with respect to salary increases and decrement rates used to determine the State normal cost contribution and actuarial accrued liability including the new plan provisions implemented by Legislative Bill 711. The forecast should be a useful guide in discussing the cash-flow needs of the system with investment managers and in projecting the future financing needs of the system.

8. Actuarial Methods and Assumptions

The State contribution developed in this report is an estimate of the amount necessary to provide ongoing benefits to plan members assuming the system is funded in a systematic manner. These estimates are based upon the actuarial method defined under State Statutes to allocate the total cost of the plan to various years and actuarial assumptions regarding the return on investments, salary rates, employee termination rates, mortality rates and other risk factors. The actuarial method used to determine the State contribution is the Frozen Entry Age Actuarial Cost Method.

The actuarial assumptions represent the expected long-term experience of the system on an explicit basis for each risk area considered. The experience is reviewed periodically. Where necessary, changes are recommended by the actuary and adopted by the Public Employees Retirement Board.

A summary of the actuarial methods and assumptions used in the current valuation is presented in Exhibits 10 and 11, respectively.



9. Changes Since the Last Actuarial Valuation

There have been no changes in the actuarial cost method or assumptions since the last actuarial valuation as of July 1, 2000. Effective July 1, 2001, Legislative Bill 711 increased the maximum annual cost-of-living adjustment from 2.0% to 2.5%.



Α.	Summary of Assets	N O	larket Value as f June 30, 2000	N O	Aarket Value as f June 30, 2001
1.	Cash and Equivalents	\$	753,527	\$	149,463
2.	Investments		204,814,960		193,280,406
3.	Receivables and Prepaids		1,648,150		1,118,037
4.	Accounts Payable		(51,663)		(671)
5.	Net Assets before adjustment (1+2+3+4)	\$	207,164,974	\$	194,547,235
6.	Adjustment to Market Value		45,796		N/A
7.	Net Assets Available for Pension Benefits Considered (5+6)	\$	207,210,770	\$	194,547,235

SYSTEM ASSETS

В.	Development of Actuarial Value of Assets		Amount
1.	Actuarial Value of Assets as of July 1, 2000	\$	193,019,673
2.	Unrecognized Return as of July 1, 2000		14,145,301
3.	Contributions (a) Member (b) State (c) State appropriation (d) Total	\$	1,994,596 1,909,582 <u>348,028</u> 4,252,206
4.	Distributions (a) Benefit payments (b) Other (c) Total	\$ \$	8,212,099 0 8,212,099
5.	Expected Return at 8% on: (a) Item 1 (b) Item 2 (c) Item 3 (d) (d) Item 4 (c) (e) Total (a) + (b) + (c) - (d)	\$	15,441,574 1,131,624 166,816 <u>294,842</u> 16,445,172
6.	Actual Return on Market Value for 2000/2001 Plan Year, Net of Expenses	\$	(8,657,846)*
7.	Return to be Spread for 2000/2001 Plan Year [6-5(e)]	\$	(25,103,018)

*Includes adjustment to market value as of June 30, 2000 of \$45,796.



В.	Development	Amount						
8.	Total Market Val		\$ 194,547,235					
9.	9. Return to be Spread:							
	Plan YearReturn to be SpreadUnrecognized PercentUnrecognized Return							
	2000/2001	\$ (25,103,018)	80%	\$	(20,082,414)			
	1999/2000	546,128	60%		327,677			
	1998/1999	5,635,401	40%		2,254,160			
	1997/1998	18,375,858	20%		3,675,172			
			Total	\$	(13,825,405)			
10.	10. Total Actuarial Value of Assets at July 1, 2001 (8-9) \$ 208,372,640							
11.	Ratio of total	actuarial value to mar	ket value (10÷8)		107.1%			

C.	Change in Asset Values During 2000/2001	A	Actuarial Value		Market Value
1.	Asset value as of July 1, 2000	\$	193,019,673	\$	207,210,770*
2.	 Contributions for 2000/2001: (a) Member contributions paid during the year (b) State contributions paid (c) State appropriation to PPSF during the year (d) Contributions for 2000/2001: (a) + (b) + (c) 	\$	1,994,596 1,909,582 <u>348,028</u> 4,252,206	\$	1,994,596 1,909,582 <u>348,028</u> 4,252,206
3.	Disbursements for 2000/2001: (a) Benefit payments (b) Expenses and fees (c) Other (d) Disbursements for 2000/2001: (a) + (b) + (c)	\$	8,212,099 520,953 <u>0</u> 8,733,052	\$	8,212,099 520,953 <u>0</u> 8,733,052
4.	Investment return for 2000/2001:	\$	19,833,813	\$	(8,182,689)
5.	Asset value as of July 1, 2001: [1 + 2(d) - 3(d) + 4]	\$	208,372,640	\$	194,547,235
6.	Approximate rate of investment return, net of expenses		10.1%		(4.2%)

*After adjustment.

SUMMARY OF UNFUNDED FROZEN ACTUARIAL ACCRUED LIABILITY

Dev	elopment of Unfunded Frozen Actuarial Accrued Liability	July 1, 2001
1.	Actuarial present value of benefits	
	 (a) Active members (b) Inactive members (c) Retired members and beneficiaries (d) Disabled members (e) Total 	\$ 118,342,573 216,583 107,414,774 <u>1,522,075</u> 227,496,005
2.	Present value of future State normal costs	19,400,461
3.	Present value of future member contributions	19,400,461
4.	Present value of future State appropriations	1,410,593
5.	Total Actuarial Accrued Liability [1(e) - 2 - 3 - 4]	\$ 187,284,490
6.	Actuarial value of assets	208,372,640
7.	Unfunded actuarial accrued liability (5 - 6)	\$ (21,088,150)
8.	Unfunded frozen actuarial accrued liability	\$ (21,088,150)
9.	Amortization period (lesser of 25 years or average expected future service of active members)	14
10.	Amortization factor	8.90378
11.	Payment required to amortize unfunded frozen actuarial accrued liability over the amortization period [8÷10, not less than \$0]	\$ 0

SUMMARY OF NORMAL COST AND STATE CONTRIBUTION

Α.	Development of Total Normal Cost	July 1, 2001				
1.	Expected member contributions	\$ 1,860,578				
2.	Expected matching State contributions	1,860,578				
3.	Total normal cost (1 + 2)	\$ 3,721,156				
В.	Development of State Contribution					
1.	State normal cost	\$ 1,860,578				
2.	State appropriation	210,220				
3.	State amortization payment (From Exhibit 2)	0				
4.	State contribution (1 + 2 + 3)	\$ 2,070,798				



Actuarial (Gain)/Loss

Α.	Change in Actuarial Liability	
1.	Actual Actuarial Liability as of July 1, 2000	\$ 207,075,040
2.	Benefit payments during the 2000/2001 plan year	8,212,099
3.	Interest at 8%	<u>16,271,162</u>
4.	Expected Actuarial Liability as of July 1, 2001 (1 - 2 +3)	\$ 215,134,103
5.	Change in Actuarial Liability by Source(a) Retirement\$ 791,337(b) Termination(1,395,501)(c) Disability93,891(d) Pre-retirement mortality73,478(e) Post-retirement mortality551,553(f) Salary(1,193,465)(g) New Entrants4,034,386(h) Data changes/miscellaneous(706,575)(i) TotalTotal	\$ 2,249,104
6.	Change in Actuarial Assumptions	\$ 0
7.	Change in Plan Provisions	10,112,798
8.	Change in Actuarial Methods	0
9.	Actual Actuarial Liability as of July 1, 2001 [4 + 5(i) + 6 + 7 + 8]	\$ 227,496,005
В.	Change in Actuarial Value of Assets	
1.	Expected Actuarial Value of Assets as of July 1, 2001	\$ 204,373,328
2.	Actual Actuarial Value of Assets as of July 1, 2001	<u>208,372,640</u>
3.	Actuarial (Gain)/Loss from Asset Sources (1 - 2)	\$ (3,999,312)
C.	Total Actuarial (Gain)/Loss for the 2000/2001 plan year [A(5)(i)+B(3)]	\$ (1,750,208)

ACTUARIAL BALANCE SHEET

Α.	Financial Resources	July 1, 2001
	1. Actuarial value of assets	\$ 208,372,640
	2. Present value of future member contributions	19,400,461
	3. Present value of future matching State contributions	19,400,461
	4. Present value of future State appropriations	1,410,593
	5. Actuarial reserve	(21,088,150)
	6. Total Assets (1 + 2 + 3 + 4 + 5)	\$ 227,496,005
В.	Benefit Obligations	-
	 Actuarial present value of future benefits (a) Active members (b) Inactive members (c) Retired and disabled members and beneficiaries 	\$ 118,342,573 216,583 108,936,849
	2. Total Liabilities [1(a) + 1(b) + 1(c)]	\$ 227,496,005



ACCOUNTING INFORMATION

		July 1, 2000		July 1, 2001
Pension Benefit Obligation (PBO):				
Vested PBO				
(a) members currently receiving payments	\$	100,715,316	\$	108,936,849
(b) other members i) accumulated member contributions		21 598 733		22 728 733
ii) employer financed vested		37,125,482		41,223,198
Total Vastad PPO	¢	150 420 521	¢	172 000 700
Total vested PDO	Þ	109,439,031	Þ	1/2,000,/00
Nonvested PBO		10,857,806		12,381,814
Total PBO	\$	170,297,337	\$	185,270,594
Actuarial Value of Assets		<u>193,019,673</u>		208,372,640
Unfunded Pension Benefit Obligation (Reserve)	\$	(22,722,336)	\$	(23,102,046)
Funded Percentage				
(a) on vested PBO		121.1%		120.5%
(b) on total PBO		113.3%		112.5%

A. Pension Benefit Obligation under the Projected Unit Credit Cost Method.

B. Change in Pension Benefit Obligation from July 1, 2000 to July 1, 2001.

Pension Benefit Obligation at July 1, 2000	\$	170,297,337
Increase/(Decrease) during Period: Plan Provision Changes	\$	7,959,993
Assumption Changes	Ŧ	0
Benefits Accumulated		3,770,021
Benefits Paid		(8,212,099)
Interest Cost		13,630,547
Plan Experience		<u>(2,175,205)</u>
Total Change	\$	14,973,257
Pension Benefit Obligation at July 1, 2001	\$	185,270,594

Exhibit 10 and 11 provide a more detailed summary of the underlying actuarial methods and assumptions used in the calculations of the Pension Benefit Obligation. The benefits valued are those in effect on July 1, 2001 and 2000, respectively, including the changes provided in LB 711, as outlined in Exhibit 9. The determination of the Pension Benefit Obligation has been made in accordance with generally accepted actuarial principles and practices.

C. Schedule of Employer Contributions - Disclosure Requirements Under GASB No. 25

Plan Year Ending	Annual Required Contributions*	Percentage Contributed
June 30, 2001	\$ 2,257,610	100%
June 30, 2000	2,203,735	100%
June 30, 1999	2,190,237**	100%
June 30, 1998	1,714,946	100%
June 30, 1997	1,728,778	100%
June 30, 1996	1,340,120	100%
June 30, 1995	1,147,767	100%
June 30, 1994	1,063,484	100%

* Includes State Appropriations beginning with the plan year ending June 30, 1997 and matching State contributions.

** Includes accrued State contributions of \$436,759.

D. Actuarial Assumptions, Method and Additional Information under GASB No. 25												
Valuation Date	June 30, 2001											
Actuarial Cost Method	Frozen Entry Age											
Amortization Method	Level dollar amount, closed											
Amortization period	Lesser of 25 years or the average expected future service of active members											
Asset Valuation Method	5 year smoothing											
Actuarial Assumptions: Investment rate of return* Projected salary increases*	8.0% 4.5% - 7.0%											
*Includes inflation at	3.8%											
Cost-of-living adjustment	2.5% with a floor benefit equal to 60% purchasing power of original benefit											



E. Schedule of Funding Progress Under GASB No. 25

Actuarial Value		Actuarial Accrued	Unfunded Accrued			UAL as a % of Covered
Actuarial Valuation Date	of Assets (a)	Liability (AAL) (b)	Liabilities (UAL) (b-a)	Funded Ratio (a÷b)	Covered Payroll (c)	Payroll [(b-a)/c]
June 30, 2001	\$ 208,372,640	\$ 187,284,490	\$ (21,088,150)	111.3	\$ 16,727,477	(126.1)
June 30, 2000	193,019,673	169,545,801	(23,473,872)	113.8	15,789,104	(148.7%)
June 30, 1999	171,124,224	162,222,559	(8,901,665)	105.5	14,986,973	(59.4%)
June 30, 1998	150,958,315	108,660,934	(42,297,381)	138.9	13,995,091	(302.2%)
June 30, 1997	134,721,462	100,796,787	(33,924,675)	133.7	13,768,486	(246.4%)
June 30, 1996	123,349,173	110,301,906	(13,047,267)	111.8	13,905,497	(93.8%)

SUMMARY OF MEMBER DATA

Α.	Active Members		July 1, 2000	July 1, 2001		
1.	Number of active members (a) Before assumed retirement age (b) Beyond assumed retirement age (c) Total		386 0 386		403 0 403	
2.	Annual considered compensation(a) Before assumed retirement age(b) Beyond assumed retirement age(c) Total	\$ \$	15,789,104 <u>0</u> 15,789,104	\$ \$	16,727,477 0 16,727,477	
3.	Accumulated contributions	\$	22,512,150	\$	21,093,009	
4.	Active member averages (a) Age (b) Service (c) Compensation (d) Accumulated contributions	\$	38.5 12.8 40,904 55,861	\$	38.4 12.3 41,507 54,645	
В.	Inactive Members					
1. 2. 3.	Number of inactive members Accumulated member contributions Inactive member averages (a) Age	\$	16 521,797 42.9	\$	6 216,583 45.8	
	(b) Accumulated member contributions	>	32,612	>	36,097	
U.	Retired and Disabled Members and Beneficiarie	S		r		
1.	Number of members (a) Retired (b) Disabled (c) Beneficiaries (d) Total		220 4 <u>45</u> 269		228 4 <u>42</u> 274	
2.	 Annual benefits (a) Retired (b) Disabled (c) Beneficiaries (d) Total 	\$	6,732,005 102,528 <u>695,570</u> 7,530,103	\$	7,267,673 105,632 <u>687,127</u> 8,060,432	

Average Annual Age Range Number **Annual Benefit** Benefit \$ 59 & Under 101 \$ 3,648,383 36,123 60-64 58 1,703,515 29,371 65-69 36 931,641 25,879 70-74 34 769,821 22,642 75-79 28 22,502 630,064 80-84 13 303,760 23,366 85-89 2 55,738 27,869 90 & Over 2 17,510 8,755 Total 274 \$ 8,060,432 \$ 29,418

D. Distribution of Retired and Disabled Members and Beneficiaries as of July 1, 2001

E. Member Data Reconciliation

			Inactive Members										
	Active Members	With Deferred Benefits	Terminated With Balance	Retired Members and Beneficiaries	Disabled Members	Total							
As of July 1, 2000	386	10	6	265	4	671							
Changes in status a) Normal & early retirements b) Became payable c) Deaths d) Nonvested terminations e) Vested terminations f) Contribution refund g) Beneficiaries in receipt h) Disability retirements i) Return to active service j) Expired or forfeited benefits Total changes in status	(11) 0 (2) 0 (4) 0 0 1 <u>0</u> (16)	(1) 0 0 0 (4) 0 (1) <u>0</u> (6)	0 0 2 0 (6) 0 0 0 0 0 0 0 2 (4)	13 0 (8) 0 0 0 2 0 0 (<u>1)</u> 6	0 0 0 0 0 0 0 0 0 0 0	1 0 (8) 0 (14) 2 0 0 (1) (20)							
New entrants / Data Changes a) Without prior service b) With prior service Total new members Net change	33 _0 33 17	0 <u>0</u> (6)	0 <u>0</u> 0 (4)	0 <u>(1)</u> (1) 5	0 <u>0</u> 0	33 (1) 32 12							
As of July 1, 2001	403	4	2	270	4	683							



F. Reconciliation Between Data Submitted by NPERS and Valuation Data

	Active Members	Inactive Members	Retired Members, beneficiaries, and Disabled	Total
Number of Data Records Submitted by NPERS	403	14	273	690
Additions a) New Alternate Payees Total Additions	<u>0</u> 0	<u>0</u> 0	<u>1</u> 1	<u>1</u> 1
Subtractions a) Also Listed as Retired b) Also Listed as	0	(3)	0	(3)
Contribution	<u>0</u>	<u>(5)</u>	<u>0</u>	<u>(5)</u>
Total Subtractions	0	(8)	0	(8)
Net change	0	(8)	1	(7)
Number of Members Included in the Valuation as of July 1, 2001	403	6	274	683

F. Age and Service Distribution of Active Members as of July 1, 2001

Age Last Birthday		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34		Total
20-24	Number	8	0	0	0	0	0	0	0		8
	Total Salary	\$ 233,792	\$	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$	233,792
	Average Sal.	\$ 29,224	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$	29,224
25-29	Number	58	5	0	0	0	0	0	0		63
	Total Salary	\$ 1,851,887	\$ 175,821	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$	2,027,708
	Average Sal.	\$ 31,929	\$ 35,164	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$	32,186
30-34	Number	36	26	20	0	0	0	0	0		82
	Total Salary	\$ 1,189,629	\$ 976,383	\$ 802,184	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$	2,968,196
	Average Sal.	\$ 33,045	\$ 37,553	\$ 40,109	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$	36,198
35-39	Number	10	11	35	21	0	0	0	0		77
	Total Salary	\$ 378,865	\$ 424,241	\$ 1,532,969	\$ 961,424	\$ 0	\$ 0	\$ 0	\$ 0	\$	3,297,499
	Average Sal.	\$ 37,887	\$ 38,567	\$ 43,799	\$ 45,782	\$ 0	\$ 0	\$ 0	\$ 0	\$	42,825
40-44	Number	5	6	13	27	24	0	0	0		75
	Total Salary	\$ 187,703	\$ 240,477	\$ 538,498	\$ 1,231,683	\$ 1,142,874	\$ 0	\$ 0	\$ 0	\$	3,341,235
	Average Sal.	\$ 37,541	\$ 40,080	\$ 41,423	\$ 45,618	\$ 47,620	\$ 0	\$ 0	\$ 0	\$	44,550
45-49	Number	2	1	5	11	36	21	0	0		76
	Total Salary	\$ 79,976	\$ 36,712	\$ 214,032	\$ 474,412	\$ 1,809,679	\$ 1,144,688	\$ 0	\$ 0	\$	3,759,499
	Average Sal.	\$ 39,988	\$ 36,712	\$ 42,806	\$ 43,128	\$ 50,269	\$ 54,509	\$ 0	\$ 0	\$	49,467
50-54	Number	0	1	1	1	4	7	4	0		18
	Total Salary	\$ 0	\$ 32,280	\$ 40,768	\$ 34,216	\$ 163,477	\$ 357,821	\$ 280,222	\$ 0	\$	908,784
	Average Sal.	\$ 0	\$ 32,280	\$ 40,768	\$ 34,216	\$ 40,869	\$ 51,117	\$ 70,056	\$ 0	\$	50,488
55 &	Number	0	0	0	0	2	1	1	0		4
Up	Total Salary	\$ 0	\$ 0	\$ 0	\$ 0	\$ 101,636	\$ 40,768	\$ 48,360	\$ 0	\$	190,764
	Average Sal.	\$ 0	\$ 0	\$ 0	\$ 0	\$ 50,818	\$ 40,768	\$ 48,360	\$ 0	\$	47,691
TOTAL	Number	119	50	74	60	66	29	5	0		403
	Total Salary	\$ 3,921,852	\$ 1,885,914	\$ 3,128,451	\$ 2,701,735	\$ 3,217,666	\$ 1,543,277	\$ 328,582	\$ 0	\$1	16,727,477
	Average Sal.	\$ 32,682	\$ 37,718	\$ 42,276	\$ 45,029	\$ 48,753	\$ 53,216	\$ 65,716	\$ 0	\$	41,507

Plan Year Ending June 30	Active Employees	Retired and Disabled Members and Beneficiaries	Total
2002	\$ 149,736	\$ 8,255,665	\$ 8,405,401
2003	440,693	8,413,895	8,854,588
2004	805,889	8,568,784	9,374,673
2005	1,290,402	8,720,921	10,011,323
2006	1,895,229	8,865,399	10,760,628
2007	2,516,280	9,001,001	11,517,281
2008	3,050,977	9,126,481	12,177,458
2009	3,782,387	9,243,785	13,026,172
2010	4,632,590	9,348,530	13,981,120
2011	5,290,291	9,439,522	14,729,813
2012	\$ 5,981,564	\$ 9,515,545	\$ 15,497,109
2013	6,979,748	9,576,449	16,556,197
2014	8,099,454	9,619,966	17,719,420
2015	9,186,027	9,644,937	18,830,964
2016	10,148,040	9,650,231	19,798,271
2017	11,183,791	9,634,764	20,818,555
2018	12,206,592	9,601,935	21,808,527
2019	13,164,311	9,546,175	22,710,486
2020	14,313,968	9,466,450	23,780,418
2021	15,643,204	9,361,866	25,005,070
2022	\$ 16,958,619	\$ 9,236,680	\$ 26,195,299
2023	18,183,449	9,085,046	27,268,495
2024	19,393,363	8,906,385	28,299,748
2025	20,978,394	8,700,333	29,678,727
2026	22,495,618	8,466,802	30,962,420
2027	23,845,582	8,208,787	32,054,369
2028	25,224,838	7,923,868	33,148,706
2029	26,228,399	7,613,071	33,841,470
2030	27,090,075	7,279,229	34,369,304
2031	27,803,427	6,922,869	34,726,296

Forecast of Expected Disbursements

Note: These amounts exclude distributions for vested inactive members eligible to receive future benefit payments. Benefit amounts for these members have not yet been determined.

SUMMARY OF PLAN PROVISIONS

Member	Any member of the Nebraska State Patrol, permanent force.
Participation Date	Date of becoming a member.
Definitions	
Covered pay	Gross annual earnings subject to contributions. For a patrol officer with service prior to January 4, 1979, total salary includes pay for unused sick leave accrued during his final three years of service, and pay for unused vacation leave (including leave not allowed to be carried over).
Final average earnings	The average of the highest three 12-month periods of covered pay, ending on the earlier of the participant's termination date or retirement date. For a patrol officer with service prior to January 4, 1979, it includes pay for 25% of unused sick leave accrued during his final three years of service, and pay for unused vacation leave (including leave not allowed to be carried over).
Fiscal year	Twelve month period ending June 30.
Member contributions	11% of monthly salary plus 11% of pay received at termination for unused sick leave and vacation leave. Such contributions are credited with regular interest in conformity with the statutes.
Pension benefit	3% of final average salary times pension service. The benefit is subject to a maximum of 75% of Final Average Salary. Effective July 1, 2001, an automatic annual cost-of-living adjustment (COLA) equal to the CPI-W index, with a maximum increase of 2.5% in any one year is provided for current and future retirees by LB 711. Also provided is a minimum floor benefit equal to 60% of the purchasing power of the original benefit.
Normal Retirement Date (NRD)	First of month coinciding with or next following the completion of ten years of service and attaining age 55, or attaining age 60 regardless of service.
Pension service	Length of service includes all service with the Nebraska State Patrol, permanent force, computed to the nearest one-twelfth year, plus declared emergency service in the armed forces.

Eligibility for Benefits

Deferred vested	Termination for reasons other than death, disability, or retirement after completing at least six years of pension service.	
Disability retirement	Retirement by reason of disability as defined by statute.	
Early retirement	Retirement before NRD and on or after both attaining age 50 and completing ten years of pension service.	
Normal retirement	Retire on NRD.	
Postponed retirement	Retire after NRD.	
Post-retirement death benefit	Death after retirement with surviving spouse or dependent children under age 19. For non-disability retirement, the surviving spouse must have been married to the member at the date of retirement.	
Pre-retirement death benefit	Death prior to retirement.	

Monthly Benefits Paid Upon the Following Events

Normal retirement	Pension benefit determined as of NRD.
Early retirement	Pension benefit determined as of early retirement date, reduced by 5/9% for each month that commencement (which must be after age 50 and ten years of service) of payment precedes the earlier of age 55 or completion of 25 years of service. No reduction is made after 25 years of service.
Postponed retirement	Monthly pension benefit determined as of actual retirement date.

<i>Termination with deferred vested benefit</i>	Refund of contributions with regular interest <u>or</u> a percentage of the pension benefit determined as of termination date, reduced by 5/9% for each month that commencement (which must be after age 50 and ten years of service) of payment precedes the earlier of age 55 or completion of 25 years of service. This percentage is based upon completed years of pension service as follows:	
	Years	Vested Percentage
	5 and under 6 7 8 9 10 or more	0% 20 40 60 80 100
Disability retirement	A monthly benefit equal to 50% of current monthly salary at the date of disablement for members with less than 17 years of service.	
	For members with more the benefit equal to the produ- times total years of service final average monthly salary	nan 17 years of service, a monthly uct of 3% of final monthly salary, e subject to a maximum of 75% of 1.
Pre-retirement death benefits	Surviving spouse or dependent children under age 19: Benefit is computed as if member retired for disability on the date of death. This benefit is payable to the surviving spouse as long as spouse has dependent children under age 19. If spouse dies or remarries, 75% of this benefit continues to children until the youngest attains age 19. If there are no dependent children under age 19, 75% of this benefit is payable to the surviving spouse until death or remarriage.	
	No surviving spouse or 19: A lump sum equal t regular interest.	dependent children under age o the member's contributions plus
Post-retirement death benefits	100% of member's annuity is payable to the surviving spouse provided spouse has dependent children under 19. If there is no surviving spouse or spouse dies or remarries, 75% of member's annuity continues to children until the youngest attains age 19. If there are no dependent children under age 19, 75% of member's annuity continues to surviving spouse.	

State Appropriations

LB 700, passed in 1996, provided for annual cost of living increases of 0.3%, beginning in the sixth year after retirement for members ceasing employment on or after April 10, 1996. Funding for these benefits shall be made by the State into the State Patrol Purchasing Power Stabilization Fund. Beginning with the 1996-97 fiscal year, the funding shall be 3.04888% of \$6,895,000 each year through the 2010-2011 Fiscal Year.

LB 674, passed in 2000 (effective July 1, 2001), provided for an annual cost-of-living increase equal to the CPI-W index, with a maximum of 2% in any one year, a minimum floor benefit equal to 60% of the purchasing power of the original benefit and the elimination of the State Patrol Purchasing Power Stabilization Fund. The existing assets in the State Patrol PPSF were transferred to the Nebraska State Patrol Retirement Fund. The State appropriation continues, as defined above to the Nebraska Patrol Retirement Fund through the 2010-2011 Fiscal Year.

Benefits Reflected in Valuation

All benefits were valued, including future cost of living increases granted by LB 711.

Plan Provisions Effective After June 30, 2001

No future changes in plan provisions were recognized in determining the GASB 25 funded status and in determining the actuarial soundness of statutory contribution levels.

Changes in Plan Provisions Since Prior Year

LB 711 increased the maximum yearly cost-of-living increase to 2.5%.



SUMMARY OF ACTUARIAL METHODS AND PROCEDURES AS OF JULY 1, 2001

A. ACTUARIAL METHODS

1. Calculation of Normal Cost and Frozen Actuarial Accrued Liability: The method used to determine the normal cost and frozen actuarial accrued liability was the Frozen Entry Age Actuarial Cost Method described below.

Frozen Entry Age Actuarial Cost Method

Sometimes called "funding method," a cost method is a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension plan benefits or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the actuarially required annual contribution to the plan is the sum of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Frozen Entry Age Actuarial Cost Method, the excess of the Actuarial Present Value of Future Benefits for all members on the valuation date, over the sum of (1) the Actuarial Value of Assets and (2) the Unfunded Frozen Actuarial Accrued Liability, is allocated as a level percentage over the expected future compensation of the membership group between the valuation date and assumed termination or retirement, and is called the Normal Cost. Section 81-2017 of the law requires that the State make monthly deposits matching the contributions of members at 11% of compensation (effective with the 1996/1997 plan year). These requirements have been interpreted as requiring a fixed normal cost rate of 22% of compensation.

The initial unfunded actuarial accrued liability is determined under the Entry Age Actuarial Cost Method, frozen as of the valuation date, and is referred to as the Unfunded Frozen Actuarial Accrued Liability. Future changes in the actuarial accrued liability due to changes in plan benefits, actuarial assumptions, or methods adjust the Unfunded Frozen Actuarial Accrued Liability. The amount of change or base, established as of the valuation date is amortized over the lesser of (i) a 25 year period, or (ii) the average expected future service of the active membership group. The Unfunded Frozen Actuarial Accrued Liability remaining at each subsequent valuation date is determined after the addition of interest and the deduction of amortization payments. If the Unfunded Actuarial Accrued Liability under the Entry Age Method is less than \$0 on any valuation date, all prior bases are considered fully amortized and the Unfunded Frozen Actuarial Accrued Liability is set equal to the unfunded actuarial accrued liability determined under the Entry Age Actuarial Cost Method.

Under this method, experience gains or losses, i.e., decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust future normal costs.



- 2. Calculation of the Actuarial Value of Assets: The actuarial value of assets is based on a five-year smoothing method and is determined by spreading the effect of each year's investment return in excess of or below the expected return. The Market Value of assets at the valuation date is reduced by the sum of the following:
 - (i) 80% of the return to be spread during the first year preceding the valuation date.
 - (ii) 60% of the return to be spread during the second year preceding the valuation date.
 - (iii) 40% of the return to be spread during the third year preceding the valuation date.
 - (iv) 20% of the return to be spread during the fourth year preceding the valuation date.

The return to be spread is the difference between (1) the actual investment return on Market Value and (2) the expected return on Actuarial Value. Effective July 1, 2001, the expected return on Actuarial Value includes interest on the previous year's unrecognized return.

3. Calculation of Pension Benefit Obligation: The method used to determine the Pension Benefit Obligation was the Projected Unit Credit Actuarial Cost Method without service proration. Under this method, the benefit is based on salary projected to assumed termination or retirement and service as of the valuation date.

B. VALUATION PROCEDURES

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

The compensation amounts used in the projection of benefits and liabilities for active members were prior plan year compensations.

In computing accrued benefits, average compensation was determined by applying the salary scale assumption to most recent compensation to construct any missing salary history.

Projected benefits were limited by the dollar limitation required by the Internal Revenue Code Section 415 as it applies to governmental plans and compensation limited by Section 401(a)(17).



SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JULY 1, 2001

ECONOMIC ASSUMPTIONS

- 1. Investment Return
- 2. Inflation
- 3. Salary Increases

8% per annum, compounded annually, net of expenses.

3.8% per annum, compounded annually.

Rates vary by age. Sample rates are as follows:

Age	Rate*
25	7.00%
30	6.75%
35	6.50%
40	5.75%
45	5.30%
50	4.50%
55	4.50%
60	4.50%
65+	4.50%

*Projected pay at retirement is adjusted by 8.7% to reflect Halpin decision.

DEMOGRAPHIC ASSUMPTIONS

- 1. Mortality
 - a. Healthy lives 0active and retired members

1983 Group Annuity Mortality Table.

b. Disabled lives

1983 Group Annuity Mortality Table.

c. Mortality rates and life expectancies under the mortality tables are shown below at sample ages:

	Mortality Rate		Life Expecta	ancy (years)
Sample Age	Males	Females	Males	Females
30	.06%	.03%	48.1	54.3
40	.12	.07	38.5	44.5
50	.39	.17	29.2	34.9
60	.92	.42	20.6	25.7
70	2.75	1.24	13.2	17.1
80	7.41	4.30	7.6	10.2



2.	Retirement	Retirement is assumed attaining certain age requirements. The retirer varies depending on the age plan and years elapsed sinc unreduced benefits (age 50 years of service).	to occur upon and service ment assumption of entry into the e first eligible for or greater and 25
		Years Since Eligible <u>for Unreduced Benefits</u>	<u>Retirement Rate</u>
		0 01 >1	.5 .1
		The retirement rate is 1 at:	
		<u>Entry Age</u>	<u>Date</u>
		Entry prior to age 25	Age 55
		Entry at age 25 or later	Earlier of: (1) age 57 or greater with 20 years of service, or (2) age 60.

3. Termination

Rates vary by service. Sample rates are as follows:

Select Rates by Service	
Years of	
Service	Rate
Less than 15	2%
15 or more	0%

4. Disability

Rates vary by age according to OASDI Actuarial study No. 74. Sample rates are as follows:

Age	Rate
25	.15%
30	.19%
35	.26%
40	.40%
45	.62%
50	1.04%
55	1.82%
60	2.72%

OTHER ASSUMPTIONS

- 1. Form of Payment
- 2. Marital Status
 - a. Percent married
 - b. Spouse's age
- 3. Children

Joint & Survivor Annuity.

100% married Females assumed to be three years younger than males.

All members are assumed to have one dependent child at death or retirement. The child is assumed to be 28 years younger than the member, and is assumed to always survive until age 19.

- 3. Administrative Expense Investment return is assumed to be net of expenses.
- 4. Cost of living adjustments

2.5% per annum, compounded annually, and 3.8% per annum, compounded annually, after reaching 60% purchasing power floor benefit.

