

**The Report of the
June 30, 1996
Actuarial Valuation
of the
State Universities Retirement
System of Illinois**



Gabriel, Roeder, Smith & Company

August 31, 1996

Board of Trustees
State Universities Retirement
System of Illinois
1901 Fox Drive
Champaign, Illinois 61820

Dear Members of the Board:

We are pleased to present the report of the actuarial valuation of the State Universities Retirement System of Illinois ("SURS") as of June 30, 1996.

This valuation provides information on the funding status of SURS. In addition, it includes a determination of State contribution level for the fiscal year ending June 30, 1998 under Section 15-155 of the SURS statute and estimates of contribution for subsequent years.

This valuation is based on the provisions of SURS in effect as of June 30, 1996, data on the SURS membership and information on the asset value of the trust fund. All member data and asset information were provided by SURS staff. While certain checks for reasonableness were performed, the data was used unaudited.

The actuarial assumptions, actuarial cost method and asset valuation method used in this valuation are those used in the prior actuarial valuation of SURS.

To the best of our knowledge, this actuarial statement is complete and accurate, and has been prepared in accordance with generally accepted actuarial principles and practice.


Respectfully submitted,



Norman S. Losk, F.S.A.



J. Daniel Petersen, F.S.A.



Louise M. Gates

NSL/alv

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Summary of the Valuation

PURPOSES OF THE ACTUARIAL VALUATION

At your request we have performed the actuarial valuation of the State Universities Retirement System of Illinois ("SURS") as of June 30, 1996.

The purposes of an actuarial valuation are as follows:

- To determine the funding status of SURS as of the valuation date, and
- To develop the levels of contributions required under Section 15-155 for the fiscal year ending June 30, 1998 and to estimate contributions required under that Section for the subsequent years of the funding period ending in the year 2045.

REPORT HIGHLIGHTS

This actuarial valuation produced results which are quite consistent with those of the prior year.

The funding ratio (the book value of assets divided by the actuarial accrued liability) increased over the past year from 49.83% to 50.05%. This was due primarily to better investment performance than expected, and actuarial gains in salary increases and turnover.

After several years of actuarial losses in investment return on a book value basis, the investment program ended about 230 basis points in excess of the assumed earnings rates. In subsequent years, with market values of assets recognized for actuarial purposes, there will be significantly greater volatility in the results of our valuations due to the greater volatility of asset values.

STATUTORY APPROPRIATIONS FOR THE 1998 FISCAL YEAR AND BEYOND

Section 15-155 of the SURS Statute, which governs the development of State contributions to SURS, provides that:

1. State contributions are determined under the following process:
 - a) The overall objective is to achieve a funding ratio of 90% by the end of fiscal year ("FY") 2045.
 - b) The State contribution for FY 2010 and each year thereafter to and including FY 2045 are to be based on a (theoretically) constant percentage of the payroll of active members of SURS.
 - c) The State contribution rate (expressed as a percentage of active member payroll) is to grade from the current level to the ultimate level in equal steps from the current valuation to that for the 2010 contribution.
 - d) After FY 2045, the State contribution rate is to be sufficient to maintain the funding level at 90%.

2. The dollar amount of State contribution required for a fiscal year shall be certified to the Bureau of the Budget no later than November 15 for the fiscal year commencing on the following June 30. The required amounts are budgeted pursuant to the continuing appropriations process.

State contributions for FY 1998 and estimates of the required contributions for the subsequent five fiscal years are set out below:

Fiscal Year	Required Contribution Rate	Assumed Payroll (\$ in Billions)	Total Required Contribution	Funding Ratio
1998	8.582%	\$2.582	\$221,624,000	47.3%
1999	9.843	2.715	267,209,000	46.7
2000	11.104	2.849	316,444,000	46.3
2001	12.365	2.989	369,660,000	46.2
2002	13.626	3.134	427,026,000	46.2
2003	14.887	3.284	488,925,000	46.4

An estimate of the required State contribution for each fiscal year through 2045 is set out in Table 11, Appendix C.

The State contributions set out in this report represent total required contributions. The net State General Fund appropriation is the total shown in this report, adjusted by contributions from such sources as State Pension Fund appropriations and contributions from federal and trust funds.

ASSET INFORMATION

The statute currently requires that the asset value used for actuarial and all other purposes under SURS be the book value of assets. The Governmental Accounting Standards Board ("GASB") has promulgated Statements Number 25 and 27 which mandate, among other things, the use of market or market related asset value.

It is our understanding that these statements will take effect for the statewide retirement systems in the State of Illinois for FY 1997 (ending June 30, 1997) and that market value, without adjustment will be used for all actuarial purposes. In this valuation, funding status determinations and contribution projections will be set out based on both book and market values of assets. The assets of the fund which are available for benefits are the total assets of the system reduced by current fund liabilities.

The book value of the assets of the fund which are available for benefits have grown from \$4,673.3 million as of June 30, 1995 to \$5,082.9 million as of June 30, 1996. The market value of the assets of the fund which are available for benefits has grown from \$5,950.1 million as of June 30, 1995 to \$6,958.0 million as of June 30, 1996.

Investment returns were quite favorable in FY 1996. On a book value basis, the assets of the fund returned about 10.3%. On a market value basis, the total return in the fund was 18.3%. In addition, in the first year of the new funding process, the fund realized over \$19 million more in total State contribution than in the prior year. These factors contributed substantially to the asset growth of FY 1996.

The detailed determinations of asset values utilized in this valuation and asset growth in the last year are set out in Appendix A.

FUNDING STATUS

The funding status of SURS has been measured in the last few years by the Funding Ratio. The Funding Ratio is the ratio of the assets available for benefits to the actuarial accrued liability of the System. Thus, it reflects the portion of benefits earned by SURS members which are covered by System assets.

A funding ratio of 100% means that all of the benefits earned to date by SURS members are covered by assets. By monitoring changes in the funding ratio each year we can determine whether or not funding progress is being made.

Based on assets at book value, the SURS funding ratio has grown from 49.8% at June 30, 1995 to 50.1% at June 30, 1996. Based on assets at market value, the corresponding funding ratios are 63.5% and 68.6%, respectively.

GASB No. 5 DISCLOSURE

This is the last valuation in which a disclosure statement required under GASB Statement # 5 will appear. The statement, reflecting actuarial values of SURS as of the end of the 1996 fiscal year, appears as Table 7, Appendix C.

All 1996 values are based on the identical set of assumptions and methods utilized for the 1995 values. In addition, no changes in the benefit structure of SURS were reflected in the 1996 values.

PROVISIONS OF THE SYSTEM

The benefit provisions used in developing the actuarial values set out in this report are identical to those used in the prior valuation. These provisions are summarized in Appendix E.

ACTUARIAL ASSUMPTIONS

The actuarial assumptions and methods utilized in this valuation are identical to those used in the prior valuation. The actuarial basis is described in detail in Appendix D.

This actuarial basis was adopted by the Board in 1991. Every five years the actuarial basis is reviewed for continued viability. The next major review of actuarial assumptions will be performed in the fall of 1996, based on the experience of the system during the period July 1, 1991 through June 30, 1996. Any changes in actuarial assumptions adopted by the Board, based on that review will be first used for the actuarial valuation of SURS as of June 30, 1997.

ACTUARIAL GAINS AND LOSSES

Deviations of actual experience from that assumed produces actuarial gains and losses each year. The investment program, the pay increase assumption and the turnover assumption produced significant actuarial gains in the system during FY 1996. Longevity among annuitants produced actuarial losses. The overall actuarial gain of about \$89 million is slightly less than .9% of the total AAL.

Appendices

Appendix A
Asset Information

TABLE 1 - NET ASSETS AVAILABLE FOR BENEFITS
(\$ IN 000's)

	<u>Fiscal Year 1995</u>	<u>Fiscal Year 1996</u>
ASSETS		
Accrued Investment Income	\$19,669	\$22,912
Contributions Receivable	13,760	15,334
Investments - Book	4,648,381	5,053,904
Prepaid Expense	13	38
Fixed Assets	<u>12,957</u>	<u>14,490</u>
Total Assets	\$4,694,780	\$5,106,678
ACCOUNTS PAYABLE	21,493	23,787
NET ASSETS AVAILABLE FOR BENEFITS	<u>\$4,673,287</u>	<u>\$5,082,891</u>

TABLE 2 - CHANGE IN ASSETS AVAILABLE FOR BENEFITS
FISCAL YEAR ENDING JUNE 30, 1996
(\$ IN 000'S)

	<u>Book Value</u>	<u>Market Value</u>
1. Assets Available at Beginning of Year	\$4,673,287	\$5,950,118
2. Adjustment	913	913
3. Revenues		
a. Member Contributions	\$ 197,006	\$ 197,006
b. Employer Contributions (includes State)	147,367	147,367
c. Investment Income	270,241	270,241
d. Investment Expense	(11,850)	(11,850)
e. Realized Capital Gains (Losses)	219,263	219,263
f. Unrealized Capital Gains (Losses)	<u> n/a</u>	<u> 598,290</u>
Total Revenues	\$ 822,027	\$1,420,317
4. Expenses		
a. Benefits	\$ 379,496	\$ 379,496
b. Refunds	25,812	25,812
c. Administration Expense	6,981	6,981
d. Other	<u> 1,047</u>	<u> 1,047</u>
Total Expense	\$ 413,336	\$ 413,336
5. Assets Available at End of Year	<u>\$5,082,891</u>	<u>\$6,958,012</u>

Appendix B
Membership Data

TABLE 3 - SUMMARY OF DATA CHARACTERISTICS
(\$ IN 000'S)

	June 30, 1995		June 30, 1996	
	Number	Earnings	Number	Earnings
Active Members				
Full time	61,816	\$2,056,149	64,434	\$2,155,228
Part time	<u>11,711</u>	<u>180,876</u>	<u>11,654</u>	<u>174,810</u>
Total	73,527	\$2,237,025	76,088	\$2,330,038
Inactive Members	27,399		34,446	
	Annual		Annual	
	Number	Benefits	Number	Benefits
Benefit Recipients				
Retirement	18,341	\$304,188	19,255	\$341,093
Survivor	4,474	26,522	4,540	29,317
Disability	<u>1,176</u>	<u>14,323</u>	<u>1,209</u>	<u>14,974</u>
Total	23,991	\$345,033	25,004	\$385,385

**TABLE 4 - DISTRIBUTION OF ACTIVE MEMBERS BY AGE AND YEARS OF SERVICE
AS OF JUNE 30, 1996**

Age	Years of Service										Totals			
	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30 & Over						
Under 20	65	22	-	-	-	-	-	-	-	-	-	-	-	87
	629,167	223,411	-	-	-	-	-	-	-	-	-	-	-	852,578
20-24	643	729	42	-	-	-	-	-	-	-	-	-	-	1,414
	7,150,745	11,524,666	691,628	-	-	-	-	-	-	-	-	-	-	19,367,039
25-29	1,335	3,193	669	18	-	-	-	-	-	-	-	-	-	5,215
	15,896,417	66,958,799	15,603,439	436,697	-	-	-	-	-	-	-	-	-	98,895,352
30-34	1,257	3,912	2,026	476	19	-	-	-	-	-	-	-	-	7,690
	17,148,995	92,894,804	58,752,990	13,093,454	424,651	-	-	-	-	-	-	-	-	182,314,894
35-39	1,232	3,920	2,782	1,462	476	17	-	-	-	-	-	-	-	9,889
	16,521,761	95,583,096	91,295,859	49,977,708	14,697,292	502,509	-	-	-	-	-	-	-	268,578,225
40-44	1,122	4,091	3,340	2,142	1,076	317	13	-	-	-	-	-	-	12,101
	15,652,197	95,415,169	110,865,688	89,108,785	39,565,220	11,233,302	409,442	-	-	-	-	-	-	362,249,803
45-49	1,013	4,067	3,387	2,342	1,595	773	301	16	-	-	-	-	-	13,494
	14,127,620	87,315,175	106,893,031	99,458,170	72,466,307	36,902,312	12,505,563	565,676	-	-	-	-	-	430,233,854
50-54	660	2,635	2,321	1,713	1,371	979	1,095	210	-	-	-	-	-	10,984
	9,551,840	57,272,090	70,974,775	70,525,065	65,382,589	55,478,616	63,522,271	9,883,609	-	-	-	-	-	402,590,855
55-59	393	1,559	1,348	963	926	686	1,216	446	-	-	-	-	-	7,537
	5,396,930	32,213,371	39,258,467	36,739,015	41,791,314	38,441,223	76,683,475	27,257,975	-	-	-	-	-	297,781,770
60-64	190	842	766	514	476	374	596	482	-	-	-	-	-	4,240
	2,587,121	15,306,442	20,977,707	19,399,225	20,394,343	19,409,847	35,768,975	31,586,408	-	-	-	-	-	165,430,068
65 and Over	142	742	608	241	247	178	258	326	-	-	-	-	-	2,742
	1,907,037	10,790,266	13,336,794	8,440,894	10,228,401	9,196,956	15,117,754	22,184,368	-	-	-	-	-	91,202,470
Age Undetermined														
Totals	8,052	25,712	17,289	9,871	6,186	3,324	3,479	2,175	-	-	-	-	-	76,088
	106,569,830	565,497,289	528,650,378	387,179,013	264,950,117	171,164,765	204,007,480	91,478,036	-	-	-	-	-	2,330,038,552

**TABLE 5 - DISTRIBUTION OF BENEFIT RECIPIENTS BY AGE
NUMBER OF BENEFIT RECIPIENTS AND THEIR ANNUAL BENEFITS
AS OF JUNE 30, 1996**

Age	Number	Annual Benefit
Retirees and Survivors		
Under 50	671	\$ 4,766,565
50-54	227	2,605,822
55-59	1,713	32,109,139
60-64	3,313	66,939,287
65-69	5,103	92,313,624
70 & Over	<u>12,768</u>	<u>171,675,981</u>
Total	23,795	370,410,418
Disabilities		
Under 50	308	3,578,236
50-54	158	2,064,812
55-59	205	2,984,399
60-64	212	2,627,860
65-69	216	2,736,911
70 & Over	<u>110</u>	<u>982,702</u>
Total	1,209	14,974,920

Appendix C
Actuarial Determinations

TABLE 6 - SUMMARY OF ACTUARIAL VALUES
AS OF JUNE 30, 1996
(\$ IN 000'S)

	APV of Projected Benefits	Projected Unit Credit Values	
		Actuarial Accrued Liability (AAL)	Normal Cost (NC)
1. Active Members			
a. Retirement	\$ 8,668,276	\$ 4,670,364	\$309,129
b. Death	467,678	262,146	18,767
c. Disability	560,879	309,052	28,212
d. Termination	<u>715,143</u>	<u>419,976</u>	<u>45,865</u>
Total - Active Members	\$10,411,976	\$ 5,661,538	\$401,973
2. Benefit Recipients			
a. Retirement	\$ 3,722,095	\$ 3,722,095	0
b. Survivor	291,668	291,668	0
c. Disability	<u>124,618</u>	<u>124,618</u>	<u>0</u>
Total - Benefit Recipients	\$ 4,138,381	\$ 4,138,381	\$ -
3. Other Inactive			
	\$ 355,120	\$ 355,120	
4. Grand Total			
	<u>\$14,905,477</u>	<u>\$10,155,039</u>	<u>\$401,973</u>

TABLE 7 - GASB NO. 5 DISCLOSURE STATEMENT
(\$ IN 000'S)

	June 1995	June 1996
1. Accumulated Member Contributions		
a. Current Active Members	\$2,224,092	\$ 2,352,308
b. Inactive Members	<u>257,480</u>	<u>324,395</u>
Total - Member Financed	\$2,481,572	\$ 2,676,703
2. APV of Credited Projected Benefits		
a. Retirees and Beneficiaries	3,421,911	4,138,381
b. Terminated Members - Employer Financed	26,717	30,725
c. Vested Active Members - Employer Financed	3,247,380	3,097,776
d. Non-Vested Active Members- Employer Financed	<u>200,906</u>	<u>211,454</u>
Total - Employer Financed	6,896,914	7,478,336
3. Total APV of Credited Projected Benefits	\$9,378,486	\$10,155,039
4. Net Assets Available for Benefits	4,673,287	5,082,891
(Market Values - \$5,950,118 and \$6,958,012, respectively)		
5. Unfunded APV of Credited Projected Benefits (3 - 4)	\$4,705,199	\$ 5,072,148
6. Funding Ratio (4 ÷ 3)	49.83%	50.05%

**TABLE 8 - ANALYSIS OF CHANGE IN UNFUNDED
ACTUARIAL ACCRUED LIABILITY
FOR THE YEAR ENDING JUNE 30, 1996**
(\$ IN 000'S)

1.	Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 1995	\$4,705,199
2.	Contributions to Maintain UAAL	
	(a) Interest on 1 to June 30, 1996	376,416
	(b) Member Contributions - including ERO contributions	197,006
	(c) Employer Normal Cost	213,664
	(d) Employer ERO Contributions	1,849
	(e) Service Credit Purchases	<u>8,419</u>
	Total	797,354
3.	Contributions Paid	
	(a) Member Contributions	197,006
	(b) State Appropriations	123,911
	(c) Employer ERO Payments	1,849
	(d) Reciprocity	158
	(e) Federal, Trust Funds & Other	<u>21,449</u>
	Total	344,373
4.	Interest on (2-2(a) - 3 to June 30, 1996	3,063
5.	Increase in UAAL from Contribution Shortfall [2 - 3 + 4]	456,044
6.	Net Actuarial (Gains) & Losses	(89,095)
7.	Unfunded Actuarial Accrued Liability as of June 30, 1996 (1 + 5 + 6)	5,072,148

TABLE 9 - ANALYSIS OF ACTUARIAL GAINS AND LOSSES IN FY 1996
(\$ IN 000's)

	Amount of (Gain) or Loss	
	FY 1995	FY 1996
Investment Return	\$ 59,372	\$(105,383)
Salary Increase	(14,625)	(70,535)
Age and Service Retirement	(5,902)	(4,991)
General Employment Termination	76,104	(24,780)
Disability Incidence	5,380	5,049
In Service Mortality	14,942	1,410
Retiree / Survivor Mortality	6,720	30,486
Disability Mortality	(447)	(4,295)
New Entrants	n/a	44,839
Other	(1,888)	39,105
	139,657	(89,095)

TABLE 10 - HISTORY OF FUNDING STATUS
(\$ IN 1,000'S)

Year	Assets at Book	AAL	Funding Ratio
1987	\$2,470,500	\$ 4,234,900	58.34%
1988	2,698,000	4,640,900	58.14
1989	2,990,000	5,216,300	57.32
1990	3,300,000	6,238,400	52.90
1991	3,529,800	6,647,500	53.10
1992	3,901,500	7,359,600	53.01
1993	4,188,500	7,838,200	53.44
1994	4,446,900	8,585,500	51.80
1995	4,673,287	9,378,486	49.83
1996	5,082,891	10,155,039	50.05

TABLE 11 - PROJECTED STATE CONTRIBUTION LEVELS 1998 - 2045
ASSETS AT BOOK VALUE

Fiscal Year	Total Payroll	State Contribution		Assets EOY	AAL	Funding Ratio
		% of Pay	Dollars			
1996	\$ 2,330,038,552	6.311%	\$ 147,055,386	\$ 5,082,891,132	\$10,155,039,000	50.05%
1997	2,452,454,965	7.321	179,547,000	5,332,035,167	11,095,292,397	48.06
1998	2,582,425,637	8.582	221,623,768	5,624,244,635	11,901,338,043	47.26
1999	2,714,720,358	9.843	267,209,925	5,957,503,234	12,761,631,291	46.68
2000	2,849,821,054	11.104	316,444,130	6,334,959,213	13,677,059,469	46.32
2001	2,989,572,791	12.365	369,660,676	6,760,159,256	14,648,476,487	46.15
2002	3,133,906,720	13.626	427,026,130	7,237,073,992	15,676,738,224	46.16
2003	3,284,239,668	14.887	488,924,759	7,771,131,148	16,763,349,515	46.36
2004	3,439,816,018	16.148	555,461,491	8,365,645,164	17,907,594,077	46.72
2005	3,600,457,823	17.409	626,803,702	9,024,713,362	19,109,033,505	47.23
2006	3,767,508,297	18.670	703,393,799	9,754,591,614	20,368,521,277	47.89
2007	3,940,301,397	19.931	785,341,471	10,573,127,154	21,691,909,126	48.74
2008	4,119,792,643	21.192	873,066,457	11,476,516,462	23,074,102,357	49.74
2009	4,306,303,118	22.453	966,894,239	12,469,958,049	24,512,744,883	50.87
2010	4,501,533,232	23.708	1,067,223,499	13,565,089,583	26,011,030,783	52.15
2011	4,705,080,947	23.708	1,115,480,591	14,708,099,429	27,567,072,691	53.35
2012	4,916,696,624	23.708	1,165,650,436	15,897,442,058	27,567,072,691	54.48
2013	5,137,961,971	23.708	1,218,108,024	17,135,222,423	30,848,788,517	55.55
2014	5,370,739,043	23.708	1,273,294,812	18,423,553,834	32,577,600,377	56.55
2015	5,617,177,582	23.708	1,331,720,461	19,768,190,181	34,370,587,731	57.51
2016	5,876,214,199	23.708	1,393,132,862	21,168,472,808	36,226,287,756	58.43
2017	6,146,794,729	23.708	1,457,282,094	22,621,280,728	38,140,551,468	59.31
2018	6,432,193,408	23.708	1,524,944,413	24,133,305,805	40,118,825,404	60.15
2019	6,735,482,047	23.708	1,596,848,084	25,711,701,790	42,166,822,478	60.98
2020	7,055,852,754	23.708	1,672,801,571	27,361,133,484	44,287,561,831	61.78
2021	7,393,929,766	23.708	1,752,952,869	29,086,616,362	46,484,174,476	62.57
2022	7,751,817,955	23.708	1,837,801,001	30,894,910,585	48,761,175,857	63.36
2023	8,130,166,139	23.708	1,927,499,788	32,794,322,146	51,124,248,053	64.15
2024	8,530,951,745	23.708	2,022,518,040	34,797,986,818	53,583,411,651	64.94
2025	8,955,064,904	23.708	2,123,066,787	36,915,647,822	56,145,111,824	65.75
2026	9,404,609,530	23.708	2,229,644,827	39,163,076,938	58,821,218,938	66.58
2027	9,879,420,570	23.708	2,342,213,029	41,550,971,966	61,618,365,133	67.43
2028	10,382,835,340	23.708	2,461,562,602	44,099,407,515	64,551,585,356	68.32
2029	10,913,931,733	23.708	2,587,474,935	46,819,729,962	67,627,108,849	69.23
2030	11,475,599,422	23.708	2,720,635,111	49,735,372,987	70,862,169,921	70.19
2031	12,068,708,710	23.708	2,861,249,461	52,865,094,072	74,269,056,404	71.18
2032	12,696,011,200	23.708	3,009,970,335	56,236,423,659	77,867,710,170	72.22
2033	13,357,683,810	23.708	3,166,839,678	59,869,018,623	81,669,755,828	73.31
2034	14,054,917,252	23.708	3,332,139,782	63,786,911,432	85,690,339,002	74.44
2035	14,790,743,523	23.708	3,506,589,474	68,022,870,465	89,952,115,746	75.62
2036	15,565,807,941	23.708	3,690,341,747	72,601,218,307	94,468,666,790	76.85
2037	16,382,394,412	23.708	3,883,938,067	77,552,975,337	99,259,031,649	78.13
2038	17,241,787,912	23.708	4,087,683,078	82,905,330,132	104,337,425,753	79.46
2039	18,146,582,149	23.708	4,302,191,696	88,694,970,225	109,725,959,706	80.83
2040	19,098,353,338	23.708	4,527,837,609	94,952,758,213	115,439,883,295	82.25
2041	20,099,666,323	23.708	4,765,228,892	101,712,811,878	121,496,140,065	83.72
2042	21,153,055,258	23.708	5,014,966,341	109,019,179,749	127,919,597,976	85.22
2043	22,261,000,423	23.708	5,277,637,980	116,909,144,486	134,727,004,083	86.77
2044	23,426,063,171	23.708	5,553,851,057	125,424,329,402	141,937,398,098	88.37
2045	24,650,933,586	23.708	5,844,243,335	134,607,832,687	149,569,231,321	90.00

TABLE 11A - PROJECTED STATE CONTRIBUTION LEVELS 1998 - 2045
ASSETS AT MARKET VALUE

Fiscal Year	Total Payroll	State Contribution		Assets EOY	AAL	Funding Ratio
		% of Pay	Dollars			
1996	\$ 2,330,038,552	6.311%	\$ 147,055,386	\$ 6,958,012,000	\$10,155,039,000	68.52%
1997	2,452,454,965	7.321	179,547,000	7,358,036,737	11,095,292,397	66.32
1998	2,582,425,637	8.273	213,644,073	7,804,027,448	11,901,338,043	65.57
1999	2,714,720,358	9.225	250,432,953	8,294,220,621	12,761,631,291	64.99
2000	2,849,821,054	10.177	290,026,289	8,831,139,437	13,677,059,469	64.57
2001	2,989,572,791	11.129	332,709,556	9,417,604,733	14,648,476,487	64.29
2002	3,133,906,720	12.081	378,607,271	10,056,759,494	15,676,738,224	64.15
2003	3,284,239,668	13.033	428,034,956	10,753,066,095	16,763,349,515	64.15
2004	3,439,816,018	13.985	481,058,270	11,508,755,557	17,907,594,077	64.27
2005	3,600,457,823	14.937	537,800,385	12,326,709,137	19,109,033,505	64.51
2006	3,767,508,297	15.889	598,619,393	13,211,781,668	20,368,521,277	64.86
2007	3,940,301,397	16.841	663,586,158	14,180,266,887	21,691,909,126	65.37
2008	4,119,792,643	17.793	733,034,705	15,226,594,352	23,074,102,357	65.99
2009	4,306,303,118	18.745	807,216,519	16,353,977,342	24,512,744,883	66.72
2010	4,501,533,232	19.694	886,531,955	17,571,911,214	26,011,030,783	67.56
2011	4,705,080,947	19.694	926,618,642	18,839,050,363	27,567,072,691	68.34
2012	4,916,696,624	19.694	968,294,233	20,153,618,616	29,179,142,932	69.07
2013	5,137,961,971	19.694	1,011,870,231	21,517,405,801	30,848,788,517	69.75
2014	5,370,739,043	19.694	1,057,713,347	22,932,107,158	32,577,600,377	70.39
2015	5,617,177,582	19.694	1,106,246,953	24,402,935,323	34,370,587,731	71.00
2016	5,876,214,199	19.694	1,157,261,624	25,928,691,474	36,226,287,756	71.57
2017	6,146,794,729	19.694	1,210,549,754	27,505,715,254	38,140,551,468	72.12
2018	6,432,193,408	19.694	1,266,756,170	29,139,979,321	40,118,825,404	72.63
2019	6,735,482,047	19.694	1,326,485,834	30,837,732,447	42,166,822,478	73.13
2020	7,055,852,754	19.694	1,389,579,641	32,602,695,787	44,287,561,831	73.62
2021	7,393,929,766	19.694	1,456,160,528	34,438,839,614	46,484,174,476	74.09
2022	7,751,817,955	19.694	1,526,643,028	36,351,707,405	48,761,175,857	74.55
2023	8,130,166,139	19.694	1,601,154,919	38,348,264,048	51,124,248,053	75.01
2024	8,530,951,745	19.694	1,680,085,637	40,440,114,373	53,583,411,651	75.47
2025	8,955,064,904	19.694	1,763,610,482	42,635,311,024	56,145,111,824	75.94
2026	9,404,609,530	19.694	1,852,143,801	44,947,712,130	58,821,218,938	76.41
2027	9,879,420,570	19.694	1,945,653,087	47,385,955,634	61,618,365,133	76.90
2028	10,382,835,340	19.694	2,044,795,592	49,967,752,186	64,551,585,356	77.41
2029	10,913,931,733	19.694	2,149,389,715	52,701,933,578	67,627,108,849	77.93
2030	11,475,599,422	19.694	2,260,004,550	55,609,097,109	70,862,169,921	78.48
2031	12,068,708,710	19.694	2,376,811,493	58,704,900,637	74,269,056,404	79.04
2032	12,696,011,200	19.694	2,500,352,446	62,013,412,145	77,867,710,170	79.64
2033	13,357,683,810	19.694	2,630,662,250	65,550,541,663	81,669,755,828	80.26
2034	14,054,917,252	19.694	2,767,975,404	69,336,225,362	85,690,339,002	80.91
2035	14,790,743,523	19.694	2,912,889,029	73,398,681,047	89,952,115,746	81.60
2036	15,565,807,941	19.694	3,065,530,216	77,757,289,743	94,468,666,790	82.31
2037	16,382,394,412	19.694	3,226,348,755	82,437,639,603	99,259,031,649	83.05
2038	17,241,787,912	19.694	3,395,597,711	87,460,998,758	104,337,425,753	83.83
2039	18,146,582,149	19.694	3,573,787,888	92,857,552,381	109,725,959,706	84.63
2040	19,098,353,338	19.694	3,761,229,706	98,651,074,722	115,439,883,295	85.46
2041	20,099,666,323	19.694	3,958,428,286	104,867,921,078	121,496,140,065	86.31
2042	21,153,055,258	19.694	4,165,882,703	111,543,650,702	127,919,597,976	87.20
2043	22,261,000,423	19.694	4,384,081,423	118,706,274,296	134,727,004,083	88.11
2044	23,426,063,171	19.694	4,613,528,881	126,387,294,534	141,937,398,098	89.04
2045	24,650,933,586	19.694	4,854,754,860	134,618,767,016	149,569,231,321	90.00

Appendix D
Actuarial Method and Assumptions

PROJECTED UNIT CREDIT METHOD

The Projected Unit Credit Method is mandated under Section 15-155 as the actuarial valuation to be used for all purposes under SURS.

The concept of this method is that funding of benefits should occur as benefits are accrued (earned) by active members of SURS.

The Normal Cost (NC) for a fiscal year under this method is the actuarial present value of all benefits expected to be accrued during the fiscal year. The Actuarial Accrued Liability (AAL) under this method is the actuarial present value of all benefits accrued to the valuation date. To the extent that the assets of the fund are insufficient to cover the AAL, an Unfunded Actuarial Accrued Liability (UAAL) develops. Under the classical application of this method, the contribution for a year is the NC for that year plus an amount to amortize the UAAL.

Under Section 15-155, the employer/State contribution is determined such that the assets of SURS reach 90% of the AAL by the end of FY 2045.

This contribution is determined as a level percentage of pay for all years except that the contribution rates through 2010 shall grade in equal steps to the desired level contribution rate.

ACTUARIAL ASSUMPTIONS
(ADOPTED EFFECTIVE JUNE 30, 1991)

Rate of Investment Return. For all purposes under the system the rate of investment return is assumed to be 8% per annum.

Annual Compensation Increases. Each member's compensation is assumed to increase by 7% each year, except that rate is increased for members with less than 6 years of service, as follows:

<u>Service Year</u>	<u>Multiplier</u>
0	1.0400
1	1.0300
2-4	1.0175
5	1.0100

The payroll of the entire system is assumed to increase at 5.25% each year.

Mortality. A table based on experience underlying the 1971 Group Annuity Mortality Table - with projection to 1986. Set back 3 years for males and 2 years for females.

Disability. A table of disability incidence with sample rates follows:

<u>Age</u>	<u>Males</u>	<u>Females</u>
20	0.0000	0.0000
30	0.0006	0.0008
40	0.0009	0.0014
50	0.0021	0.0031
60	0.0088	0.0081
70	0.0050	0.0100

ACTUARIAL ASSUMPTIONS
(ADOPTED EFFECTIVE JUNE 30, 1991)
(CONTINUED)

Retirement. Upon eligibility, active members are assumed to retire as follows:

Age	Males	Females
50-55	.075	.065
56	.040	.045
57-58	.040	.040
59	.050	.065
60	.100	.105
61	.095	.065
62	.115	.145
63	.110	.115
64	.130	.175
65	.240	.225
66	.200	.155
67	.200	.165
68	.165	.200
69	.200	.200
70	1.000	1.000

General Turnover. A table of termination rates based on experience in the 1986-91 period. The assumption consists of a table of ultimate turnover rates by age and a set of multipliers for adjustment of those ultimate rates for those with less than 10 years of service. A sample of the ultimate rates follows:

Age	Males	Females
20	0.50	0.50
30	0.42	0.42
40	0.24	0.31
50	0.13	0.24
60	0.26	0.33
70	0.54	0.65

ACTUARIAL ASSUMPTIONS
(ADOPTED EFFECTIVE JUNE 30, 1991)
(CONTINUED)

The adjustment factors for the first 10 years of service follow:

Service Year	Males	Females
0	5.75	5.90
1	5.75	5.60
2	4.70	4.75
3	3.90	3.95
4	3.20	3.30
5	2.50	2.60
6	2.15	2.30
7	1.80	2.00
8	1.50	1.65
9	1.25	1.30

Part time members with less than 3 years of service are assumed to terminate at the valuation date.

Operational Expenses. The amount of operational expenses incurred in the latest fiscal year are supplied by SURS staff and incorporated in the Normal Cost.

Marital Status. Members are assumed to be married in the following proportions:

Age	Males	Females
20	25%	40
30	70	75
40	80	80
50	85	85
60	85	70

Spouse Age. The female spouse is assumed to be 3 years younger than the male spouse.

Appendix E
Summary of Benefit Provisions of SURS

Membership

Any employee of a public institution of higher education or community college in the state of Illinois who is expected to be employed for at least 4 months or an academic term, if lesser, is a member of SURS except the following employees are not members:

1. a student employed temporarily at less than full time,
2. a person receiving a retirement benefit or disability retirement annuity from SURS,
3. an employee participating in the Social Security System by virtue of such employment or a part time employee participating in a special optional plan.

Member Contributions

Most members contribute a total of 8% of compensation, broken down as follows:

Retirement Annuity	6.5%
Survivor Benefits	1.0%
Annual Increases in Retirement Benefits	.5%

Police officers and firefighters contribute a total of 9.5% of compensation, with the additional 1.5% allocated to the retirement annuity.

Since January 1, 1981, the member contributions under SURS have been “picked up” by employers.

Effective Rate of Interest

The interest rate credited to member contribution accounts for most purposes under the system is called the Effective Rate of Interest (“ERI”). The ERI is established annually by the Board. While in recent years this rate has been 8%, it is established at 8.5% for the academic year beginning September 1, 1996.

For the purpose of withdrawal of contributions at termination, this rate is set at 4.5% by statute.

RETIREMENT BENEFITS

Normal Retirement:

Eligibility

For police officers and firefighters, separation from service on or after the attainment of the earlier of:

1. Age 55 with 20 years of service, or
2. Age 50 with 25 years of service.

For other members, separation from service on or after attainment of the earlier of:

1. Age 62 with 5 years of service,
2. Age 60 with 8 years of service, and
3. 35 years of service regardless of age.

Initial Benefit Amount

There are 3 alternate formulae. The initial benefit is the largest produced by one of the three:

1. General Formula: The following percentages of high 4 consecutive year average compensation for each year of service:

Year of Service	General	Police/Fire
1 st 10 Years	1.67%	2.25%
Next 10 Years	1.90	2.50
Next 10 Years	2.10	2.75
Over 30	2.30	2.75

2. Money Purchase Formula:

- a) The member contributions for retirement benefit accumulated with interest at the ERI plus
- b) An imputed employer contribution match at \$1.40 per dollar of member contribution accumulated with interest at the ERI.
- c) The total of the accumulations in (a) and (b) is converted into an annuity using a life annuity factor which takes neither the automatic 50% spousal or survivor benefit nor the automatic annual increases into account.

3. Minimum Benefit - A benefit for each year of service, up to 30, based on final annual pay, as follows:

Under 3,500	\$ 8
\$3,500 - \$4,500	9
\$4,500 - \$5,500	10
\$5,500 - \$6,500	11
\$6,500 - \$7,500	12
\$7,500 - \$8,500	13
\$8,500 - \$9,500	14
Over \$9,500	15

Maximum Benefit

75% of high 4 year average compensation, except that, for those entering membership before September 15, 1977 the maximum is 80%.

Benefit Duration

The Normal Retirement benefit is payable for the lifetime of the retired member. If the retiree has a spouse at date of retirement and if that spouse survives the retiree the spouse will receive, upon the death of the retiree, a survivor benefit equal to 50% of the monthly benefit being paid to the retiree as of the date of death. Such benefit will continue for the lifetime of the surviving spouse.

Annual Increases

Each January 1 subsequent to retirement date the monthly benefit being paid each retiree shall be increased by 3%. The adjustment for the first January after retirement shall be proportional.

Early Retirement

Eligibility

For members other than police and fire employees, separation from service on or after attainment of age 55 with 8 years of service but not eligible for Normal Retirement.

Benefits

The benefit amounts and all terms of benefit payment are the same as that for Normal Retirement, except that the benefit amounts calculated under the General Formula and the Minimum Formula shall be reduced by .5% for each month by which the retirement date precedes the 60th birthday.

“Buy Down” of Early Retirement Reduction

A member retiring on an early retirement prior to September 1, 1997, may make an additional contribution at retirement and eliminate the reduction applied to his early retirement benefit. The contribution is 7% of final compensation multiplied by the lesser of:

1. the number of years by which 60 exceeds the member's age, and
2. the number of years by which 35 exceeds the member's years of service.

Each employer may limit participation in this option to 15% of those eligible in any year.

BENEFITS ON DEATH BEFORE RETIREMENT

Survivor Benefits

Eligibility

Death of an active member with at least 1.5 years of service or a terminated member with at least 10 years of service. For this purpose, service under the State Employees' Retirement System, the State Teachers' Retirement System, and the Chicago Teacher's Retirement System is recognized.

Benefits

An annuity to the surviving spouse equal to the greater of:

1. 50% of the benefit accrued to the date of the death of the member, and
2. the applicable benefit from the following list:
 - a) \$400 per month to a single survivor (spouse, child or dependent parent), or
 - b) \$600 to two or more survivors.

Benefit Duration

Surviving spouse may receive a lifetime benefit commencing at the later of the member's date of death and the spouse's attainment of age 50. Benefits are payable to a spouse at an earlier date so long as there is a surviving dependent, unmarried child under age 18 (over 18 if disabled).

Annual Adjustments

Survivor annuities are subject to the same annual adjustments made to retirement benefits.

Lump Sum Death Benefit

Eligibility

Death of member prior to retirement.

Benefit

The following are payable to the member's beneficiary:

1. Refund of accumulated member contributions for retirement and annual adjustment,
2. \$1,000
3. If survivor benefits not payable,
 - a) Refund of the accumulated member contribution for survivor benefits, and
 - b) \$5,000 to a dependent beneficiary or \$2,500 to a non-dependent beneficiary

Disability Benefit

Eligibility

Disablement for over 60 days after 2 years of service. The service requirement is waived if the disablement is accidental.

Disability definition - "His occupation".

Pregnancy and childbirth are, by definition, disablement.

Benefit

50% of the basic compensation paid at date of disablement. This base benefit level is offset dollar for dollar by each of the following:

1. Earnings while disabled in excess of the disability benefit.
2. Other disability insurance either fully or partially employer provided.
3. Worker's compensation benefits.

Duration of Benefit

Benefits become payable 60 days after disablement and continue to the earlier of the following:

1. Recovery or death
2. Benefits paid equal 50% of total compensation during the period of SURS service
3. If disablement occurs prior to age 65, the attainment of age 70
4. If disablement occurs at or after attainment of age 65, completion of 5 years in disablement.

If, at discontinuance of the disability benefit, the member is eligible for a retirement benefit (based on service which includes the period of disability), the member may retire and receive that benefit.

Annual Adjustment

On January 1 following the 4th anniversary of commencement of the disability benefit, the benefit is increased by 7%. On each subsequent anniversary, the benefit is increased by an additional 3%.

Disability Retirement Annuity

Eligibility

Continuing disablement after discontinuation of the disability benefit as a result of reaching the "50% of total earnings" limitation. Disability is defined in accordance with the Social Security disability definition.

Benefit

35% of the compensation being earned at disablement.

Duration of Benefit

Benefits become payable upon discontinuance of the disability benefit and continue to the earlier of the following:

1. Recovery or death
2. Election to receive a retirement benefit

Annual Adjustments

None.