

STATE TEACHERS RETIREMENT
SYSTEM OF OHIO
ACTUARIAL COST FACTORS (TEN TABLES)
AND
BENEFIT IMPROVEMENTS
1967-1983

STATE TEACHERS RETIREMENT SYSTEM OF OHIO

ACTUARIAL COST FACTORS
AND
BENEFIT IMPROVEMENTS

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO

SELECTED COST FACTORS
1967-1983

<u>Year Ended</u>	<u>Contribution Rate</u>		<u>Interest Assumption</u>	<u>Payroll Assumption</u>	<u>Unfunded Liability</u>	<u>Funding Period</u>
	<u>Employee</u>	<u>Employer</u>				
1967	7.0%	11.50%	4.00%	3.0%	\$ 704,671,000	15.6 years
1968	7.8	11.50	4.00	3.0	936,188,000	15.6
1969	7.8	12.90	4.00	3.0	970,657,000	14.1
1970	7.8	12.90	4.00	3.0	1,390,892,000	23.0
1971	7.8	12.90	4.25	3.0	1,375,086,000	21.6
1972	7.8	12.90	4.25	3.0	1,445,769,000	22.1
1973	7.8	12.90	4.75	3.0	1,513,090,000	22.7
1974	8.0	12.55	5.00	3.0	1,794,728,000	24.7
1975	8.0	12.55	5.00	3.0	1,939,647,000	24.8
1976	8.0	12.55	6.00	3.0	2,367,446,000	33.8
1977	8.0	12.55	6.00	3.0	2,618,608,000	37.1
1978	8.5	13.50	6.00	3.0	2,947,834,000	44.9
1979	8.5	13.50	6.50	3.0	3,364,770,000	44.4
1980	8.5	13.50	6.50	3.0	3,924,712,000	59.7
1981	8.5	13.50	7.50	5.0	4,669,818,000*	50.0
1982	8.5	13.50	7.50	5.0	5,124,609,000*	59.0
1983	8.5	13.50	7.50	5.0	5,301,141,000*	44.0

*Excluding Health Care

Note: Fiscal year basis September through August, 1920-1974. Fiscal year was changed to July through June starting with the 1974-1975 year.

Source: STRS Reports and Actuarial Reports: Huggins & Company 1967-1980; George B. Buck 1981-1983.

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO
 ASSUMED RATE OF INTEREST, AVERAGE YIELD,
 AND REALIZED RATE OF RETURN ON ASSETS
 1967-1983

<u>Year Ended</u>	<u>Interest Assumption</u>	<u>Weighted Average Yield*</u>	<u>Realized Rate of Return on Assets</u>
1967	4.00%	4.48%	
1968	4.00	4.60	
1969	4.00	4.86	
1970	4.00	5.01	
1971	4.25	4.83	
1972	4.25	4.89	
1973	4.75	5.09	
1974	5.00	5.33	
1975	5.00	5.55	
1976	6.00	6.12	
1977	6.00	6.27	
1978	6.00	6.93	
1979	6.50	7.49	
1980	6.50	8.40	
1981	7.50	9.59	
1982	7.50	9.75	8.92%
1983	7.50	8.78	10.31

* Capital gains not included

Note: Fiscal year basis September through August, 1920-1974.
 Fiscal year was changed to July through June starting with
 the 1974-1975 year.

Source: STRS Reports and Actuarial Reports: Huggins & Company
 1967-1980; George B. Buck 1981-1983.

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PAYROLL ASSUMPTION, PAYROLL COLLECTIONS, AND PERCENT INCREASE
1967-1983

<u>Year Ended</u>	<u>Payroll Assumption</u>	<u>Employee Payroll</u>	<u>Payroll Increase</u>
1967	3.0%	\$ 803,547,000	--
1968	3.0	917,785,000	14%
1969	3.0	1,045,989,000	14
1970	3.0	1,163,210,000	11
1971	3.0	1,267,450,000	9
1972	3.0	1,346,695,000	6
1973	3.0	1,475,100,00	10
1974	3.0	1,573,400,000	7
1975	3.0	1,664,400,000	6
1976	3.0	1,823,100,000	10
1977	3.0	1,930,000,000	6
1978	3.0	2,074,700,000	7
1979	3.0	2,375,800,000	15
1980	3.0	2,473,249,000	4
1981	5.0	2,737,510,000	11
1982	5.0	2,884,405,000	5
1983	5.0	3,033,026,000	5

Note: Fiscal year basis September through August, 1920-1974. Fiscal year was changed to July through June starting with the 1974-1975 year.

Source: STRS Reports and Actuarial Reports: Huggins & Company 1967-1980; George B. Buck 1981-1983.

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO
 ASSETS, UNFUNDED LIABILITIES, AND FUNDING PERCENT
 1967-1983

<u>Year Ended</u>	<u>Assets</u>	<u>Unfunded Liability</u>	<u>Increase In Unfunded Liability</u>	<u>Funding</u>
1967	\$1,204,360,000	\$ 704,671,000	--	63%
1968	1,360,942,000	936,188,000	33%	59
1969	1,523,805,000	970,657,000	4	61
1970	1,710,084,000	1,390,892,000	43	55
1971	1,959,093,000	1,375,086,000	(1)	59
1972	2,235,741,000	1,445,769,000	5	61
1973	2,526,917,000	1,513,090,000	5	63
1974	2,785,350,000	1,794,728,000	19	61
1975	3,000,635,000	1,939,647,000	8	61
1976	3,240,277,000	2,367,446,000	22	58
1977	3,590,432,000	2,618,608,000	11	58
1978	3,991,494,000	2,947,834,000	13	58
1979	4,474,515,000	3,364,770,000	14	57
1980	4,978,714,000	3,924,712,000	17	51
1981	5,634,905,000	4,669,818,000*	19	55
1982	6,344,385,000	5,124,609,000*	10	55
1983	7,210,677,000	5,301,141,000*	3	58

*Excluding Health Care

Note: Fiscal year basis September through August 1920-1974. Fiscal Year was changed to July through June starting with the 1974-1975 year.

Source: STRS Reports and Actuarial Reports: Huggins & Company 1967-1980
 George B. Buck 1981-1983.

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO
 PERIOD FOR FUNDING ACTUARIAL DEFICIENCY
 1967-1983

<u>Year Ended</u>	Period For Funding Deficiency	
	<u>3% Payroll Increase Assumption</u>	<u>5% Payroll Increase Assumption</u>
1967	15.6%	
1968	15.6	
1969	14.1	
1970	23.0	
1971	21.6	
1972	22.1	
1973	22.7	
1974	24.7	
1975	24.8	
1976	33.8	
1977	37.1	
1978	44.9	
1979	44.4	
1980	59.7	
1981		50.0%
1982		59.0
1983		44.0

Note: Fiscal year basis September through August, 1920-1974.
 Fiscal year was changed to July through June with the
 1974-1975.

Source: STRS Reports and Actuarial Reports: Huggins & Company
 1967-1980; George B. Buck 1980-1983.

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO

NORMAL CONTRIBUTION RATES BY COMPONENT AND DEFICIENCY RATES
1967-1983

Year Ended	Service Retirement	Disability Retirement	Survivor Benefits	Refunds	Death Benefit	Health Care	Normal Contribution Rate Plus Health Care	Deficiency Contribution Rate	Rate* Total
1967	8.90%	.33%	.50%	2.51%			12.24%	6.26%	18.5%
1968	9.88	.33	.50	2.67			13.40	7.10	20.5
1969	9.88	.33	.50	2.67			13.40	7.30	20.7
1970	10.68	.38	.60	2.82		.21%	14.69	6.01	20.7
1971	10.53	.30	.60	2.96		.40	14.79	5.91	20.7
1972	10.60	.31	.60	2.95		.50	14.96	5.74	20.7
1973	10.17	.33	.54	2.89	.03%	.44	14.40	5.65	20.05
1974	10.23	.36	.65	2.66	.02	.59	14.51	6.04	20.55
1975	10.56	.93	.55	1.89	.01	.62	14.56	5.99	20.55
1976	11.53	.98	.55	1.84	.01	.69	15.60	4.95	20.55
1977	11.59	.99	.55	1.91	.01	.74	15.79	6.21	22.00
1978	11.66	1.00	.53	1.86	.01	1.06	16.12	5.88	22.00
1979	11.11	1.01	.54	1.79	.01	1.13	15.59	6.41	22.00
1980	11.15	1.01	.52	1.75	.01	1.27	15.71	6.29	22.00
1981	DATA NOT AVAILABLE								
1982	10.77	1.15	.72	1.57	.01	2.05	16.27	5.73	22.00
1983	10.91	1.15	.57	1.58	.01	2.00	16.22	5.78	22.00

*Rate Total is the rate used by the actuary in the annual valuation; it may not always agree with the total of employee and employer rate shown on Page 1 because of timing.

Source: Actuarial Report: Huggins & Company 1967-1980.
George B. Buck 1981-1983.

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO

ANNUAL DOLLAR INCOME, BY SOURCE
1967-1983

<u>Year Ended</u>	<u>Contributions</u>		<u>Investments</u>	<u>Capital Gains</u>	<u>COL From State</u>		<u>Income Total</u>
	<u>Employee</u>	<u>Employer</u>			<u>Miscellaneous</u>		
1967	\$ 57,713,000	\$ 92,700,000	\$ 47,870,000		\$ 667,000	\$ 120,000	\$ 199,070,000
1968	65,835,000	108,447,000	58,996,000		594,000	158,000	234,030,000
1969	83,056,000	120,136,000	65,138,000		549,000	167,000	269,046,000
1970	92,271,000	149,104,000	75,338,000		476,000	593,000	317,782,000
1971	100,439,000	167,882,000	85,790,000		405,000	1,232,000	355,748,000
1972	106,827,000	173,478,000	98,864,000		364,000	2,164,000	381,697,000
1973	116,789,000	190,456,000	115,082,000		4,605,000	3,471,000	430,403,000
1974	128,454,000	201,498,000	138,824,000		5,182,000	3,231,000	477,189,000
1975	124,365,000	175,214,000	126,057,000		6,729,000	3,680,000	436,045,000
1976	150,239,000	226,574,000	189,446,000		4,213,000	3,704,000	574,176,000
1977	164,746,000	248,882,000	236,937,000		3,675,000	1,075,000	655,255,000
1978	189,106,000	277,966,000	285,538,000		3,745,000	844,000	757,239,000
1979	213,230,000	319,552,000	328,768,000		3,488,000	1,301,000	866,339,000
1980	223,250,000	337,812,000	375,610,000		4,706,000	1,218,000	942,596,000
1981	236,099,000	365,835,000	411,501,000	\$42,568,000	9,106,000	1,446,000	1,066,555,000
1982	253,208,000	390,632,000	494,267,000	22,373,000	4,323,000	1,825,000	1,166,628,000
1983	267,791,000	418,957,000	585,018,000	85,768,928	8,398,000	1,866,000	1 367,798,928

Source: Reports of the State Teachers Retirement System of Ohio
November 28, 1983

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO
 INCOME SOURCES, AS PERCENT OF TOTAL INCOME
 1967-1983

<u>Year Ended</u>	<u>Contributions</u>		<u>Investment</u>	<u>Capital</u>	<u>COL</u>	<u>Misc.</u>	<u>Total</u>
	<u>Employee</u>	<u>Employer</u>	<u>Income</u>	<u>Gains</u>	<u>From State</u>		
1967	29.0%	46.6%	24.0%		.3%	.1%	100%
1968	28.1	46.3	25.2		.3	.1	100
1969	30.9	44.7	24.2		.2	*	100
1970	29.0	46.9	23.7		.2	.2	100
1971	28.2	47.2	24.1		.1	.4	100
1972	28.0	45.4	25.9		.1	.6	100
1973	26.1	44.3	26.7		1.1	.8	100
1974	26.9	42.2	29.1		1.1	.7	100
1975	28.5	40.2	28.9		1.6	.8	100
1976	26.2	39.5	33.0		.7	.6	100
1977	25.1	38.0	36.2		.5	.2	100
1978	25.0	36.7	37.7		.5	.1	100
1979	24.6	36.9	38.0		.4	.1	100
1980	23.7	35.8	39.9		.5	.1	100
1981	22.2	34.4	38.7	3.7%	.9	.1*	100
1982	21.7	33.5	42.4	1.9	.4	.1	100
1983	19.6	30.6	42.7	6.4	.6	.1	100

*Less than one tenth of one percent

Source: Reports of the State Teachers Retirement System of Ohio

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO
ANNUAL DOLLAR PAYMENTS, BY OBJECT
1967-1983

<u>Year Ended</u>	<u>Benefits</u>	<u>Refunds</u>	<u>Administration</u>	<u>Total</u>
1967	\$ 63,490,000	\$ 8,585,000	\$ 782,000	\$ 72,857,000
1968	69,618,000	8,221,000	811,000	78,650,000
1969	81,590,000	9,711,000	1,067,000	92,368,000
1970	90,640,000	13,082,000	1,005,000	104,727,000
1971	101,686,000	12,963,000	1,199,000	115,848,000
1972	118,009,000	13,608,000	1,727,000	133,344,000
1973	135,484,000	14,382,000	1,393,000	151,259,000
1974	154,349,000	15,219,000	1,605,000	171,173,000
1975	153,053,000	12,285,000	2,077,000	167,415,000
1976	208,968,000	14,197,000	2,548,000	225,713,000
1977	235,553,000	15,855,000	2,657,000	254,065,000
1978	265,509,000	19,989,000	3,008,000	288,506,000
1979	296,199,000	24,553,000	3,554,000	324,306,000
1980	333,135,000	28,059,000	3,970,000	365,164,000
1981	380,688,000	25,099,000	4,650,000	410,437,000
1982	423,056,000	28,978,000	5,298,000	457,332,000
1983	470,441,000	25,494,000	6,040,000	501,975,000

Source: Reports of the State Teachers Retirement System of Ohio

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO

NUMBER OF MEMBERS: ACTIVE, INACTIVE, PENSIONERS
1967-1983

<u>Year Ended</u>	Number of Members		
	<u>Active</u>	<u>Inactive</u>	<u>Pension</u>
1967	107,943	24,282	23,980
1968	113,337	26,737	25,830
1969	123,504	29,049	27,699
1970	123,319	38,599	29,260
1971	126,067	42,447	31,681
1972	129,853	43,617	34,065
1973	133,130	46,764	36,491
1974	138,432	48,391	38,695
1975	142,483	51,043	39,047
1976	144,494	56,749	41,121
1977	145,539	59,540	43,094
1978	145,815	61,162	45,105
1979	148,889	66,023	47,087
1980	149,862	66,675	48,923
1981	150,972	72,130	50,456
1982	145,735	73,368	52,289
1983	145,603	72,221	54,040

Note: Fiscal year basis September through August, 1920-1974.
Fiscal year was changed to July through June starting
with the 1974-1975 year.

Source: STRS Reports and Actuarial Reports: Huggins &
Company 1967-1980; George B. Buck 1981-1983.

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STATE TEACHERS RETIREMENT SYSTEM OF OHIO

BENEFIT IMPROVEMENTS BY YEAR

1968-1983

- 1968 \$25,000 earnings ceiling eliminated. (Sub. H.B. 959)
- Benefits formula increased from 1.75% to 1.9% of final average salary. Minimum benefit increased to \$82 per service year. (Sub. H.B. 959)
- Monthly benefits for minor children of a deceased female member in care of widower. (Sub. H.B. 959)
- Makes available hospital insurance equal to Medicare Part A with half the cost paid by the System.
- 1969 Service requirement to restore previously withdrawn credit reduced from 2 to 1½ years. (Sub. H.B. 959)
- 1970 Extended student benefits to age 22. (Am. Sub. H.B. 210)
- Widows eligible for benefit at age 50 if member had 10 years service--formerly 15. (Am. Sub. H.B. 210)
- Certain survivors eligible for benefits based on member's salary rather than a flat benefit. (Am. Sub. H.B. 210)
- 1971 Annual cost of living increases of 1½% after three years in retirement. (B. 448)
- 1972 Benefit formula increased from 1.9% to 2.0% of final average salary. Minimum benefit increased to \$86 per service year. (H.B. 100)
- Three year marriage requirement to qualify for survivor benefits eliminated. (H.B. 100)
- Survivor benefits extended to two years after contributing service terminates. (H.B. 100)
- Monthly benefits increased for all those retired before July 1968 in a range of \$6 per month to \$50 per month based on years in retirement. (Am. Sub. H.B. 284)
- 1973 Purchase up to 3 years of military service if rendered before July 1973.
- Purchase credit for American Red Cross if in a combat zone. (H.B. 430)
- Three year in 10 year restriction to qualify for formula benefits eliminated. (H.B. 430)
- Full normal benefit with 32 years rather than 35. (H.B. 430)

- Benefit limitation as percent of final average salary increased from 85% to 90%. (H.B. 430)
- Permits member to obtain credit for substitute service or temporary service to 1965. Formerly stopped in 1947. (H.B. 430)
- Survivor's benefits increased by \$2 per year between date of death and 1972. (H.B. 377)
- 1974 Final average salary base reduced from five to three years. (H.B. 1034)
- Permit purchase of up to five years of out of state teaching service. (H.B. 1160)
- Comprehensive medical program without cost to benefit recipient. (H.B. 430)
- Benefit increase of \$2 per month for each year in retirement for those retired between 1968 and 1971. (Am. H.B. 214)
- Retirement increases ranging from 5 percent to 33 percent for all persons retired between 1955 and 1971. Minimum retirement benefit increased to \$140 per year of service for those retired before July 1955. Survivor benefit recipients on the flat rate given 20% increase. (H.B. 1476)
- Pop up option established. (Board Rule)
- 1975 Increased lifetime health benefit per individual from \$20,000 to \$250,000. (Board Rule)
- 1976 Eliminated 50% penalty levied when restoring canceled credit. (H.B. 268)
- Increased number of years of military service eligible for purchase from three to five years. (H.B. 268)
- Permits purchase of up to five years of private school teaching service. (H.B. 268)
- Purchase of Ohio public service liberalized. (H.B. 268)
- Full formula for retirement with 30 years service, formerly 32. (H.B. 268)
- Minimum disability benefit set at 30% of final average salary. (H.B. 268)
- Beneficiary permitted to purchase credit after member's death.
- Annual cost of living increased from 1½% to 2% after two years (formerly three years) in retirement. (H.B. 268)
- Medicare Part B premium paid by STRS (H.B. 268)

- 1978 Purchase of public non teaching service in other states.
(S.B. 245)
- Liberalized spouse survivor benefits if remarried after
age 62. (H.B. 55)
- Provide free medical-health coverage for spouse of benefit
recipient.
- 1979 Annual cost of living liberalized from 2% after 2 years
to 3% after one year. (H.B. 204)
- Benefits of persons retired before July 1974 increased by
5% of the first \$5000. (H.B. 204)
- 1980 Supplemental benefit (13th check) when funds permit. (Am.
Sub. H.B. 1237)
- Provided free medical-health coverage for dependent child-
ren and for sponsored dependents.
- 1981 Provided an alternate method of obtaining prescription
drugs. (Board Resolution)
- Maximum lifetime health benefit increased from \$250,000
to \$500,000.
- 1982 Extension of time period to purchase retirement credit
for past leaves of absence. (Sub. S.B. 530)
- 1983 Early retirement incentive plans may be adopted by employers
for teachers. (Am. Sub. H.B. 410)

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COST INFORMATION*

<u>Year</u>	<u>Legislation</u>	<u>Percent of Payroll</u>	<u>First Year Cost</u>
1968	Substitute House Bill 959	.84%	\$ 8,400,000
	House Bill 402	.13	1,300,000
1970	Substitute House Bill 210	.16	
1971	Senate Bill 448	2.34	
1972	House Bill 100	.20	2,700,000
	Amended Substitute House Bill 284	State appropriation	4,342,000
1973	House Bill 430	1.87	29,500,000
	House Bill 377		271,965
1974	House Bill 1034	.77	12,142,900
	House Bill 1160	.13	1,917,000
	Amended House Bill 214		496,000
	House Bill 1476		16,463,000
1976	House Bill 268	1.45	26,100,000
1978	Senate Bill 245		
	House Bill 55		
1979	House Bill 204	State appropriation	
1980	Amended Substitute House Bill 1237		

* Incomplete