

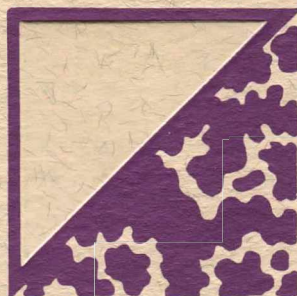
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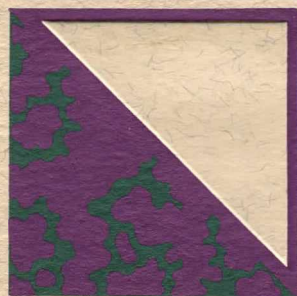


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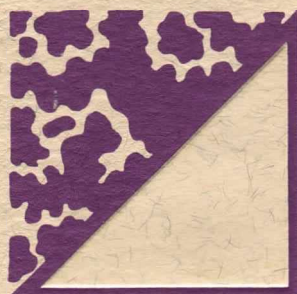
COMPREHENSIVE ANNUAL



FINANCIAL REPORT



FOR THE FISCAL YEAR ENDED



DECEMBER 31, 1990



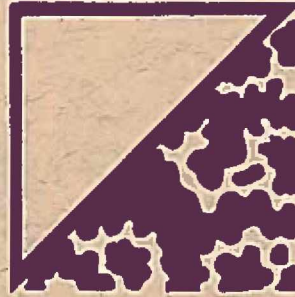
The Public Employees' Retirement Association provides retirement and survivor benefits for the employees of 342 state, school and local government entities in Colorado.

1990 STATISTICAL HIGHLIGHTS

<input type="checkbox"/> Benefit Recipients	34,940
<input type="checkbox"/> Contributing Members	106,898
<input checked="" type="checkbox"/> Service Retirements	1,794
<input type="checkbox"/> Disability Retirements	344
<input checked="" type="checkbox"/> Member Deaths	93
<input type="checkbox"/> Benefit Recipient Deaths	1,025
<input type="checkbox"/> Benefits Paid*	\$ 391,242,000
<input type="checkbox"/> Refunds Paid	\$ 32,621,000
<input type="checkbox"/> Employer Contributions	\$ 340,786,000
<input type="checkbox"/> Member Contributions	\$ 225,651,000
<input type="checkbox"/> Investment Assets	\$ 9,503,772,000
<input type="checkbox"/> Realized Investment Income	\$ 628,673,000
<input type="checkbox"/> Investment Rate of Return	1.5%
<input type="checkbox"/> Five-Year Rate of Return	9.2%
<input type="checkbox"/> Ten-Year Rate of Return	11.8%

*Includes health care premium subsidies paid to retirees and other benefit recipients.

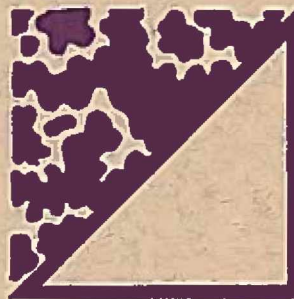
COMPREHENSIVE ANNUAL



FINANCIAL REPORT



FOR THE FISCAL YEAR ENDED



DECEMBER 31, 1990

ROBERT J. SCOTT, EXECUTIVE DIRECTOR
1300 LOGAN STREET DENVER, COLORADO 80203
(303) 832-9550

PREPARED BY THE PERA STAFF

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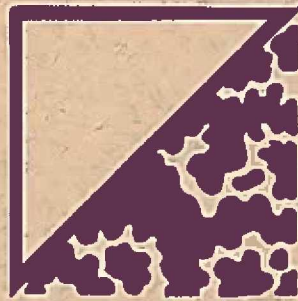
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INTRODUCTORY SECTION



Letter of Transmittal**PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO**

1300 Logan Street Denver, Colorado 80203 General Business Number: (303) 832-9550

InfoLine: 837-6250 or Toll-Free 1-800-759-PERA (7372)

June 21, 1991**Dear Members of the Board of Trustees:**

I am pleased to present the Comprehensive Annual Financial Report of the Public Employees' Retirement Association of Colorado for the year ended December 31, 1990. The Report consists of seven sections.

The Introductory Section contains this Letter of Transmittal, the Board Chairman's Letter, Board of Trustees Information, the administrative organizational chart, and a list of the consultants used by PERA. Also included in the Introductory Section is the Plan Summary that outlines the Association's history, purpose, administrative responsibility and benefit programs.

The Financial Section contains the opinion of the independent accountants, Price Waterhouse, and the financial statements of the Association, followed by a Supporting Schedules Section. The Investment Section presents information regarding the fund's investments and performance, including the Investment Policy, Investment Summary, Colorado Investment Profile, and listings of the Association's domestic stock holdings, external managers of equity investments, and brokers utilized.

The Actuarial Section contains the certification of the consulting actuary, Gabriel, Roeder, Smith & Company, along with the results of the actuarial valuation and other actuarial statistics. The Statistical Section contains tables of significant data pertaining to PERA and a list of the 342 affiliated employers. In the Other PERA Programs Section, the scope and activities of other programs in which the Association is involved for the good of its members and benefit recipients are explained. These include the Health Care Program, the Life Insurance Program and the Voluntary Investment Program.

Accounting System and Reports

The Report has been prepared in accordance with generally accepted accounting principles applied on a consistent basis as agreed upon by the Governmental Accounting Standards Board (GASB) and American Institute of Certified Public Accountants. The Financial Statements are presented in accordance with guidelines established by the Financial Accounting Standards Board (FASB) Statement No. 35. The Notes to Financial Statements were prepared in accordance with GASB Statement No. 5.

PERA's transactions are reported on the accrual basis of accounting for assets, liabilities, revenues and expenses. Revenues for the Association are taken into account when earned without regard to the date of collection. Expenses are recorded when the corresponding liabilities are incurred, regardless of when the payment is made. Fixed assets are recorded at cost and depreciated through charges to expense over the estimated useful lives of the assets.

In developing and evaluating PERA's accounting system, it was found that internal controls adequately safeguard assets and provide reasonable assurance of proper recording of financial transactions.

Contributions are based on the principles of level-cost financing with current service financed on a current basis. Prior service is amortized over varying periods depending on the respective Division, i.e. 28 years for the State Division, 19 years for the School Division, 24 years for the Municipal Division and 19 years for the Judicial Division.

The Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to PERA for its financial report for the fiscal year ended December 31, 1989. This is the fifth consecutive year that PERA has received the Certificate of Achievement. To be awarded a Certificate of Achievement, a public employee retirement system must publish a readable and organized report that conforms to program standards. We believe our current Report continues to meet GFOA requirements, and we are submitting it to GFOA to determine its eligibility for another Certificate.

Revenues

The revenues needed to finance retirement benefits are accumulated through the collection of employer and member contributions, and through income on investments. Contributions and investment income, including unrealized gains and losses for 1990, totaled \$582,063,000.

There was an increase of approximately \$18,493,000 in total contributions, resulting from increases in the number of members and the amounts of their salaries.

Expenses

The primary expense of a retirement system relates to the purpose for which it is created, that is, the disbursement of retirement and survivor benefits. These recurring benefit payments, along with refunds of contributions to members who terminate employment, subsidies towards health care premiums and the cost of administering PERA comprise the total expense. In 1990, this totaled \$435,149,000, an increase of 6 percent from 1989.

Total revenues of \$582,063,000 exceeded expenses of \$435,149,000 by \$146,914,000 during 1990. Administrative expenses are controlled by an annual budget approved by the Board of Trustees, and represent 0.1 percent of total assets.

Value of Accumulated Plan Benefits (Reserves)

Accumulated plan benefits, as presented in our audited financial statements, total \$8,109,960,000. This amount is calculated in accordance with FASB Statement No. 35, which does not take into consideration the effect of future salary increases.

For clarification, we also present in the Actuarial Section a summary of PERA's unfunded actuarial accrued liabilities. These are calculated using assets on a historical cost basis, and include the effect of projected future salary increases on liabilities. The Notes to

Combined Financial Statements on pages 16 to 22 are governed by GASB Statement No. 5 and present actuarial valuations including future salary increases and assets at market value.

Investments

The investment portfolio income is a major contributor to PERA. In 1990, realized income from both long and short-term investments amounted to \$628,673,000. This exceeded the contributions by members and employers of \$225,651,000 and \$346,849,000, respectively.

For the year ended December 31, 1990, the total fund had a rate of return of 1.5 percent on a market value basis, the lowest return in the last five years. This return reflected a period of economic uncertainty and a recession magnified by the war in the Middle East.

A further explanation of PERA's investment policies and strategies are presented in the Investment Policy Summary on page 36. Changes in the composition of the total portfolio during the year are reflected in the Investment Summary on page 37. Proper funding and healthy investment returns are very important to the financial soundness of PERA. The ratio of investment earnings to total revenue is evidence of the Association's continued strong financial management.

Asset Allocation

An integral part of the overall investment policy is the strategic asset allocation policy. This allocation mix is designed to provide an optimal mix of asset categories. This, in turn, emphasizes a maximum diversification of the portfolio.

Both traditional (cash, bonds, domestic equities, fixed income and mortgages) and non-traditional (real estate, guaranteed investment contracts, international equities, venture capital and leveraged buyouts) assets are incorporated into the mix.

Funding

The bottom line for a retirement system is its level of funding. If this level is adequate, the ratio of total accumulated assets to total liabilities will be larger, and more funds are available for investment purposes. Also, an adequate funding level gives the participants a higher degree of assurance that their pension benefits are secure.

The advantage of a well-funded plan is that participants can see assets which are irrevocably committed to the payment of promised benefits. Although the historical level of funding for PERA is good (as illustrated by the Solvency Test on page 54), continued effort is being directed at maintaining that level. Funding levels are presented in the Actuarial Section of this Report.

Finally, expressing net assets available for benefits as a percentage of the pension benefit obligation provides another indication of PERA's funding status on a "going-concern" basis. Over time, an analysis of this percentage, as illustrated in the Schedule of Funding Progress on page 23, indicates the strength of the system.

Professional Services

Professional consultants are hired to perform services essential to the efficient operation of the Association. Reports from the independent accountants and actuary are included, and PERA's consultants are listed on page 9.

Review of Operations and Activities of 1990

PERA devotes much attention to advising members about their current or future benefits, and assisting them in making personal data record changes. During 1990, the staff met individually with more than 3,700 members and benefit recipients in the PERA office, and responded to more than 31,000 telephone inquiries and 32,000 letters and other inquiries.

InfoLine, a toll-free telephone information center, completed its first year of operation in 1990. InfoLine counselors answered more than 52,000 calls from members, retirees and employers (an average of 208 calls for the available working days), and responded to more than 8,600 requests for information during the year.

Staff conducted 208 meetings and staffed 20 information tables at events throughout Colorado to provide information about plan benefits; more than 10,000 members, retirees, and other persons attended these sessions. Also, 19 meetings were held to educate more than 600 PERA-affiliated employer staff members about procedures and policies. Finally, the PERA Field Counseling Program provided individual counseling to more than 750 members around the state.

In May 1990, a Board of Trustees election was held. Three Board members were re-elected to their positions — Patrick E. Dougherty to represent Municipal Division members, William Maguire to represent State Division members (where there was a run-off election due to a tie) and Frank V. Tauill to represent School Division members. Also, a new member, Richard Lansford, was appointed to fill the seat of Board member John Young who resigned in June.

The PERA Voluntary Investment Program (VIP), a 401(k) tax-deferred supplemental retirement plan, continued to progress during the year. Assets grew from \$13,359,938 at the end of 1989 to \$19,242,631 at the end of 1990. The Other PERA Programs Section contains a detailed report on VIP on page 72.

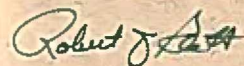
Acknowledgements

The cooperation of affiliated employers contributes significantly to PERA's success. We thank them for their continuing support.

The compilation of this Report reflects the combined effort of the PERA staff. It is intended to provide complete and reliable information as a basis for making management decisions, determining compliance with legal provisions and determining responsible stewardship of assets contributed by the members and their employers. It is being mailed to all affiliated employers and other interested persons; a summary will be published in the next issue of the PERA *Member Report* and the PERA *Retiree Report*.

I would like to express my gratitude to the staff, Board of Trustees, consultants and other associates who worked diligently to ensure the successful operation of PERA in 1990.

Respectfully submitted,



Robert J. Scott,
Executive Director

Certificate of Achievement

Certificate of Achievement for Excellence in Financial Reporting

Presented to

**Public Employees' Retirement
Association of Colorado**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended
December 31, 1989

A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFR's) achieve the highest standards in government accounting and financial reporting.



Gary R. Nozhen

President

Jeffrey L. Esall

Executive Director

Board Chairman's Letter**PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO**

1300 Logan Street Denver, Colorado 80203 General Business Number: (303) 832-9550

InfoLine: 837-6250 or Toll-Free 1-800-759-PERA (7372)

June 21, 1991**To all PERA Members, Benefit Recipients and Employers:**

The 1990 Comprehensive Annual Financial Report of the Public Employees' Retirement Association of Colorado presents a detailed view of the financial and actuarial status of your retirement system. In light of last year's economic uncertainties, the Board of Trustees is very pleased with the overall performance of the fund.

The Board is dedicated to preserving the financial integrity of the fund through a sound fiscal management program. It takes its role very seriously, and has spent considerable time in becoming knowledgeable in investment and asset allocation strategies and policies.

During the 1990 Colorado General Assembly, several bills were proposed by the Association and became law:

House Bill 1032 gave legislative approval for a cost-of-living increase for about 30,000 PERA benefit recipients through the Cost-of-Living Stabilization Fund.

House Bill 1036 gave PERA the authority to make investment loans secured by second mortgages, and to invest in real estate through title holding corporations.

House Bill 1037 increased the maximum Health Care Program premium subsidy by \$20 to \$115 per month, raising the amount PERA pays toward premiums for many benefit recipients.

House Bill 1078 made technical corrections and other minor changes in the statutes governing PERA. One of the provisions changed now permits retirees to change their benefit option anytime within 60 days after issuance of the initial benefit.

As PERA's assets and commitments grow, the fund is affected by many national and local factors, including federal legislation. The Omnibus Budget Reconciliation Act of 1990 requires all public employees to be covered under Social Security or a public employee retirement system beginning July 1, 1991. In response, PERA sponsored *House Bill 1026* in 1991, a bill requiring mandatory PERA membership for nearly all employees who work for PERA-affiliated employers. PERA believes that this mandatory membership will have advantages for these employees that Social Security does not offer. This bill will substantially increase the number of PERA members.

PERA is prepared to adjust to these and other factors in the public pension environment. Likewise, the Board will carefully consider benefit enhancements only when the trust funds can afford them.

In closing, the Board and I extend our thanks for your support and interest. With it, PERA continues to be a national leader in public employee retirement systems.

Sincerely,

Frank V. Taulli
Chairman, Board of Trustees

Board of Trustees

By state law, the management of the public employees' retirement fund is vested in the Board of Trustees of the Public Employees' Retirement Association of Colorado.

The Board is composed of 16 members, including the State Auditor and the State Treasurer. The 14 representative members are elected by mail ballot of their respective division members to serve on the Board for a four-year-term. Five members are elected from the School Division, four from the State Division, two from the Municipal Division, one from the Judicial Division, and two representing benefit recipients. If a Board member resigns, a new member is appointed from the respective Division for the remainder of the year until the next election.

Following is the list of Board members on December 31, 1990.

Frank V. Taulli

Chairman of the Board

- Member since 1977
- Represents school employees
- Elementary school principal, Pueblo Public Schools, # 60
- Current term expires July 1, 1994

Marsha M. Jackson

Vice Chairman of the Board

- Member since 1986
- Represents school employees
- Elementary classroom teacher, Mesa County School District
- Current term expires July 1, 1992

Roberta Altenbern

- Member since 1977
- Represents school employees
- Media specialist, Adams County School District 14
- Current term expires July 1, 1991

Dr. Terry L. Lantry

- Member since 1976
- Represents state employees
- Professor, Accounting & Business Law, Colorado State University
- Current term expires July 1, 1992

Timothy M. O'Brien

- Member since 1985
- State Auditor
- Continuous term, ex-officio

Patrick E. Dougherty

- Member since 1988
- Represents municipal employees
- Developmental Engineer, City of Arvada
- Current term expires July 1, 1994

William Maguire

- Member since 1985
- Represents state employees
- Personnel Specialist, Colorado State Hospital
- Current term expires July 1, 1994

Gall Schoettler

- Member since 1987
- State Treasurer
- Continuous term, ex-officio

John Ehnes

- Member since 1989
- Represents state employees
- Employee Benefits Manager, State of Colorado
- Current term expires July 1, 1993

Gar McInnis

- Member since 1986
- Represents municipal employees
- Risk and Insurance Administrator, City of Colorado Springs
- Current term expires July 1, 1991

Donald P. Smith, Jr.

- Member since 1987
- Represents judges
- Judge, Colorado Court of Appeals
- Current term expires July 1, 1991

Ada Houck

- Member since 1973
- Represents retirees
- Retired elementary teacher
- Current term expires July 1, 1993

George Meares

- Member since 1987
- Represents state employees
- Controller, State Department of Highways
- Current term expires July 1, 1991

Carl S. Wilkerson

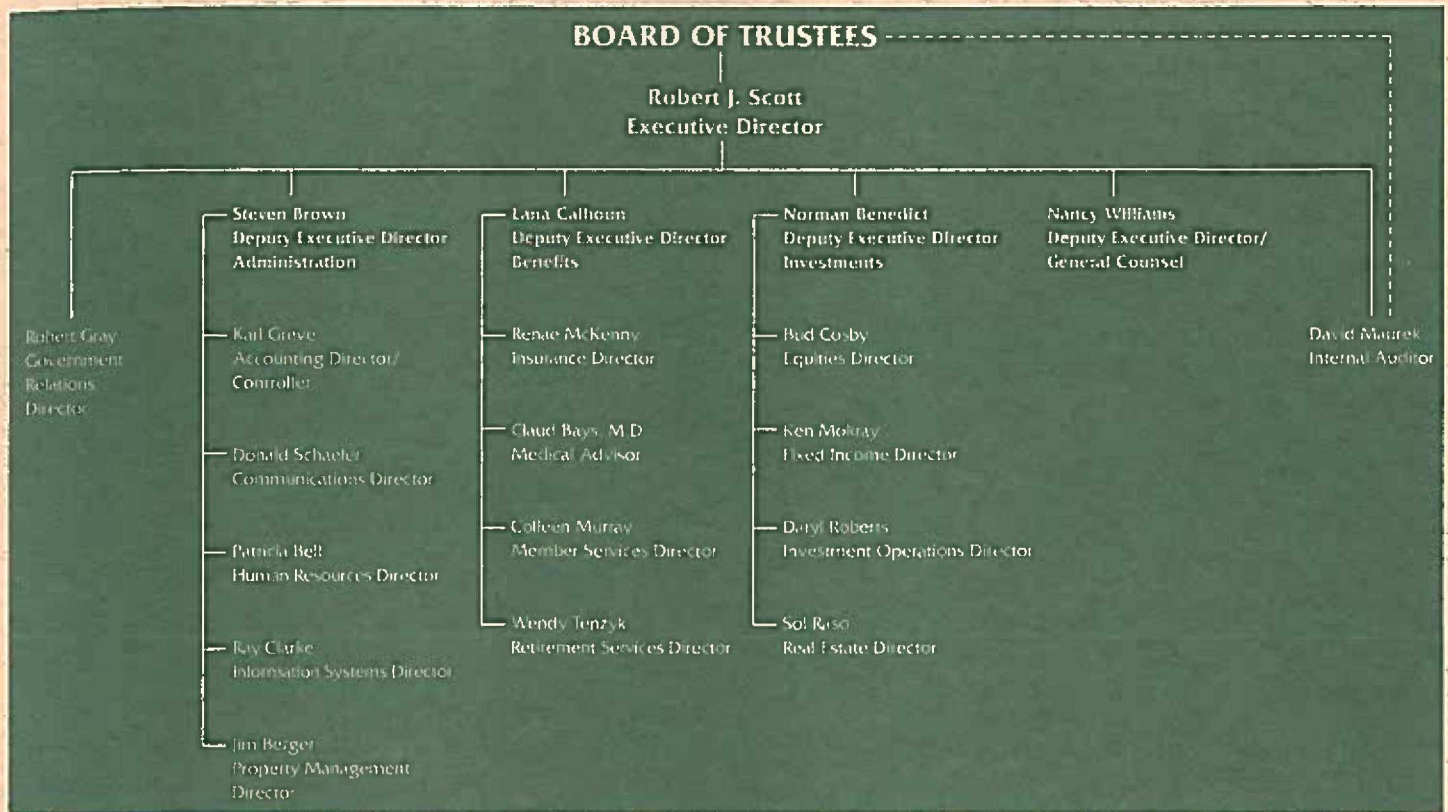
- Member since 1987
- Represents retirees
- Retired Deputy Executive Director, PERA
- Current term expires July 1, 1991

Richard Lansford

- Member since 1990
- Represents school employees
- Math teacher, Jefferson County Public Schools
- Current term expires July 1, 1991

J. Kim Natale

- Member since 1985
- Represents school employees
- Math and science teacher, Jefferson County Public Schools
- Current term expires July 1, 1993

Administrative Organizational Chart**Consultants****Health Care Program Actuary**

Buck Consultants
Bank Western Tower
1675 Broadway, Suite 1950
Denver, CO 80202

Independent Accountants

Price Waterhouse
950 Seventeenth Street, Suite 2600
Denver, CO 80202

Investments — Portfolio Consultant

William M. Mercer Asset Planning
3500 Texas Commerce Tower
2200 Ross Avenue
Dallas, TX 75201

Investment Performance Analyst

R.V. Kuhns & Associates, Inc.
1211 SW Fifth Avenue, Suite 2850
Portland, OR 97204

Investments — Real Estate

Heltman Advisory Corporation
180 North LaSalle Street
Chicago, IL 60601

Institutional Property Consultants, Inc.
5 Piedmont Center, Suite 310
Atlanta, GA 30305

La Salle Advisors Limited
11 South LaSalle Street
Chicago, IL 60603

Lehndorff and Babson Real Estate Counsel
2501 Cedar Springs, Suite 550
Dallas, TX 75201

The Prudential Realty Group
Prudential Plaza
Newark, NJ 07101

Pension Actuary

Gabriel, Roeder, Smith & Company
407 East Fort Street, Suite 200
Detroit, MI 48226

Risk Management

Johnson & Higgins of Colorado, Inc.
950 - 17th Street, Suite 1850
Denver, CO 80202

Investments — Economists

Boston Company Economic Advisors, Inc.
One Boston Place
Boston, MA 02109

The Northern Trust Company
50 South LaSalle Street
Chicago, IL 60675

The Plan Summary

The Public Employees' Retirement Association was established in 1931, and initially covered only state employees. Since then, membership has expanded to include all school districts except Denver, numerous municipalities, special districts, public health departments and other local government entities, as well as the State's judicial system.

The plan's purpose is to provide benefits to members and their dependents at retirement or in the event of death or disability. The plan is funded on an actuarial reserve basis, with money being set aside for benefits while the benefits are being earned and before they are paid.

Administration of the Plan

The plan operates by the authority of the Colorado General Assembly, with benefits and administration defined under Title 24, Article 51 of the Colorado Revised Statutes. PERA is governed by a 16-member Board of Trustees, 14 of whom are elected by the membership to four-year terms and serve without compensation except for necessary expenses. The State Auditor and the State Treasurer serve as ex-officio Trustees.

The Board appoints an Executive Director who is responsible for the daily administration of the Association. The legal advisor to the Board is the Colorado Attorney General. The Board retains an actuary to make annual valuations of the funding adequacy of the liabilities accrued under the plan. The Board also retains other consultants, as necessary.

Member Contributions

Most members contribute 8 percent of their gross salary to a member contribution account. State Troopers contribute 12.3 percent. Salary is compensation for services rendered.

Member contributions are tax-deferred and are not considered as income for federal or state income tax purposes until they are withdrawn through a refund or a benefit.

Employer Contributions

Affiliated employers also contribute a percentage of their total payroll to the fund. The rates of employer contributions are calculated by the Association's actuary and are set by law: State Division, 12.2 percent; State Troopers, 13.2 percent; School Division, 12.5 percent; Municipal Division, 10.2 percent; and Judicial Division, 15 percent.

The Schedule of Computed Employer Contribution Rates on page 57 shows a detailed explanation of how the employer contributions are distributed.

These contributions are credited to the respective division for the purpose of creating actuarial reserves, so each member's benefits are fully provided for at retirement.

Termination

A member who terminates PERA-covered employment may request a refund of all of the contributions he or she made to PERA. Refunds do not include interest or employer contributions, and cancel any accrued PERA benefits. A member may also leave his or her member contribution account at PERA.

If a member has five or more years of service, and leaves his or her contributions in the account, he or she may (without further payment) apply for a benefit when reaching the eligible age for retirement.

Retirement Benefits

PERA benefits are calculated as a percentage of Highest Average Salary (HAS). This is 1/12 of the average of the highest three annual salaries earned during calendar year periods and on which PERA contributions were paid. A 15 percent limitation applies to annual salary increases in the three years prior to retirement.

Service retirement benefits are equal to 2.5 percent of HAS for each year of service credit through 20 years, and 1.25 percent of HAS for each year between 20 and 40 years. PERA's maximum benefit is 75 percent of HAS.

Service retirement benefits are available to members at any age with 35 years of service, age 55 with at least 30 years of service, age 60 with at least 20 years of service, or age 65 with at least 5 years of service.

A reduced service retirement benefit is calculated the same as a service retirement benefit, then decreased by 0.333 percent for each month prior to the eligible date for a service retirement. The reduction equals 4 percent per year. A member is eligible to receive a reduced service retirement benefit at age 55 with 20 years of service credit, or at age 60 with 5 years of service credit.

Retirement benefits for State Troopers and members of the Judicial Division differ slightly.

Survivor Benefits

If a member dies before retirement with at least one year of PERA service credit, his or her eligible, unmarried dependent children will receive monthly survivor benefits. Children are eligible if under age 18 or, if enrolled full-time in an accredited school within six months of the member's death, until they reach age 23.

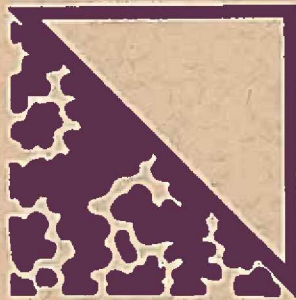
If there are no eligible children, or after benefits to children have ceased, the member's surviving spouse receives a monthly benefit at age 60 if the member had less than 10 years of service credit (and the spouse did not remarry), or immediately if the member had more than 10 years of service at the time of death. If there is no eligible spouse, financially dependent parents will receive the survivor benefit.

If the member's death was job-incurred, the service credit minimum is waived. If there are no eligible survivors, the named beneficiary or, if no named beneficiary exists, the estate will receive a single payment of the deceased member's contributions.

Disability Retirement

Members with five or more years of earned service credit, six months of which has been earned since the most recent period of membership, are eligible for disability retirement benefits if determined by the Board to be permanently disabled from performing their jobs. The disability retirement benefit is a percentage of HAS based on actual service credit plus projected service credit to age 65 or 20 years of service, whichever is less. Many disabled retirees receive 50 percent of their HAS.

FINANCIAL SECTION



Report of the Independent Accountants950 Seventeenth Street
Suite 2600
Denver, CO 80202

Telephone 303 893 8100

Price Waterhouse

May 31, 1991

Report of Independent Accountants

To the Participants and Board of Trustees
of the Public Employees' Retirement Association of
Colorado and the Legislative Audit Committee of the
State of Colorado

In our opinion, the accompanying combined statements of net assets available for benefits and of accumulated plan benefits, and the related combined statements of changes in net assets available for benefits and of changes in accumulated plan benefits present fairly, in all material respects, the financial status of the Public Employees' Retirement Association of Colorado ("PERA," a public association of the State of Colorado) at December 31, 1990, and the changes in its financial status for the year then ended, in conformity with generally accepted accounting principles. These financial statements are the responsibility of PERA's management; our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these statements in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for the opinion expressed above.

Our audit was made for the purpose of forming an opinion on the basic financial statements taken as a whole. Schedules I, II, III, and IV for the year ended December 31, 1990 are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in our audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

The financial statements of PERA for the year ended December 31, 1989 were audited by other independent accountants whose report dated May 11, 1990 expressed an unqualified opinion on those statements.

Price Waterhouse

Combined Statements of Net Assets Available for Benefits

As of December 31, 1990 and 1989

(In Thousands of Dollars)

ASSETS	1990	1989
Investments, at fair value:		
U.S. Government obligations	\$1,421,732	\$1,594,261
Domestic corporate bonds	1,909,357	1,833,720
Domestic stocks	3,251,397	3,278,540
International stocks	1,211,768	1,204,978
Guaranteed investment contracts	463,854	156,097
Fixed rate mortgages	300,654	299,306
Real estate	485,874	426,927
Participating mortgages	87,430	25,090
Leveraged buyout funds	75,964	63,053
Venture capital funds	70,378	37,660
Municipal bonds	12,250	24,621
Total investments	<u>9,290,658</u>	<u>8,944,253</u>
Receivables:		
Employers	45,659	45,638
Interest and dividends	87,976	82,363
Other	2,152	1,194
Total receivables	<u>135,787</u>	<u>129,195</u>
Cash and short-term investments	<u>213,114</u>	<u>446,548</u>
Property and equipment, at cost, net of accumulated depreciation of \$5,164 and \$4,430, respectively	<u>16,315</u>	<u>16,093</u>
Total assets	<u>9,655,874</u>	<u>9,536,089</u>
LIABILITIES AND RESERVES		
Refunds payable and other	<u>15,597</u>	<u>42,726</u>
Reserves:		
Insurance dividend reserve	13,771	15,571
Health care fund	49,437	52,069
Total reserves	<u>63,208</u>	<u>67,640</u>
Total liabilities and reserves	<u>78,805</u>	<u>1,10,366</u>
Commitments and contingencies (Note 6)	<u>—</u>	<u>—</u>
Net assets available for benefits	<u>\$9,577,069</u>	<u>\$9,425,723</u>

The accompanying notes to combined financial statements are an integral part of these statements.

Combined Statements of Changes in Net Assets Available for Benefits

For the Years Ended December 31, 1990 and 1989
(In Thousands of Dollars)

	1990	1989
Investment Income:		
Realized (losses) gains on investments.....	\$ (10,564)	\$ 319,522
Interest.....	411,835	428,395
Dividends.....	132,237	104,865
Unrealized (depreciation) appreciation in fair value of investments.....	(619,110)	479,691
Real estate operating income, net.....	28,089	25,634
Foreign exchange translation gains (losses).....	67,076	(43,694)
Total investment income	<u>9,563</u>	<u>1,314,413</u>
Contributions:		
Employers.....	340,786	337,901
Members.....	225,651	216,106
Retiree health care contributions.....	6,063	—
Total contributions	<u>572,500</u>	<u>554,007</u>
Transfers:		
Benefits paid to retirees.....	(349,931)	(315,206)
Benefits paid to survivors.....	(11,363)	(10,675)
Benefits paid to health care participants.....	(29,948)	(19,308)
Refunds of contributions.....	(32,621)	(38,406)
Other, net.....	95	(14,177)
Total transfers	<u>(423,768)</u>	<u>(397,772)</u>
Administrative expenses	<u>(11,381)</u>	<u>(12,681)</u>
Net decrease (increase) to insurance dividend reserve, net of administrative fees	<u>1,800</u>	<u>(1,680)</u>
Net decrease (increase) to reserve for health care fund	<u>2,632</u>	<u>(15,017)</u>
Net increase	<u>151,346</u>	<u>1,441,270</u>
Net assets available for benefits:		
Beginning of year.....	<u>9,425,723</u>	<u>7,984,453</u>
End of year.....	<u>\$ 9,577,069</u>	<u>\$ 9,425,723</u>

The accompanying notes to combined financial statements are an integral part of these statements.

Combined Statements of Accumulated Plan Benefits

As of December 31, 1990 and 1989
(In Thousands of Dollars)

	1990	1989
Actuarial present value of accumulated plan benefits:		
Vested benefits:		
Benefit recipients	\$3,755,580	\$3,377,409
Other members	3,686,718	3,273,183
Total vested benefits	7,442,298	6,650,592
Non-vested benefits	667,662	610,209
Total actuarial present value of accumulated plan benefits	<u>\$8,109,960</u>	<u>\$7,260,801</u>

The accompanying notes to combined financial statements are an integral part of these statements.

Combined Statements of Changes in Accumulated Plan Benefits

For the Years Ended December 31, 1990 and 1989
(In Thousands of Dollars)

	1990	1989
Actuarial present value of accumulated plan benefits at beginning of year	\$7,260,801	\$6,684,114
Increase (decrease) during the year attributable to:		
Benefits accumulated and interest amortization, net of refunds	1,210,453	902,568
Benefits paid	<u>(361,294)</u>	<u>(325,881)</u>
Actuarial present value of accumulated plan benefits at end of year	<u>\$8,109,960</u>	<u>\$7,260,801</u>

The accompanying notes to combined financial statements are an integral part of these statements.

Notes to Combined Financial Statements

December 31, 1990 and 1989

NOTE 1 - GENERAL DESCRIPTION OF THE PLAN

Organization

The Public Employees' Retirement Association of Colorado (PERA) was established in 1931 under Title 24, Article 51, Section 201 of the Colorado Revised Statutes, as amended. PERA is defined as a cost-sharing, multiple-employer defined benefit pension plan (the "Plan"). The Plan's purpose is to provide benefits to members and their dependents at retirement, or in the event of a death or disability. These members are employed by public employers (most of whom do not participate under Social Security) located in the State of Colorado and affiliated with PERA.

Responsibility for the organization and administration of the Plan is placed with the Public Employees' Retirement Association Board of Trustees (the "Board"). The State Division Trust Fund was established in 1931, the School and Municipal Division Trust Funds in 1944 and the Judicial Division Trust Fund in 1949.

The number of affiliated employers for the four divisions are as follows:

	As of December 31	
	1990	1989
State	76	76
School	203	203
Municipal	57	52
Judicial	<u>6</u>	<u>6</u>
Total employers	<u>342</u>	<u>337</u>

Benefit recipients and members in PERA consisted of the following as of December 31, 1990 and 1989:

	State	School	Municipal	Judicial	Combined Totals	
					1990	1989
Retirees and beneficiaries currently receiving benefits, and terminated members entitled to benefits but not yet receiving them	16,603	18,845	1,831	188	37,467	34,535
Members:						
Vested	22,370	37,336	3,942	179	63,827	62,266
Non-vested	<u>15,922</u>	<u>23,668</u>	<u>3,415</u>	<u>66</u>	<u>43,071</u>	<u>43,111</u>
Totals	<u>54,895</u>	<u>79,849</u>	<u>9,188</u>	<u>433</u>	<u>144,365</u>	<u>139,912</u>

Reporting Entity

The combined financial statements of PERA include all funds that the Board oversees. The Board's responsibilities include designation of management, the ability to significantly influence operations and accountability for fiscal matters.

PERA is not an agency of state government, nor is it subject to administrative direction by any department, commission, board, bureau or agency of the State. Accordingly, PERA's financial statements are not included in the financial statements of any other organization.

Contributions

Member and employer contributions are based on actuarial valuations performed annually, using the methods prescribed by National Council on Governmental Accounting Statement No. 1.

Members are required to contribute 8 percent of their gross salary to PERA, except for State Patrol Troopers (State Troopers), who contribute 12.3 percent. These contributions are placed in individual member accounts. Member contributions are tax-deferred for federal and state income tax purposes, effective July 1, 1984, and January 1, 1987, respectively. Prior to those dates, contributions were made on an after-tax basis.

Members who terminate PERA-covered employment may request a refund of their contributions. Refunds do not include interest or employer contributions, and cancel any accrued PERA benefits. However, after earning at least one year of service, eligible members who previously received a refund of their contributions may reinstate this service through lump-sum or installment payments. Also, any PERA member can increase service credit by purchasing service credit for paid sabbatical leaves and certain periods of non-covered PERA employment through lump-sum or installment payments.

PERA-affiliated employers also contribute a percentage of salary. These contributions for retirement benefits, cost-of-living increases and health care benefits were as follows:

Division	Membership	Contributions as a Percent of Members' Salaries For the years ended December 31, 1990 and December 31, 1989
		State
	State Troopers	13.2%
School	All members	12.5%
Municipal	All members	10.2%
Judicial	All members	15.0%

These contributions are deposited in a pension trust fund established for each division for the purpose of creating actuarial reserves for future benefits.

Benefits

Members are eligible for service retirement benefits when they meet the following requirements:

Minimum Service Credit	Minimum Age
35 Years	Any Age
30 Years	55
20 Years	60
5 Years	65

PERA retirement benefits are equal to 2.5 percent of Highest Average Salary (HAS) for each year of service credit through 20 years, and 1.25 percent of HAS for each year between 20 and 40 years. HAS is 1/12 of the average of the highest three annual salaries earned during calendar year periods on which PERA contributions were paid. The maximum benefit payable is 75 percent of HAS.

Members may also retire earlier with a reduced benefit at age 55 with 20 or more years of service credit, or at age 60 with five or more years of service credit. Members elect to receive their benefits in the form of single or joint-life monthly payments.

PERA also provides disability retirement and survivor benefits. Members who become permanently disabled with at least five years of earned service, six months of which has been earned since the most recent period of membership, are eligible to apply for disability retirement. This benefit is a percentage of HAS based on actual service credit, plus projected service to age 65 or 20 years of service, whichever is earlier. The HAS calculation is the same calculation used for service retirement. Disability retirees who retired after July 1, 1988, and who are under service retirement age, may have their benefits reduced based on earned income.

A minimum benefit of 25 percent of HAS is paid to the qualified survivors of active members who die while still employed, provided such members have earned at least one year of service credit.

Retirement eligibility and benefits for State Troopers and members of the Judicial Division differ slightly.

Termination of PERA

If PERA is partially or fully terminated for any reason, State law provides that the rights of all members and benefit recipients to all benefits on the date of termination, to the extent then funded, will become nonforfeitable.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting and Presentation

The accompanying financial statements are prepared using the accrual basis of accounting, in accordance with generally accepted accounting principles applicable to governmental accounting for a pension trust fund under the criteria of Financial Accounting Standards Statement No. 35. The various funds have been presented on a combined basis, with all interfund balances and transactions eliminated in the combined financial statements. Certain 1989 balances have been reclassified to be consistent with the 1990 presentation.

Fund Accounting

The financial activities of PERA are recorded in separate trust funds for each division, with investments owned by the divisions recorded in the Combined Investment Fund. PERA also has a Cost of Living Stabilization Fund, Health Care Fund, Common Operating Fund and Insurance Dividend Reserve. Each division maintains separate accounts, and all actuarial determinations are made using separate division-based information.

The Cost of Living Stabilization Fund (CLSF) is funded by employer contributions equal to 2 percent of member salaries. These contributions are collected by each division and deposited in the CLSF. A supplemental benefit is paid directly to PERA's benefit recipients by each division, then reimbursed by transfers from the CLSF. The net assets of the CLSF as of December 31, 1990 and 1989, amounting to \$70,911,000 and \$63,725,000, respectively, are included in net assets available for benefits presented in the Combined Statements of Net Assets Available for

Benefits. The calculation of the total actuarial present value of accumulated plan benefits, included in the Combined Statements of Accumulated Plan Benefits and Combined Statements of Changes in Accumulated Plan Benefits, does not include a provision for cost-of-living increases from the CLSF, according to Statement of Financial Accounting Standards No. 35.

The Health Care Fund (HCF) is funded by employer contributions equal to 0.8 percent of member salaries. These contributions are collected by each division and deposited in the HCF. Beginning July 1, 1986, the HCF began subsidizing the premiums for benefit recipients enrolled in the Health Care Program.

The Common Operating Fund (COF) accounts for all administrative activities common to the divisions. Operating assets and liabilities held for all divisions are also recorded in the COF. The expenses incurred by PERA are allocated from the COF to the various divisions on the basis of the number of members in the division to the total membership in PERA. The net assets available for benefits within the COF are allocated to the division funds.

The Insurance Dividend Reserve (IDR) is an accumulation of dividends received from an insurance company as a return of the premiums paid, adjusted for actual historical experience by members. The IDR is used to provide increased life insurance benefits without increasing premiums to life insurance participants.

Investments

Plan investments (excluding the guaranteed investment contracts and short-term investments) are presented at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Other investments, which do not have an established market, including participating mortgages, leveraged buyout funds, and venture capital funds, are recorded at estimated fair values.

Corporate bonds which are not traded on a national or international exchange are based on equivalent values of comparable securities with similar yield and risk. Mortgages are valued on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. The fair value of real estate investments is based on independent appraisals.

Guaranteed investment contracts (Note 4) are recorded at contract value, representing principal plus accrued interest at the stated contract rate. Short-term investments are carried at cost, which approximates fair value.

The change in the fair value of investments held at year-end is reflected in the Combined Statements of Changes in Net Assets Available for Benefits as unrealized appreciation or depreciation. Unrealized (depreciation) appreciation in the fair value of investments for the years ended 1990 and 1989 is as follows:

Fair values measured by the quoted prices in active markets:	1990	1989
U.S. Government obligations	\$ (6,679)	\$ 77,279
Cash and short-term investments.....	2,280	(7,216)
Domestic corporate bonds	(28,957)	30,894
Municipal bonds	(17,371)	1,159
Domestic stocks	(230,439)	280,027
International stocks	(311,714)	158,702
Fair values measured otherwise:		
Guaranteed investment contracts.....	—	—
Fixed rate mortgages	(3,006)	(41,304)
Real estate	(13,726)	(19,430)
Participating mortgages	—	—
Leveraged buyout funds	(10,124)	(1,363)
Venture capital funds.....	626	943
Total	\$ (619,110)	\$ 479,691

The division trust funds, the HCF, the CLSF and the IDR pool their investments into a common investment portfolio. Investment value and earnings of the investment pool are allocated among the funds based on each fund's ownership as a percentage. As of December 31, 1990 and 1989, the ownership percentages of each fund were as follows:

	Ownership Percentage as of December 31	
	1990	1989
State.....	38.10%	38.35%
School.....	54.88%	54.64%
Municipal	5.09%	5.04%
Judicial	0.54%	0.54%
HCF.....	0.57%	0.64%
CLSF.....	0.68%	0.62%
IDR.....	0.14%	0.17%
Total	100.00%	100.00%

Actuarial Valuation

Accumulated plan benefits are future periodic payments, plus lump-sum distributions, which current members have earned to-date. These include benefits expected to be paid to retired or terminated members or their cobeneficiaries, qualified survivors of members who have died, and present members and their cobeneficiaries.

The actuarial present value of accumulated plan benefits included in the Combined Statements of Accumulated Plan Benefits and Combined Statements of Changes in Accumulated Plan Benefits is presented according to Statement No. 35 of the Financial Accounting Standards Board.

The actuarial present value of accumulated plan benefits was calculated by the firm of Gabriel, Roeder, Smith & Company on the basis of the "accrued benefit" cost method. The resulting amount adjusts accumulated plan benefits to reflect the time value of money (through discounts for interest) and the probability of payment (using adjustments for death, disability, withdrawal and retirement) between the valuation date and the expected date of payment. The significant actuarial assumptions underlying the actuarial calculations for the years ended December 31, 1990 and 1989, are as follows:

Actuarial Assumptions	
Investment return	7.5% compounded annually
Average retirement age	
Men	Ranging from 60 to 65
Women	Ranging from 60 to 65
Life expectancy	1971 Group Annuity Male and Female Mortality Tables projected to 1984

These assumptions are based on the presumption that PERA will continue as a going concern. If the Association were to terminate, different actuarial assumptions and other factors might be applicable in determining the actuarial present value of accumulated plan benefits.

Unfunded Actuarial Accrued Liabilities

The actuarial calculation compares the present value of future benefits with PERA's assets. PERA's financial statements reflect plan assets on a fair value basis. If the plan assets had been presented on a historical cost basis, and future salary increases were included, the unfunded actuarial accrued liabilities ("UAAL") for the various divisions as of December 31, 1990 and 1989, would be as follows:

	1990	1989
State	\$ 581,919,634	\$ 502,297,830
School	459,656,630	422,306,208
Municipal	29,956,681	28,137,508
Judicial	5,038,086	4,677,385
Total	\$1,076,571,031	\$ 957,418,931

Contributions made to the divisions according to calculations made from actuarial valuations performed as of December 31, 1990 and 1989, were as follows:

	1990	1989
Contributions made by:		
Employers	\$ 265,115,000	\$ 254,014,000
Members	225,651,000	216,106,000
Total contributions	\$ 490,766,000	\$ 470,120,000
Contributions consisted of:		
Normal cost	\$ 434,730,000	\$ 366,163,000
Amortization of the UAAL	56,036,000	103,957,000
Total contributions	\$ 490,766,000	\$ 470,120,000
Amortization periods computed to fund UAAL	19 to 28 years	17 to 25 years

Property and Equipment

Property and equipment are carried at cost, less accumulated depreciation. Costs of major additions and improvements are capitalized. Expenditures for maintenance and repairs are charged to operations as incurred. Depreciation is calculated using the straight-line method, with estimated lives ranging from 3 to 50 years.

Federal Income Tax Status

PERA is exempt from federal income taxes under the Internal Revenue Code.

NOTE 3 - OTHER POST-EMPLOYMENT BENEFITS

Health Care Benefits

The Health Care Fund (HCF) was established in 1985 to provide a premium subsidy for health care to PERA benefit recipients who are eligible and choose to enroll in PERA's Health Care Program (Program). The Colorado General Assembly approves the subsidy amount, which is provided monthly. Under the Program, the HCF pays up to a fixed dollar amount and the benefit recipient pays the remaining portion of the premium. In 1990, the subsidy was increased from \$95 to \$115 for benefit recipients who had at least 20 years of service credit. For those with less service credit, the subsidy is reduced by 5 percent (\$5.75) for each year of service under 20.

The Board has the authority to contract, self-insure and make disbursements necessary to carry out the purposes of the Program. Under the Program, PERA has contracted with a major medical indemnity carrier to administer claims for three self-insured programs, and with seven Health Maintenance Organizations providing services within Colorado.

The HCF is advance funded, but not under an actuarially determined basis, by employer contributions equal to 0.8 percent of member salaries. In 1990, the HCF received \$20,974,000 in contributions from employers, and \$6,063,000 in payments made by retirees for their portion of PERA's self-insured plans. Also in 1990, the HCF recognized \$29,948,000 of expenses. The reserve for future post-employment health care benefits as of December 31, 1990 and 1989, totaled \$49,437,000 and \$52,069,000, respectively. The future projected liability of claims on the HCF was \$548,172,000 as of December 31, 1990, as calculated by PERA's consulting health care actuary.

Cost of Living Stabilization Fund Benefits

The Cost of Living Stabilization Fund (CLSF) was established in 1980 to offset inflation by providing increased benefits payable to retirees of the Association. Under the program, the CLSF pays a benefit which is based on a percentage of the PERA initial benefit. The CLSF benefit increase amount is paid monthly and the percentage increases have been approved by the Colorado General Assembly, every other year on even numbered years.

The CLSF is advance funded, but not under an actuarially determined basis, by employer contributions equal to 2 percent of member salaries. In 1990, the CLSF received \$54,697,000 in contributions from employers. Also in 1990, the CLSF recognized \$47,742,000 of expenses. The assets reserved for future Cost of Living Stabilization Fund benefits at December 31, 1990 and 1989, totaled \$70,911,000 and \$63,725,000, respectively.

NOTE 4 - GUARANTEED INVESTMENT CONTRACTS

Since 1988, PERA has purchased 13 guaranteed notes issued by various insurance companies at a cost of \$410,000,000, earning interest at rates ranging from 8.21 to 9.44 percent, guaranteed through varying maturities in 1993, 1994 and 1995. The current contract value is \$463,854,000. As with other investments, PERA bears the risk of recovery should the issuers be unable to redeem the notes when due. The insurance firms issuing the 13 notes are rated as high quality by Moody's Investor's Service for issuers of guaranteed investment contracts.

NOTE 5 - INVESTMENTS

Investment Authority

Under Colorado Revised Statute 24-51-206, as amended, the Board has complete responsibility for the investment of PERA's funds, with the following investment limitations:

- The aggregate amount of monies invested in corporate stocks or corporate bonds, notes or debentures which are convertible into stock or in investment trust shares cannot exceed 50 percent of the then book value of the fund.
- No investment of the fund in common or preferred stock (or both) of any single corporation can exceed 5 percent of the then book value of the fund.
- The fund cannot acquire more than 12 percent of the outstanding stock or bonds of any single corporation.

The above limitations and the fund's diversification over several asset classes is intended to reduce the overall investment risk exposure.

Cash and Short-Term Investments

The following table presents cash and short-term investments held by PERA as of December 31, 1990:

	(In Thousands of Dollars)	
	Carrying Value	Bank Balance
Deposits (overdrafts) with banks (fully insured by federal depository insurance).....	\$ (9,225)	\$ 5,461
Commercial paper (held by PERA's agent in PERA's name).....	29,792	29,792
Money market funds held at bank (fully collateralized by the underlying securities, held by PERA's agent in PERA's name).....	192,547	192,547
Total cash and short-term investments	\$213,114	\$ 227,800

The differences between carrying values and bank balances are due to outstanding checks and deposits not yet processed by the bank.

Other Investments

The following table presents the remaining investments held by PERA as of December 31, 1990, categorized to give an indication of the level of risk assumed by PERA. The categories are:

- (1) Insured or registered securities which are held by PERA or its agent in PERA's name.
- (2) Uninsured and unregistered, collateralized with securities held by the counterparty's trust department or agent in PERA's name.
- (3) Uncollateralized.

Investments in real estate cannot be categorized because securities are not used as evidence of the investment.

	Category			(In Thousands of Dollars)	
	1	2	3	Amortized Cost	Fair Value
U.S. Government obligations	\$1,435,818			\$1,435,818	\$1,421,732
Domestic corporate bonds	1,922,332			1,922,332	1,909,357
Domestic stocks	3,026,319			3,026,319	3,251,397
International stocks	1,233,095			1,233,095	1,211,768
Guaranteed investment contracts	463,854			463,854	463,854
Fixed rate mortgages	357,744			357,744	300,654
Participating mortgages	87,430			87,430	87,430
Leveraged buyout funds.....	80,995			80,995	75,964
Venture capital funds.....	67,820			67,820	70,378
Municipal bonds.....	30,000			30,000	12,250
Subtotal	\$8,705,407	\$ —	\$ —		
Non-categorized real estate				524,527	485,874
Total				\$9,229,934	\$9,290,658

Securities Lending

From time to time, PERA enters into various short-term agreements whereby investments are loaned to various brokers. These arrangements are collateralized by cash, letters of credit and marketable securities. They provide for the return of the investments and for a payment of a fee when the collateral is marketable securities or letters of credit, or interest earned when the collateral is cash on deposit. The securities on loan to the brokers are presented in the Combined Statements of Net Assets Available for Benefits at fair value. At December 31, 1990, PERA had investments loaned with an aggregate fair value of \$902,473,412 and a total collateral value of \$924,806,000, or 102.5 percent of the total market value outstanding.

The loans are secured at all times by collateral at least equal to the market value of securities loaned. As with other extensions of credit, PERA may bear the risk of delay in recovery or even loss of rights in the collateral should the borrower of the securities fail financially.

NOTE 6 - COMMITMENTS AND CONTINGENCIES

At December 31, 1990, PERA was committed to the future purchase of investments at an aggregate cost of approximately \$285,187,000. Certain legal proceedings are pending against PERA arising from its normal activities which, based on the facts presently available and the advice of legal counsel, will not have (on settlement) a material adverse impact on PERA's financial condition.

NOTE 7 - FUNDING STATUS AND PROGRESS

The amount shown below as "pension benefit obligation" is a standardized disclosure measure of the present value of pension benefits, adjusted for projected salary increases and estimated to be payable in the future as a result of current service credit.

The measure is the actuarial present value of credited projected benefits and is intended to help users assess PERA's funding status on a going-concern basis, assess progress being made in accumulating sufficient assets to pay benefits when due, and allow for comparisons among public employee retirement plans. This measure is independent of the actuarial funding method used to determine contributions to the Plan.

The pension benefit obligation was determined as part of an actuarial valuation of the Plan as of December 31, 1990 and 1989. Significant actuarial assumptions used in determining the pension benefit obligation include:

- A rate of return on the investment of present and future assets of 7.5 percent per year compounded annually.
- Projected salary increases of 5.5 percent per year compounded annually, attributable to inflation.
- Additional projected salary increases ranging from 0 to 7.4 percent per year depending on age, attributable to seniority/merit.
- Projected benefit increases are 3 percent per year after retirement.

At December 31, 1990 and 1989, assets in excess of (or less than) pension benefit obligation, as determined in accordance with generally accepted accounting principles under Statement No. 5 of the Governmental Accounting Standards Board, were as follows:

	(In Thousands of Dollars)				Combined Totals	
	State	School	Municipal	Judicial	1990	1989
Pension benefit obligation:						
Retirees and beneficiaries currently receiving benefits	\$1,728,425	\$1,834,899	\$166,100	\$26,156	\$3,755,580	\$3,376,409
Terminated members not yet receiving benefits	40,877	63,777	5,778	219	110,651	45,705
Current members:						
Accumulated employee contributions including allocated investment income	613,622	869,395	93,430	7,810	1,584,257	1,465,679
Employer financed - vested	1,405,933	2,289,236	175,458	15,718	3,886,345	3,580,511
Employer financed - non-vested	53,415	56,198	8,758	785	119,156	112,042
Total pension benefit obligation	3,842,272	5,113,505	449,524	50,688	9,455,989	8,580,346
Net assets available for benefits, at fair value (net of CLSF assets)	3,672,442	5,290,130	491,453	52,133	9,506,158	9,361,998
Assets in excess of (less than) pension benefit obligation	\$ (169,830)	\$ 176,625	\$ 41,929	\$ 1,445	\$ 50,169	\$ 781,652

NOTE 8 - TEN-YEAR HISTORICAL TREND INFORMATION (UNAUDITED)

Ten-year historical trend information, designed to provide information about the progress PERA has made in accumulating sufficient assets to pay promised benefits, is presented on the next page in the Schedule of Funding Progress. This schedule is not a required part of the basic financial statements, but is presented as supplementary information according to Statement No. 5 of the Governmental Accounting Standards Board, "Disclosure of Pension Information by Public Employee Retirement Systems and State and Local Governmental Employers."

Schedule of Funding Progress*

Expressing the net assets available for benefits as a percentage of the pension benefit obligation provides one indication of the Association's funding status on a going-concern basis. Analysis of this percentage over time indicates the financial strength of the system. Generally, the greater the percentage, the stronger the retirement system. Trends in pension benefit obligation in excess of assets and annual covered payroll are both affected by inflation. Expressing the assets in excess of inflation aids analysis of PERA's progress made in accumulating sufficient assets to pay benefits when due.

(In Thousands of Dollars)

Fiscal Year	(1) Net Assets Available for Benefits**	(2) Pension Benefit Obligation	(3) Percentage Funded (1) + (2)	(4) Pension Benefit Obligation In Excess of (Less Than) Assets (2) - (1)	(5) Annual Covered Payroll	(6) Pension Benefit Obligation In Excess of (Less Than) Assets as a Percentage of Covered Payroll (4) + (5)
1990						
State.....	\$3,672,442	\$3,842,272	95.58%	\$ 169,830	\$1,155,224	14.70%
School	5,290,130	5,113,505	103.45%	(176,625)	1,545,492	(11.43)%
Municipal	491,453	449,524	109.33%	(41,929)	198,864	(21.08)%
Judicial.....	52,133	50,688	102.85%	(1,445)	13,132	(11.00)%
Totals	\$9,506,158	\$9,455,989	100.53%	\$ (50,169)	\$2,912,712	(1.72)%
1989.....	\$9,361,998	\$8,580,346	109.11%	\$ (781,652)	\$2,755,113	(28.37)%
1988.....	\$7,941,163	\$7,863,928	100.98%	\$ (77,235)	\$2,642,686	(2.92)%
1987.....	\$6,994,675	\$7,210,454	97.01%	\$ 215,779	\$2,531,358	8.52%
1986.....	\$6,654,457	\$6,223,736	106.92%	\$ (430,721)	\$2,409,384	(17.88)%

* The information for this schedule is for 1986-1990 only; information for previous years is unavailable.

** At fair value.

Schedule I – Combining Statement of Net Assets Available for Benefits**As of December 31, 1990, with Comparative Combined Totals for 1989**

(In Thousands of Dollars)

	State Division Trust Fund	School Division Trust Fund
ASSETS		
Investments, at fair value:		
U.S. Government obligations	\$ 541,289	\$ 780,541
Domestic corporate bonds	726,940	1,048,251
Domestic stocks	1,237,888	1,785,040
International stocks	461,350	665,269
Guaranteed investment contracts	176,601	254,659
Fixed rate mortgages	114,466	165,060
Real estate	184,984	266,748
Participating mortgages	33,287	48,000
Leveraged buyout funds	28,921	41,705
Venture capital funds	26,795	38,638
Municipal bonds	4,664	6,725
Total investments	<u>3,537,185</u>	<u>5,100,636</u>
Receivables:		
Employers	19,851	21,914
Interest and dividends	33,495	48,299
Other	3,485	5,241
Total receivables	<u>56,831</u>	<u>75,454</u>
Cash and short-term investments	<u>81,129</u>	<u>116,988</u>
Property and equipment, at cost, net of accumulated depreciation of \$5,164 and \$4,430, respectively		
Total assets	<u>3,675,145</u>	<u>5,293,078</u>
LIABILITIES AND RESERVES		
Refunds payable and other	<u>2,703</u>	<u>2,948</u>
Reserves:		
Insurance dividend reserve		
Health care fund		
Total reserves	<u>—</u>	<u>—</u>
Total liabilities and reserves	<u>2,703</u>	<u>2,948</u>
Commitments and contingencies (Note 6)	<u>—</u>	<u>—</u>
Net assets available for benefits	<u>\$ 3,672,442</u>	<u>\$ 5,290,130</u>

The assets and liabilities of the Combined Investment Fund have been allocated to the trust funds on a pro rata basis.

Municipal Division Trust Fund	Judicial Division Trust Fund	Cost of Living Stabilization Fund	Health Care Fund	Common Operating Fund	Insurance Dividend Reserve	Combined Totals	
						1990	1989
\$ 72,342	\$ 7,659	\$ 9,783	\$ 8,058	\$ —	\$ 2,060	\$1,421,732	\$1,594,261
97,154	10,286	13,138	10,822	—	2,766	1,909,357	1,833,720
165,442	17,516	22,372	18,428	—	4,711	3,251,397	3,278,540
61,659	6,528	8,338	6,868	—	1,756	1,211,768	1,204,978
23,602	2,499	3,192	2,629	—	672	463,854	156,097
15,299	1,620	2,069	1,704	—	436	300,654	299,306
24,723	2,618	3,343	2,754	—	704	485,874	426,927
4,449	471	602	494	—	127	87,430	25,090
3,865	409	523	431	—	110	75,964	63,053
3,581	379	484	399	—	102	70,378	37,660
623	67	84	69	—	18	12,250	24,621
<u>472,739</u>	<u>50,052</u>	<u>63,928</u>	<u>52,656</u>	<u>—</u>	<u>13,462</u>	<u>9,290,658</u>	<u>8,944,253</u>
3,432	461	—	1	—	—	45,659	45,638
4,477	474	605	499	—	127	87,976	82,363
483	19	4,935	3,985	(16,041)	45	2,152	1,194
<u>8,392</u>	<u>954</u>	<u>5,540</u>	<u>4,485</u>	<u>(16,041)</u>	<u>172</u>	<u>135,787</u>	<u>129,195</u>
<u>10,843</u>	<u>1,148</u>	<u>1,466</u>	<u>1,208</u>	<u>23</u>	<u>309</u>	<u>213,114</u>	<u>446,548</u>
—	—	—	—	16,315	—	16,315	16,093
<u>491,974</u>	<u>52,154</u>	<u>70,934</u>	<u>58,349</u>	<u>297</u>	<u>13,943</u>	<u>9,655,874</u>	<u>9,536,089</u>
521	21	23	8,912	297	172	15,597	42,726
—	—	—	—	—	13,771	13,771	15,571
—	—	—	49,437	—	—	49,437	52,069
—	—	—	49,437	—	13,771	63,208	67,640
<u>521</u>	<u>21</u>	<u>23</u>	<u>58,349</u>	<u>297</u>	<u>13,943</u>	<u>78,805</u>	<u>110,366</u>
—	—	—	—	—	—	—	—
<u>\$ 491,453</u>	<u>\$ 52,133</u>	<u>\$ 70,911</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$9,577,069</u>	<u>\$9,425,723</u>

Schedule II – Combining Statement of Changes in Net Assets Available for Benefits**For the Year Ended December 31, 1990, with Comparative Combined Totals for 1989**

(In Thousands of Dollars)

	State Division Trust Fund	School Division Trust Fund
Investment Income:		
Realized (losses) gains on investments.....	\$ (4,037)	\$ (5,785)
Interest.....	157,371	225,548
Dividends.....	50,461	72,322
Unrealized (depreciation) appreciation in fair value of investments.....	(237,371)	(338,644)
Real estate operating income, net.....	10,733	15,383
Foreign exchange translation gains (losses).....	25,631	36,735
Total investment income.....	2,788	5,559
Contributions:		
Employers.....	106,133	142,783
Members.....	90,971	117,852
Retiree health care contributions.....	—	—
Total contributions.....	197,104	260,635
Transfers:		
Benefits paid to retirees.....	(164,730)	(168,232)
Benefits paid to survivors.....	(5,704)	(4,555)
Benefits paid to health care participants.....	—	—
Refunds of contributions.....	(15,750)	(13,200)
Other, net.....	23,540	23,731
Total transfers.....	(162,644)	(162,256)
Administrative expenses.....	(4,031)	(5,775)
Net decrease (increase) to insurance dividend reserve, net of administrative fees.....	—	—
Net decrease (increase) to reserve for health care fund.....	—	—
Net Increase.....	33,217	98,163
Net assets available for benefits:		
Beginning of year.....	3,639,225	5,191,967
End of year.....	\$ 3,672,442	\$ 5,290,130

The investment income of the Combined Investment Fund has been allocated to the trust funds on a pro rata basis.

Municipal Division Trust Fund	Judicial Division Trust Fund	Cost of Living Stabilization Fund	Health Care Fund	Common Operating Fund	Insurance Dividend Reserve	Combined Totals	
						1990	1989
\$ (535)	\$ (57)	\$ (70)	\$ (63)	\$ —	\$ (17)	\$ (10,564)	\$ 319,522
20,866	2,232	2,718	2,455	—	645	411,835	428,395
6,690	715	872	787	—	390	132,237	104,865
(31,313)	(3,375)	(3,917)	(3,468)	—	(1,022)	(619,110)	479,691
1,423	152	185	168	—	45	28,089	25,634
3,398	364	443	400	—	105	67,076	(43,694)
<u>529</u>	<u>31</u>	<u>231</u>	<u>279</u>	<u>—</u>	<u>146</u>	<u>9,563</u>	<u>1,314,413</u>
14,600	1,599	54,697	20,974	—	—	340,786	337,901
15,781	1,047	—	—	—	—	225,651	216,106
—	—	—	6,063	—	—	6,063	—
<u>30,381</u>	<u>2,646</u>	<u>54,697</u>	<u>27,037</u>	<u>—</u>	<u>—</u>	<u>572,500</u>	<u>554,007</u>
(14,393)	(2,576)	—	—	—	—	(349,931)	(315,206)
(855)	(249)	—	—	—	—	(11,363)	(10,675)
—	—	—	(29,948)	—	—	(29,948)	(19,308)
(3,640)	(31)	—	—	—	—	(32,621)	(38,406)
1,217	415	(47,742)	—	880	(1,946)	95	(14,177)
<u>(17,671)</u>	<u>(2,441)</u>	<u>(47,742)</u>	<u>(29,948)</u>	<u>880</u>	<u>(1,946)</u>	<u>(423,768)</u>	<u>(397,772)</u>
(663)	(32)	—	—	(880)	—	(11,381)	(12,681)
—	—	—	—	—	1,800	1,800	(1,680)
—	—	—	2,632	—	—	2,632	(15,017)
12,576	204	7,186	—	—	—	151,346	1,441,270
<u>478,877</u>	<u>51,929</u>	<u>63,725</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>9,425,723</u>	<u>7,984,453</u>
<u>\$ 491,453</u>	<u>\$ 52,133</u>	<u>\$ 70,911</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 9,577,069</u>	<u>\$ 9,425,723</u>

Schedule III – Combining Statement of Accumulated Plan Benefits**As of December 31, 1990, with Comparative Combined Totals for 1989**

(In Thousands of Dollars)

	State Division Trust Fund
Actuarial present value of accumulated plan benefits:	
Vested benefits:	
Benefit recipients	\$1,728,425
Other members	1,421,039
Total vested benefits.....	3,149,464
Non-vested benefits	316,352
Total actuarial present value of accumulated plan benefits	<u>\$3,465,816</u>

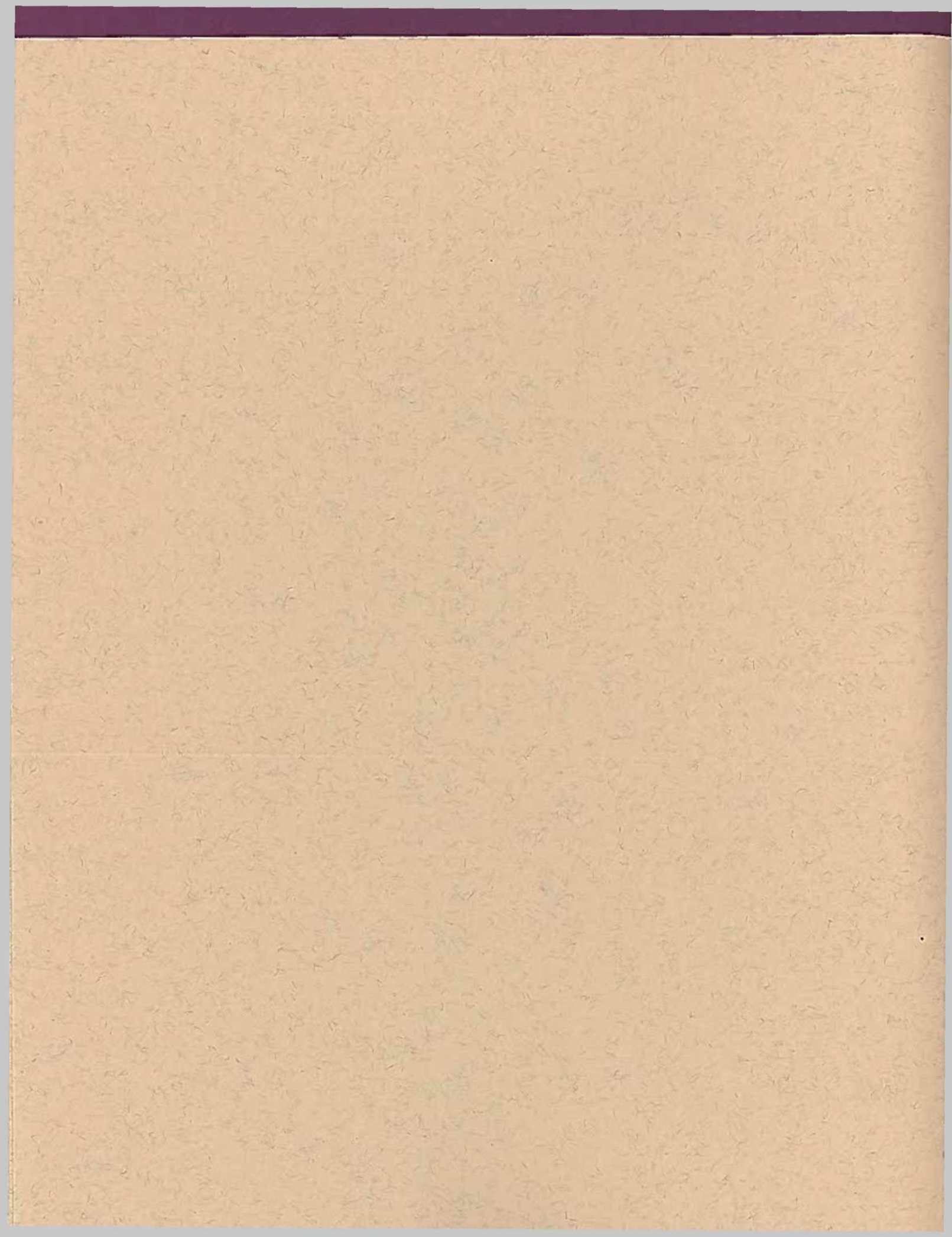
Schedule IV – Combining Statement of Changes in Accumulated Plan Benefits**For the Year Ended December 31, 1990, with Comparative Combined Totals for 1989**

(In Thousands of Dollars)

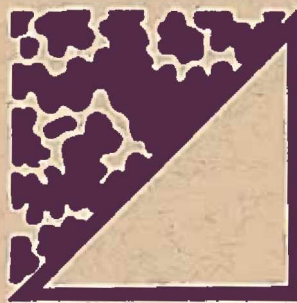
	State Division Trust Fund
Actuarial present value of accumulated plan benefits at beginning of year.....	\$3,161,632
Increase (decrease) during the year attributable to:	
Benefits accumulated and interest amortization, net of refunds.....	474,618
Benefits paid	(170,434)
Actuarial present value of accumulated plan benefits at end of year.....	<u>\$3,465,816</u>

School Division Trust Fund	Municipal Division Trust Fund	Judicial Division Trust Fund	Combined Totals	
			1990	1989
\$1,834,899	\$166,100	\$26,156	\$3,755,580	\$3,377,409
<u>2,080,443</u>	<u>170,340</u>	<u>14,896</u>	<u>3,686,718</u>	<u>3,273,183</u>
3,915,342	336,440	41,052	7,442,298	6,650,592
<u>296,814</u>	<u>49,463</u>	<u>5,033</u>	<u>667,662</u>	<u>610,209</u>
<u>\$4,212,156</u>	<u>\$385,903</u>	<u>\$46,085</u>	<u>\$8,109,960</u>	<u>\$7,260,801</u>

School Division Trust Fund	Municipal Division Trust Fund	Judicial Division Trust Fund	Combined Totals	
			1990	1989
\$3,730,115	\$325,823	\$43,231	\$7,260,801	\$6,684,114
654,828	75,328	5,679	1,210,453	902,568
<u>(172,787)</u>	<u>(15,248)</u>	<u>(2,825)</u>	<u>(361,294)</u>	<u>(325,881)</u>
<u>\$4,212,156</u>	<u>\$385,903</u>	<u>\$46,085</u>	<u>\$8,109,960</u>	<u>\$7,260,801</u>



SUPPORTING SCHEDULES
FOR FINANCIAL SECTION*



*UNAUDITED

Schedule of Administrative Expenses

For the Years Ended December 31, 1990 and 1989

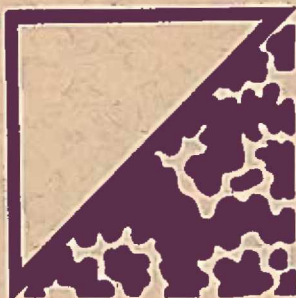
	1990	1989
Personnel services		
Salaries.....	\$ 5,115,711	\$ 5,052,582
Employee benefits	1,369,756	1,228,333
Total personnel services.....	6,485,467	6,280,915
Staff education		
Tuition assistance program.....	86,688	53,305
PERA required education	238,835	163,474
Other	2,038	962
Total staff education.....	327,561	217,741
Professional contracts		
Actuarial contracts.....	96,550	149,263
Audits	115,488	120,452
Medical exams.....	157,892	113,807
Investment counsel.....	87,151	81,417
Legal and legislative counsel	325,962	267,320
Computer services and consulting	312,031	218,817
Management consulting	197,887	178,565
Health care consultants.....	134,925	51,273
Other	104,009	58,324
Total professional contracts.....	1,531,895	1,239,238
Miscellaneous		
Equipment rental & services	430,976	399,828
Memberships	79,971	43,977
Publications & subscriptions.....	36,990	37,115
Travel and local expense	285,945	327,841
Board fiduciary expense.....	-0-	6,425
Auto expense	14,034	13,475
Telephone	94,856	108,158
Postage.....	373,386	306,401
Insurance.....	124,515	131,698
Printing	252,717	207,301
Office supplies	299,957	388,798
Building rent, supplies & utilities	253,788	438,019
Other	28,228	10,859
Total miscellaneous.....	2,275,363	2,419,895
Total budgeted expense.....	10,620,286	10,157,789
Depreciation expense	880,533	2,454,750
Total expense	11,500,819	12,612,539
Interfund transactions.....	(119,997)	69,166
Total administrative expense.....	\$ 11,380,822	\$ 12,681,705
Allocation of administrative expense		
State division	\$ 4,370,983	\$ 4,890,071
School division.....	6,256,715	6,944,822
Municipal division.....	718,804	808,357
Judicial division	34,320	38,455
Total allocation	\$ 11,380,822	\$ 12,681,705

Schedule of Cash Receipts and Disbursements

For the Years Ended December 31, 1990 and 1989
(In Thousands of Dollars)

	1990	1989
Cash balance at beginning of year	\$ (2,940)	\$ 21,103
Add cash receipts:		
Contributions:		
Members	225,651	214,057
Employers.....	340,786	308,635
Health care fund.....	6,063	4,444
Investment income	561,597	834,623
Other receipts.....	- 0 -	603
Total cash receipts	<u>\$1,134,097</u>	<u>\$ 1,362,362</u>
Less cash disbursements:		
New investment purchases.....	\$ 705,254	\$ 1,011,086
Benefit payments	391,148	325,884
Refunds	32,621	36,753
Administrative expenses.....	11,381	12,682
Total cash disbursements	<u>\$ 1,140,404</u>	<u>\$ 1,386,405</u>
Cash balance at end of year	<u>\$ (9,247)</u>	<u>\$ (2,940)</u>

INVESTMENTS SECTION*



*UNAUDITED

PERA Investment Policy Summary

Goal:

The function of the Public Employees' Retirement Association is to provide present and future retirement or survivor benefits for its members. In keeping with that function, the preservation of capital is of paramount importance.

The future investment performance of the fund directly affects its future financial strength. Earnings of portfolio assets in excess of the assumed actuarial rate of return reduce unfunded actuarial liabilities. However, the greater the expected return the higher the risk, and thus, the greater the volatility of expected returns.

Policy:

The fund is long-term in nature and the selection of investments is regulated by: Statutory limitation, investment time horizon, the limits of acceptable risk and the objective of optimizing the total rate of return. Approval of all purchases and sales of investments is vested by law in the PERA Board of Trustees. The Deputy Executive Director of Investments is authorized to execute investment transactions on behalf of the Board.

Investment decisions shall be made under the framework of the goal established for the rate of return, limits of acceptable risk and fund objectives. The goal is to optimize the return of the portfolio, as opposed to maximizing the rate of return.

The optimal portfolio mix is one that carefully equates expected rate of return with expected risk of all investment categories utilized in the portfolio. In setting the optimal mix of assets for the portfolio, the Board has developed a strategic (long-term) asset allocation policy which incorporates a diversified asset mix.

The targeted strategic asset allocation is designed to provide an optimal diversification, in order to reduce risk and maximize total rate of return relative to risk. Since the investment time horizon of the portfolio is long-term, and the portfolio is constructed to avoid the necessity of liquidating holdings to meet benefit payments, liquidity is not a first consideration. However, every reasonable effort will be made to provide protection for the portfolio in future deteriorating markets.

The Board recognizes that individual investment holdings contain substantially higher risk than portfolios constructed of such holdings. Consequently, primary emphasis will be given to diversification of the portfolio on an optimal basis, utilizing the diversified strategic asset allocation mix.

While efforts can be made to maintain the quality of individual holdings, it is recognized that the utilization of certain non-traditional asset categories such as venture capital and leveraged buyout funds, international equities, guaranteed investment contracts and real

estate may contain substantially higher risk than with individual issues. Consequently, primary effort will be made to reduce the risk of the total portfolio through optimal diversification, as opposed to concentrating on individual issues.

The portfolio will be managed by a carefully constructed mix of internal and external management. No holding will be considered a "permanent" part of the portfolio. Any security can be sold at any time either to increase gains or decrease losses.

The targeted strategic asset allocation is designed to provide the optimal mix of asset categories over the investment time horizon of the portfolio. In doing so, characteristics of expected return, risk and correlation of return of the various asset categories have been carefully projected. Both traditional (cash, bonds, domestic equities, fixed income, mortgages) and non-traditional (real estate, guaranteed investment contracts, international investments, including equities and fixed income, and other alternative investments) will be incorporated into the targeted strategic asset mix.

Preference will be given to Colorado investments, all other things being equal. However, in order to provide optimal portfolio diversification by geographical location and asset categories, and to maintain fiduciary responsibility, investments located within Colorado shall not exceed 20 percent of the aggregate (combined) portfolio at cost. Within the 20 percent limitation, every effort will be made to further diversify the available asset classes (commercial real estate mortgages, common stock holdings, corporate debt, equity ownership of real estate, residential mortgage pools and venture capital).

In making investment decisions, the Board shall avail itself of the highest caliber advice obtainable both internally and externally. This advice may include the internal investment staff, outside investment managers selected for both traditional and non-traditional asset classes, and investment consultants selected by the Board for specific expertise in implementing and carrying out the portfolio process.

Generally accepted accounting principles (GAAP) will be followed in accounting for the portfolio, however, GAAP should not restrict investment decisions. Securities recorded at original cost, adjusted cost and market value will be reported to the Board. The firm engaged for the annual audit shall be consulted when questions concerning accounting procedures arise. An annual evaluation shall be conducted by a performance evaluation service from the investment industry.

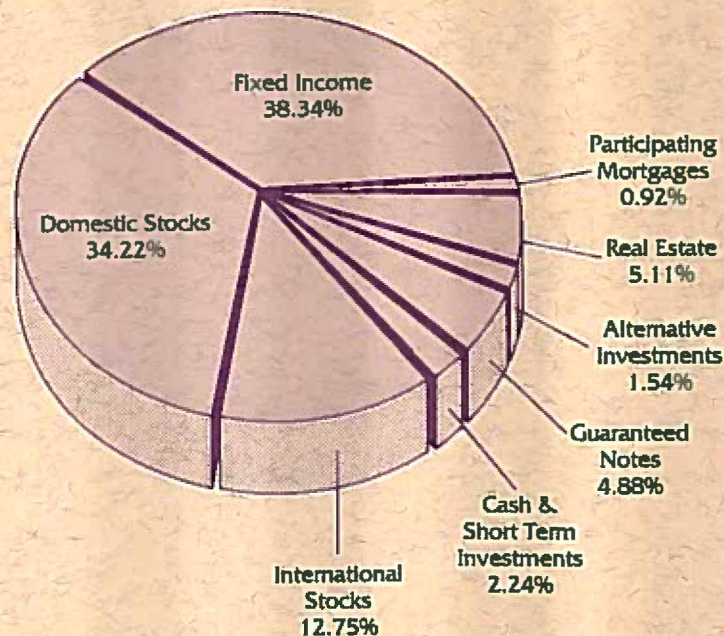
In addition, the annual external audit and the annual actuarial evaluation shall be reviewed in conjunction with evaluation of investment performance. All evaluations will be related to the Association's stated goals. Because these goals are long-term, cumulative performance results will be considered as more important than performance in any one year.

Investment Summary

(In Thousands of Dollars)

Type of Investment	January 1, 1990		December 31, 1990		% Total Market
	Amortized Cost	Market Value	Amortized Cost	Market Value	
Cash & short-term Investments.....	\$ 445,792	\$ 446,548	\$ 210,078	\$ 213,114	2.24%
Fixed Income:					
U.S. Government obligations.....	1,601,668	1,594,261	1,435,818	1,421,732	14.96%
Municipal bonds.....	25,000	24,621	30,000	12,250	0.13%
Domestic corporate bonds.....	1,491,924	1,498,264	1,610,305	1,596,643	16.80%
Mortgages.....	353,392	299,306	357,744	300,652	3.16%
Private placements.....	325,814	335,456	312,027	312,714	3.29%
Total fixed income.....	<u>3,797,798</u>	<u>3,751,908</u>	<u>3,745,894</u>	<u>3,643,991</u>	<u>38.34%</u>
Domestic stocks.....	<u>2,823,024</u>	<u>3,278,540</u>	<u>3,026,319</u>	<u>3,251,397</u>	<u>34.22%</u>
International stocks.....	<u>957,929</u>	<u>1,204,978</u>	<u>1,233,095</u>	<u>1,211,768</u>	<u>12.75%</u>
Real estate.....	<u>460,737</u>	<u>426,927</u>	<u>524,527</u>	<u>485,874</u>	<u>5.11%</u>
Participating mortgages.....	<u>25,090</u>	<u>25,090</u>	<u>87,430</u>	<u>87,430</u>	<u>0.92%</u>
Guaranteed notes.....	<u>156,097</u>	<u>156,097</u>	<u>463,854</u>	<u>463,854</u>	<u>4.88%</u>
Alternative investments:					
Venture capital funds.....	35,729	37,660	67,820	70,378	0.74%
Leveraged buyout funds.....	57,960	63,053	80,995	75,964	0.80%
Total alternative investments.....	<u>93,689</u>	<u>100,713</u>	<u>148,815</u>	<u>146,342</u>	<u>1.54%</u>
Total investments.....	<u>\$8,760,156</u>	<u>\$9,390,801</u>	<u>9,440,012</u>	<u>9,503,770</u>	<u>100.00%</u>

Investments
(At Market)
As of December 31, 1990



Fund Performance Evaluation

PERA retains R.V. Kuhns & Associates to evaluate its fund performance. In the analysis, R.V. Kuhns includes all investments within the portfolio, including cash and accrued income. The firm also makes calculations using post-closing amounts for annual rates of return.

Asset Allocation

As of December 31, 1990, the fund was well diversified and in line with the Association's strategic asset allocation policy. Over the last five years, the fund has averaged 41.7 percent in equities (domestic and international), 38.5 percent in bonds, 7.3 percent in cash and short-term investments and 12.5 in other assets.

During 1990, assets (at market value) were allocated within the following ranges: equities, 42.2 to 49.7 percent; bonds, 36.8 to 40.7 percent; cash and short-term investments, 2.2 to 5.9 percent; and other assets, 7.7 to 13.4 percent.

Total Portfolio Results

For the year ended December 31, 1990, the total fund had a positive rate of return of 1.5 percent, which trailed the Median Public Fund return of 3.2 percent. The Association's annualized rate of return over the last 5 years was 9.2 percent, and over the last 10 years, the return was 11.8 percent.

The 1.5 percent return is PERA's lowest return in the last five years. This is largely attributable to the negative performance of domestic equities and international equities and the decline in real estate values.

Equities

The 1990 rate of return for the domestic equity portfolio was -3.1 percent, compared to the Standard and Poors 500 Index return of -3.2 percent. The stock market peaked in July before declining to a low in October. The downturn was influenced by national issues such

as the economic slowdown, uncertainties about war in the Middle East and the inability of Congress to finalize the federal budget.

The PERA fund is restricted by law from investing more than 50 percent of its assets in the stock market at book value.

PERA's international money managers continued to invest previously funded amounts in various international equities. The benchmark by which these equities are measured is the Europe-Australia-Far East (EAFE) Index. PERA's 1990 composite portfolio result for international equities was -15.4 percent. Although this was a poor performance, the return was well above the EAFE benchmark, which posted a -23.4 percent return.

Fixed Income

PERA fixed income performance is compared to the Shearson Lehman Bond Index. For 1990, the Association achieved a 7.6 percent rate of return, compared to the Shearson return of 8.3 percent. In four of the last five years, PERA has performed at or above the Shearson Index.

Fixed Income started the year with negative returns in the first and third quarters. The Federal Reserve's efforts to stimulate the economy by pushing interest rates lower did trigger a fourth quarter rally, limiting the overall decline.

Real Estate

Historically, the real estate portfolio has been overweighted with properties located in Colorado. The negative performance in 1989 and 1990 is largely due to the decline in Colorado property values.

In 1988, PERA began to evaluate and purchase properties in the national real estate market through direct ownership and via participation with other pension funds. Through this national diversification and a stabilizing economy, future returns are expected to improve.

Annual Rate of Return

	1986	1987	1988	1989	1990	5-Year Annualized
Total portfolio:						
PERA	13.8%	2.9%	11.8%	17.2%	1.5%	9.2%
Median Public Fund	16.4%	3.6%	10.7%	17.6%	3.2%	10.8%
Domestic Equities:						
PERA	15.6%	6.9%	14.1%	30.5%	-3.1%	12.2%
Standard & Poors 500	18.5%	5.2%	16.6%	31.5%	-3.2%	13.2%
International Equities:¹						
PERA	N/A	N/A	N/A	16.4%	-15.4%	-0.8% ²
Europe-Australia-Far East Index (EAFE)	69.7%	25.0%	28.6%	10.5%	-23.4%	-8.0% ²
Fixed Income:						
PERA	16.8%	2.7%	8.3%	14.2%	7.6%	9.8%
Shearson Lehman Bond Index	15.6%	2.2%	7.6%	14.2%	8.3%	9.5%
Real Estate/Participating Mortgages:						
PERA	8.6%	4.7%	8.4%	-3.1%	-6.1%	2.3%
Institutional Property Consultants Index	7.8%	6.3%	7.3%	5.6%	0.8%	5.5%

¹ 1989 was the first full year PERA invested in international equities.

² Two-year annualized returns for 1989-1990.

Average Percent of Asset Allocation

	1986	1987	1988	1989	1990
Bonds	35.6%	37.8%	37.7%	38.7%	42.6%
Cash and equivalents	11.3%	5.8%	6.9%	7.8%	4.4%
Domestic stocks	38.5%	42.2%	34.0%	28.7%	33.3%
International stocks	0.0%	0.0%	7.6%	12.4%	12.1%
Other assets	14.6%	14.2%	13.8%	12.4%	7.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Colorado Investment Profile

The Association continues to seek out high-quality Colorado investments. Total PERA Investments in Colorado are valued at more than \$740 million, a decrease of \$149 million from 1989.

Commercial mortgages	\$170,600,000
Committed to future funding	28,900,000
Common stock of companies headquartered in Colorado	56,000,000
Corporate bonds and notes	154,600,000
Real estate	187,600,000
State and local bonds	39,100,000
Funds under management of Colorado companies (venture capital and equity managers)	103,800,000
Total	\$740,600,000

Investment Brokers

Boettcher & Co., Inc.
 C. J. Lawrence, Morgan Grenfell Inc.
 Dean Witter Reynolds Inc.
 First Boston Corp.
 Fuji Securities Inc.
 Goldman, Sachs & Co.
 Hanifen, Imhoff Inc.
 Kidder, Peabody & Co., Inc.
 Lynch, Jones & Ryan

Merrill Lynch, Pierce, Fenner & Smith Inc.
 Oppenheimer & Co., Inc.
 Paine Webber Inc.
 Prudential Securities Inc.
 Salomon Brothers Inc.
 Securities Settlement Corp.
 Shearson Lehman Brothers Inc.
 Smith Barney, Harris Upham & Co., Inc.
 Stifel Nicolaus & Co., Inc.

Domestic Stocks

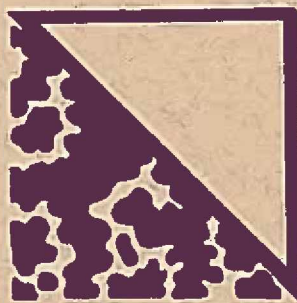
	Shares Held	Cost	Market Value
Funds:			
Small Cap Equity Fund	4,644,593	\$ 86,649,094	\$ 80,755,340
S&P 500 Index Fund	41,434,349	1,514,639,697	1,558,441,990
Index Tilt Fund	14,908,456	548,969,479	583,866,775
Individual Equities:			
Abbott Laboratories	431,800	\$ 7,298,733	\$ 19,431,000
American Brands, Inc.	180,000	6,146,199	7,470,000
American Express Co.	428,200	10,400,679	8,831,625
Ameritech	51,400	3,183,634	3,430,950
Amoco Corp.	270,000	9,832,268	14,141,250
AMP Inc.	300,000	12,217,335	13,050,000
Archer Daniels Midland Co.	614,775	13,832,840	13,986,131
Arkla, Inc.	700,000	14,481,604	14,000,000
Atlantic Richfield Co.	100,000	7,272,374	12,362,500
Baker Hughes Inc.	620,000	16,359,887	15,887,500
Banc One Corp.	475,000	13,775,000	13,181,250
Baxter International Inc.	623,500	12,953,207	17,380,062
Bell Atlantic Corp.	100,000	4,656,550	5,362,500
BellSouth Corp.	300,000	13,506,627	16,425,000
Bristol-Myers Squibb Co.	246,700	9,613,396	16,528,900
British Petroleum Co. p.l.c.	175,000	10,493,954	13,453,125
Burlington Resources Inc.	355,000	15,836,501	13,490,000
Carter-Wallace, Inc.	200,000	10,911,846	10,700,000
Chevron Corp.	200,000	9,640,130	14,525,000
Cincinnati Gas & Electric Co. (The)	500,000	15,262,865	14,937,500
Coca-Cola Company (The)	400,000	8,319,085	18,600,000
Commonwealth Edison Co.	476,000	15,637,472	16,541,000
Consolidated Edison Co. of New York, Inc.	550,000	14,911,856	12,993,750
Consolidated Natural Gas Co.	350,000	16,453,285	15,400,000
Cooper Industries, Inc.	300,000	7,043,754	12,337,500
Deluxe Corp.	465,000	15,380,709	16,275,000
Dover Corp.	50,000	1,897,961	1,987,500
Dresser Industries, Inc.	731,000	9,916,475	15,259,625
E G & G, Inc.	374,500	14,371,275	11,609,500
Emerson Electric Co.	400,000	11,402,468	15,100,000
Exabyte Corp.	119,718	2,169,889	1,676,052
General Electric Co.	250,000	15,752,500	14,343,750
General Signal Corp.	93,300	4,540,698	3,533,738
Halliburton Co.	386,500	11,047,129	17,634,063
H. J. Heinz Co.	415,000	13,258,940	14,473,125
Honeywell Inc.	111,600	5,217,940	4,966,200
Humana Inc.	350,000	15,908,960	14,743,750
Ingersoll-Rand Co.	300,300	12,055,579	11,186,175
Intel Corp.	408,100	14,139,078	15,711,850
Johnson & Johnson	258,000	8,730,785	18,511,500
Knight-Ridder, Inc.	200,000	8,920,271	9,150,000
Laidlaw Inc. CI-B Non	660,000	14,276,644	12,210,000
Louisiana Land & Exploration Co.	330,000	12,654,675	13,942,500
Lowe's Companies, Inc.	340,000	9,991,923	8,330,000
Marsh & McLennan Cos., Inc.	175,000	13,289,936	13,650,000
Melville Corp.	200,000	5,881,022	8,400,000
Merck & Co., Inc.	181,300	6,349,521	16,294,338
Minnesota Mining & Manufacturing Co.	172,800	9,413,154	14,817,600
Mobil Corp.	237,500	11,298,633	13,775,000
Motorola Inc.	230,000	10,635,188	12,046,250

	Shares Held	Cost	Market Value
Nalco Chemical Co.....	300,000	\$ 13,007,225	\$ 16,950,000
Northern Telecom Ltd.....	600,000	12,739,931	16,950,000
PacifiCorp.....	650,000	13,810,106	14,543,750
PepsiCo, Inc.....	795,000	7,373,875	20,670,000
Philip Morris Companies Inc.....	420,000	7,600,257	21,735,000
Procter & Gamble Co.....	250,000	9,715,486	21,656,250
Public Service Co. of Colo.....	700,000	16,922,353	16,275,000
Public Service Enterprise Group Inc.....	640,000	17,741,344	16,880,000
Royal Dutch Petroleum Co.....	200,000	10,512,769	15,725,000
SCEcorp.....	410,900	14,745,346	15,562,838
Sherwin-Williams Co.....	300,000	11,641,368	11,212,500
Sonat Inc.....	300,000	15,465,642	14,062,500
Southwestern Bell Corp.....	100,000	5,222,948	5,600,000
Syntex Corp.....	175,000	8,729,048	10,390,625
Tenneco Inc.....	250,000	15,150,940	11,875,000
Thomas & Betts Corp.....	200,000	10,978,626	9,450,000
Toys "R" Us, Inc.....	400,000	7,100,915	9,000,000
Tyco Laboratories, Inc.....	25,000	1,325,125	1,075,000
Unilever N.V.....	181,700	11,804,814	16,443,850
Union Pacific Corp.....	198,600	13,392,210	14,026,125
U S WEST, Inc.....	431,400	12,550,022	16,770,675
Unocal Corp.....	400,000	6,658,121	10,500,000
Waste Management, Inc.....	271,200	7,428,126	9,492,000
Weyerhaeuser Co.....	300,000	9,240,666	6,562,500
Williams Companies, Inc. (The).....	450,000	16,890,625	11,643,750
Total	86,323,191	\$2,966,548,592	\$3,192,190,527

Externally Managed Equities

	Cost	Market Value
International:		
Alliance Capital Management.....	\$ 253,320,728	\$ 236,961,835
Brinson Partners, Inc.....	164,974,119	166,343,605
Baring International Investments, Ltd.....	135,000,000	152,148,828
Dunedin Fund Managers Ltd.....	100,438,858	97,190,021
Morgan Grenfell Asset Management.....	154,437,962	144,741,125
Nomura Capital Management.....	163,128,060	156,435,332
Phillipe Investment Management.....	161,442,895	158,440,821
Schroder Capital Management International.....	100,352,846	99,506,107
Total	1,233,095,468	1,211,767,674
Domestic:		
Denver Investment Advisors.....	23,201,256	25,225,840
Janus Capital Corporation.....	24,116,587	25,269,042
United Capital Management.....	26,842,862	23,101,877
Total	74,160,705	73,596,759
Total externally managed equities	\$ 1,307,256,173	\$ 1,285,364,433

ACTUARIAL SECTION*



*UNAUDITED

Actuary's Letter

GABRIEL, ROEDER, SMITH & COMPANY
Actuaries & Consultants

200 Globe Building • 407 East Fort • Detroit, Michigan 48226 • 313-961-3346

May 28, 1991

The Board of Trustees
Public Employees' Retirement
Association of Colorado
1300 Logan Street
Denver, Colorado 80203

Ladies and Gentlemen:

The basic financial objective of PERA is to establish and receive contributions which, expressed as percents of active member payroll, will remain approximately level from generation to generation of Colorado citizens.


Progress toward this fundamental objective is measured by means of annual actuarial valuations to (i) determine present financial position, and (ii) test the adequacy of established contribution rates. The latest completed actuarial valuations were based upon data and assumptions as of December 31, 1990. Those valuations indicate that the contribution rates, established by statute for benefits then in effect, are consistent with the basic financial objective.

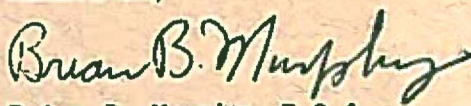
Actuarial valuations are based upon assumptions of future experience in various risk areas. Assumptions are adopted by the Board after consulting with the actuary and were last revised in 1986. They are scheduled for review in 1991 following the completion of the regular valuations. We believe the assumptions used in the December 31, 1990 valuations produce results which are reasonable.

The relationship between assumed experience and actual experience in each risk area is observed annually by an actuarial gain/loss analysis. Experience during 1990 was less favorable than assumed. However, cumulative experience since 1982 has been favorable, primarily as the result of historically high real rates of investment return.

Based upon the valuation results, it is our opinion that the Public Employees' Retirement Association of Colorado continues in sound condition in accordance with actuarial principles of level cost financing.

Respectfully submitted,


Norman L. Jones, F.S.A.


Brian B. Murphy, F.S.A.

NLJ:jmg

Actuarial Principles

Once vested in the Plan, each PERA member acquiring a year of service credit is, in effect, given an "IOU" by PERA which says: "The Public Employees' Retirement Association of Colorado owes the member one year of retirement benefits to be paid when the member retires." The law governing PERA financing intends that 1990 members and employers contribute the money to cover the IOUs being handed out this year. By following this principle, the contribution rates will remain approximately level from generation to generation.

An inevitable by-product of the level-cost design is the accumulation of reserve assets and investment income from those assets. Invested assets increase as contributions accumulate and income is earned. Investment income then becomes the third contributor for benefits and is directly related to the contribution amounts required from members and employers. The chart below depicts this level-cost design.

In actuarial terminology, this level-cost objective means that the contribution rates must total at least the current cost of the service being given this year and the interest on unfunded actuarial accrued liabilities (UAAL). UAAL is the difference between actuarial liabilities for service rendered and the accrued assets of PERA.

Computing Contributions to Support Fund Benefits

From a given schedule of benefits, and from the member and asset data furnished, the actuary determines the contribution rates to

support the benefits by means of an actuarial valuation and funding method.

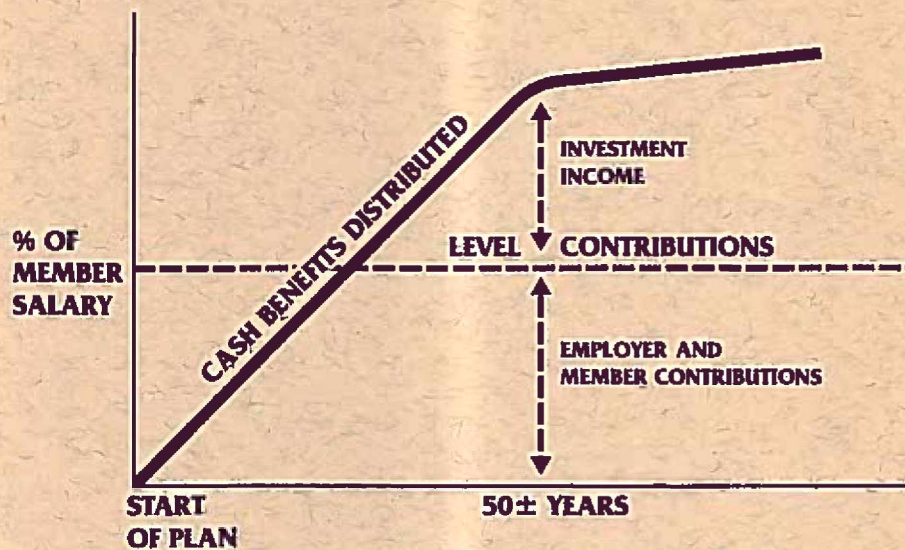
An actuarial valuation uses the rate of investment income which plan assets will earn, the rates of withdrawal of members who leave covered employment before qualifying for any monthly benefit, the rates of mortality, the rates of disability, the rates of salary increases and the assumed ages at actual retirement.

In making an actuarial valuation, assumptions must be made as to what the above rates will be for the next year and for decades in the future. Only the subsequent actual experience of the Plan can indicate the degree of accuracy of the assumptions.

Reconciling Differences Between Assumed and Actual Experience

Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions or the skill of the actuary and the many calculations made. The future can be predicted with considerable precision (except for inflation), but not with 100 percent accuracy.

PERA copes with these changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience.



Level Contributions Line: Determining the level contribution line requires detailed assumptions concerning experiences in future decades, including: Rate of withdrawal of members (turnover), rates of mortality, rates of disability, ages at actual retirement, rates of pay increases, investment income and change in member group size.

Cash Benefits Distributed Line: This increasing line is the fundamental reality of retirement plan financing. As the ratio of retirees to members rises, the benefits paid rise as a percent of salary. The line increases over time, even if new benefits are not added, regardless of the financing method being followed.

Summary of Actuarial Assumptions

The following economic and non-economic actuarial assumptions were adopted by the Board of Trustees after consulting with the actuary, and were first used with the December 31, 1986, actuarial valuation. The assumptions are reviewed in depth every five years, and are established to make projections for the Plan's experience decades into the future. Assumptions will be changed in 1991 based on the results of the 1990 audit.

Economic Assumptions

The investment return rate used in making the valuations was 7.5 percent per year compounded annually (net after administrative expenses). The real rate of return is the portion of the total investment return which is more than the inflation rate. Considering other financial assumptions, the 7.5 percent investment return rate translates into an assumed real rate of return of 2 percent.

The overall member payroll is assumed to increase 5.5 percent annually. Pay Increase assumptions for individual members are shown for sample ages in Exhibits A, B, C and D. Part of the assumption for each age is for a merit and/or seniority increase, and the other 5.5 percent recognizes inflation.

The number of members is assumed to continue at approximately the present number.

Non-Economic Assumptions

The 1971 Group Annuity Mortality Table, projected to 1984, was used in evaluating the cost of benefits to be paid. Related values are shown in Exhibit F.

The probabilities of age and service retirement are shown in Exhibit G.

The probabilities of withdrawal from service, disability and death-in-service are shown for sample ages in Exhibits A, B, C, D and E. For disability retirement, Impaired longevity was recognized by basing benefit values on an adjusted age midway between attained age and normal retirement age. For other withdrawals, it was assumed that all members terminating before age 35 with less than five years of service, and 25 percent of members terminating after age 35 with over five years of service, would withdraw their contributions and forfeit their monthly benefits at retirement age.

The entry age normal actuarial cost method of valuation was used in determining liabilities and normal cost. Differences in the past between assumed experience and actual experience ("actuarial gains and losses") become part of the actuarial accrued liabilities. Unfunded actuarial accrued liabilities are amortized to produce payments (principal and interest) which are level percents of payroll contributions.

Employer contribution dollars were assumed to be paid in equal installments throughout the employer's fiscal year. Present assets (cash and investments) were listed at cost.

The data about persons now covered and about present assets was furnished by PERA's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.).

Separations From Employment Before Retirement and Individual Pay Increase Assumptions

Exhibit A — State Division

Sample Ages	Percent of Members Separating Within the Next Year						Pay Increase Assumptions for an Individual Member		
	Withdrawal		Death		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
	Men	Women	Men	Women	Men	Women			
STATE DIVISION MEMBERS CONTRIBUTING 8%									
20	7.70%	11.00%	0.05%	0.02%	0.01%	0.01%	7.40%	5.50%	12.90%
25	7.70%	10.40%	0.06%	0.03%	0.04%	0.04%	5.00%	5.50%	10.50%
30	6.50%	9.50%	0.07%	0.04%	0.06%	0.05%	3.40%	5.50%	8.90%
35	5.00%	8.00%	0.10%	0.05%	0.20%	0.12%	2.20%	5.50%	7.70%
40	4.50%	5.90%	0.15%	0.08%	0.27%	0.19%	1.40%	5.50%	6.90%
45	4.50%	5.00%	0.27%	0.12%	0.43%	0.32%	0.90%	5.50%	6.40%
50	4.50%	5.00%	0.49%	0.18%	0.83%	0.76%	0.60%	5.50%	6.10%
55	4.50%	5.00%	0.78%	0.27%	1.12%	1.10%	0.50%	5.50%	6.00%
60	4.50%	5.00%	1.21%	0.46%	1.20%	1.20%	0.30%	5.50%	5.80%
65	4.50%	5.00%	1.95%	0.81%	1.20%	1.20%	— %	5.50%	5.50%

Sample Ages	Percent of Members Separating Within the Next Year						Pay Increase Assumptions for an Individual Member		
	Withdrawal		Death		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
	Men	Women	Men	Women	Men	Women			
STATE DIVISION MEMBERS CONTRIBUTING 12.3% (State Troopers)									
20	7.94%	7.94%	0.05%	0.02%	0.06%	0.06%	7.40%	5.50%	12.90%
25	7.72%	7.72%	0.06%	0.03%	0.06%	0.06%	5.00%	5.50%	10.50%
30	7.22%	7.22%	0.07%	0.04%	0.06%	0.06%	3.40%	5.50%	8.90%
35	6.28%	6.28%	0.10%	0.05%	0.07%	0.07%	2.20%	5.50%	7.70%
40	5.15%	5.15%	0.15%	0.08%	0.10%	0.10%	1.40%	5.50%	6.90%
45	3.98%	3.98%	0.27%	0.12%	0.17%	0.17%	0.90%	5.50%	6.40%
50	2.56%	2.56%	0.49%	0.18%	0.31%	0.31%	0.60%	5.50%	6.10%
55	0.94%	0.94%	0.78%	0.27%	0.56%	0.56%	0.50%	5.50%	6.00%
60	0.09%	0.09%	1.21%	0.46%	1.19%	1.19%	0.30%	5.50%	5.80%
65	— %	— %	1.95%	0.81%	— %	— %	— %	5.50%	5.50%

Exhibit B — School Division

Sample Ages	Percent of Members Separating Within the Next Year						Pay Increase Assumptions for an Individual Member		
	Withdrawal		Death		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
	Men	Women	Men	Women	Men	Women			
20	6.40%	8.00%	0.05%	0.02%	0.02%	0.02%	5.00%	5.50%	10.50%
25	6.40%	8.00%	0.06%	0.03%	0.02%	0.02%	3.70%	5.50%	9.20%
30	5.60%	8.00%	0.07%	0.04%	0.02%	0.02%	2.70%	5.50%	8.20%
35	4.20%	6.30%	0.10%	0.05%	0.04%	0.04%	2.00%	5.50%	7.50%
40	3.50%	4.50%	0.15%	0.08%	0.10%	0.10%	1.40%	5.50%	6.90%
45	3.50%	4.00%	0.27%	0.12%	0.24%	0.20%	1.00%	5.50%	6.50%
50	3.50%	4.00%	0.49%	0.18%	0.49%	0.30%	0.80%	5.50%	6.30%
55	3.50%	4.00%	0.78%	0.27%	0.88%	0.57%	0.60%	5.50%	6.10%
60	3.50%	4.00%	1.21%	0.46%	1.42%	1.00%	0.40%	5.50%	5.90%
65	3.50%	4.00%	1.95%	0.81%	1.65%	1.00%	— %	5.50%	5.50%

Exhibit C — Municipal Division

Sample Ages	Percent of Members Separating Within the Next Year						Pay Increase Assumptions for an Individual Member		
	Withdrawal		Death		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
	Men	Women	Men	Women	Men	Women			
20	8.00%	12.00%	0.05%	0.02%	0.01%	0.01%	7.40%	5.50%	12.90%
25	8.00%	12.00%	0.06%	0.03%	0.04%	0.04%	5.00%	5.50%	10.50%
30	8.00%	10.50%	0.07%	0.04%	0.06%	0.05%	3.40%	5.50%	8.90%
35	6.30%	9.00%	0.10%	0.05%	0.20%	0.12%	2.20%	5.50%	7.70%
40	4.50%	6.90%	0.15%	0.08%	0.27%	0.19%	1.40%	5.50%	6.90%
45	4.00%	5.30%	0.27%	0.12%	0.43%	0.32%	0.90%	5.50%	6.40%
50	4.00%	5.00%	0.49%	0.18%	0.83%	0.76%	0.60%	5.50%	6.10%
55	4.00%	5.00%	0.78%	0.27%	1.12%	1.10%	0.50%	5.50%	6.00%
60	4.00%	5.00%	1.21%	0.46%	1.20%	1.20%	0.30%	5.50%	5.80%
65	4.00%	5.00%	1.95%	0.81%	1.20%	1.20%	—%	5.50%	5.50%

Exhibit D — Judicial Division

Sample Ages	Percent of Members Separating Within the Next Year						Pay Increase Assumptions for an Individual Member		
	Withdrawal		Death		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
	Men	Women	Men	Women	Men	Women			
30	4.90%	4.90%	0.07%	0.04%	0.06%	0.06%	Judicial Division pay increases are determined by the Colorado Legislature.		
35	4.40%	4.40%	0.10%	0.05%	0.07%	0.07%			
40	3.60%	3.60%	0.15%	0.08%	0.10%	0.10%			
45	2.80%	2.80%	0.27%	0.12%	0.17%	0.17%			
50	2.00%	2.00%	0.49%	0.18%	0.31%	0.31%			
55	1.30%	1.30%	0.78%	0.27%	0.56%	0.56%			
60	1.00%	1.00%	1.21%	0.46%	1.19%	1.19%			
65	—%	—%	1.95%	0.81%	—%	—%			

Exhibit E

Percent of Members With Less Than Five Years of Service Withdrawing from Employment Next Year

Years of Service	State & Municipal Divisions (Excluding Troopers)		School Division	
	Men	Women	Men	Women
0	25.00%	30.00%	30.00%	30.00%
1	15.00%	18.00%	18.00%	18.00%
2	12.00%	16.00%	14.00%	14.00%
3	10.00%	14.00%	10.00%	10.00%
4	8.00%	12.00%	8.00%	8.00%

Single Life Retirement Values

Based on 1971 Group Annuity Mortality Table Projected to 1984 and 7.5 Percent Interest

Exhibit F — State, School, Municipal and Judicial Divisions

Sample Attained Ages	Present Value of \$1.00 Monthly for Life		Present Value of \$1.00 Mo. the First Year Increasing \$.03 Yearly		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
	40.....	\$148.30	\$155.13	\$194.49	\$207.11	36.69
45.....	142.21	151.24	183.78	199.50	32.01	38.41
50.....	134.71	146.05	171.18	189.88	27.53	33.66
55.....	125.72	139.18	156.74	177.86	23.28	28.99
60.....	114.86	130.21	140.21	163.11	19.27	24.44
65.....	102.12	118.98	121.85	145.70	15.55	20.09
70.....	88.28	105.19	102.90	125.66	12.25	15.99
75.....	74.58	89.73	84.92	104.45	9.49	12.33
80.....	60.87	74.20	67.78	84.16	7.17	9.28
85.....	49.24	59.13	53.73	65.36	5.43	6.78

Percent of Eligible Members Retiring Next Year**Exhibit G**

Retirement Ages	State Division	State Troopers	School Division	Municipal Division	Judicial Division
Under 55.....	—%	20%	—%	—%	—%
55.....	13%	20%	12%	13%	—%
56.....	13%	20%	12%	13%	—%
57.....	13%	20%	12%	13%	—%
58.....	13%	20%	12%	13%	—%
59.....	13%	20%	12%	13%	—%
60.....	17%	20%	20%	17%	15%
61.....	17%	20%	20%	17%	10%
62.....	17%	20%	20%	17%	10%
63.....	17%	20%	20%	17%	10%
64.....	17%	25%	20%	17%	10%
65.....	40%	30%	60%	40%	40%
66.....	40%	25%	40%	40%	20%
67.....	40%	25%	50%	40%	20%
68.....	40%	25%	60%	40%	20%
69.....	40%	40%	80%	40%	20%
70.....	100%	100%	100%	100%	40%
71.....	100%	100%	100%	100%	60%
72 and over.....	100%	100%	100%	100%	100%

Schedule of Retirees and Survivors by Type of Benefit

December 31, 1990

Division	Number of Benefit Recipients	Type of Benefit					
		1	2	3	4	5	6
State	15,730	12,269	2,566	84	742	69	873
School	17,297	14,670	1,773	44	708	102	1,548
Municipal	1,743	1,187	372	8	148	19	97
Judicial	179	142	16	0	20	1	9
Total	34,929	28,268	4,727	136	1,618	191	2,527

	Option Selected				Surviving Cobene- ficiary	Surviving Retiree
	1	2	3	4*		
State	7,809	1,667	3,062	549	1,337	411
School	10,409	1,791	2,533	410	893	407
Municipal	680	220	364	61	193	41
Judicial	31	16	57	13	35	6
Total	18,929	3,694	6,016	1,033	2,458	865

- Benefit Types:**
- 1 — Age and service retirement.
 - 2 — Disability retirement.
 - 3 — Survivor payment—Option 3.
 - 4 — Survivor payment—children, spouse or dependent parent.
 - 5 — Surviving spouse with deferred future benefit.
 - 6 — Former member with deferred future benefit.

Option Selection: Age and service retirees and disability retirees select an Option at retirement to provide death benefits. They are as follows:

- 1 — Single life benefit.
- 2 — Joint benefit with 1/2 to surviving cobeneficiary.
- 3 — Joint and survivor benefit.
- 4 — Joint benefit with 1/2 to either survivor:
Surviving cobeneficiary — retiree has predeceased the cobeneficiary.
Surviving retiree — cobeneficiary has predeceased the retiree.

*No longer offered to members retiring.

Schedule of Member Valuation Data

	Number of Members	Annual Payroll	Average Annual Salary	% Increase in Average Pay
1981	91,672	\$1,649,921,520	\$17,998	11.13%
1982	92,076	1,802,596,767	19,577	8.77%
1983	92,346	1,923,936,063	20,979	7.16%
1984	94,766	2,091,707,220	22,072	5.20%
1985	98,345	2,270,948,105	23,092	4.62%
1986	99,977	2,409,384,090	24,099	4.36%
1987	100,808	2,531,357,702	25,110	4.20%
1988	103,064	2,642,686,201	25,641	2.10%
1989	105,377	2,755,113,097	26,145	2.00%
1990	106,898	2,912,712,448	27,248	4.22%

Total of 342 employers in 1990.

Schedule of Retirees and Beneficiaries Added to and Removed from Benefit Payroll*

Year Ended	Added to Payroll		Removed from Payroll		Payroll—End of Year		Cost of Living Stabilization Fund	Average Annual Benefits	Increase In Average Benefits
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits			
12/31/81.....	1,595	\$11,760,232	599	\$2,174,169	20,316	\$ 88,843,513	\$20,057,160	\$ 5,360	3.6%
12/31/82.....	2,413	21,263,055	673	2,523,386	22,056	107,582,521	39,978,816	6,690	24.8%
12/31/83.....	2,202	21,365,407	736	3,048,446	23,522	125,899,802	38,624,028	6,994	4.6%
12/31/84.....	2,247	23,813,326	717	3,009,065	25,052	146,704,999	45,747,060	7,682	9.8%
12/31/85.....	2,275	27,050,513	567	3,565,127	26,760	170,190,060	42,286,322	7,940	3.4%
12/31/86.....	2,293	28,173,779	857	4,386,095	28,196	193,978,656	44,138,479	8,445	6.4%
12/31/87.....	3,408	46,690,933	955	4,928,698	30,649	235,742,208	45,122,863	9,164	8.5%
12/31/88.....	2,269	27,914,867	852	3,661,680	32,066	266,034,336	44,537,477	9,685	5.7%
12/31/89.....	2,341	26,812,386	960	3,704,135	33,447	296,210,412	43,993,557	10,171	5.0%
12/31/90.....	2,472	30,727,020	979	4,241,455	34,940	330,668,124	47,742,599	10,830	6.5%

*Numbers derived on an accrual basis.

Member-Retiree Comparison*

The number of persons receiving monthly retirement benefits has grown steadily in relation to membership. This trend will continue for many years into the future.

The level-cost financing principle is designed so that contribution rates will not have to be raised to meet benefit promises. The current

percentages of salaries should be sufficient to meet the increasing retirement payroll if the benefit provisions contained in the state law are not changed. The retirement benefit disbursements shown in the right-hand column include cost-of-living increases paid in years since 1970. Prior to 1981, figures are for years ended June 30.

Year	Number of Retirees on 12/31	Number of Member Accounts on 12/31 ¹	Retirees as % of Members on 12/31	Total Benefits Paid - Yr. Ended 12/31
1940.....	93	3,715	2.5%	\$ 72,588
1945.....	171	5,585	3.1%	137,442
1950.....	280	11,853	2.4%	237,866
1955.....	747	21,185	3.5%	745,679
1960.....	1,775	33,068	5.4%	2,055,139
1965.....	3,631	49,701	7.3%	5,486,225
1970.....	6,308	65,586	9.6%	13,115,234
1975.....	11,650	84,781	13.7%	32,820,433
1980.....	17,301	96,473	17.9%	71,289,456
1985.....	24,842	101,409	24.5%	192,456,029
1986.....	26,217	104,460	25.1%	217,402,612
1987.....	28,657	107,116	26.8%	247,891,967
1988.....	30,025	110,295	27.2%	286,647,682
1989.....	31,466	111,652	28.2%	315,547,718
1990.....	32,955	115,350	27.4%	350,398,094

*Numbers derived on a cash basis

¹Includes inactive members.

Members in Valuation

By Attained Age and Years of Service — 12-31-90

State Division Members included in the State Division valuation totaled 38,292 involving annual salaries totaling \$1,155,224,484.

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20	35							35	\$ 354,960
20-24	747	13						760	12,134,832
25-29	2,235	443	26					2,704	56,913,444
30-34	2,957	1,392	506	30				4,885	124,728,468
35-39	3,284	1,788	1,260	434	4			6,770	193,905,720
40-44	2,948	1,675	1,495	1,197	255	2		7,572	236,964,108
45-49	1,737	1,142	995	945	767	210	7	5,803	196,468,380
50-54	1,049	761	675	685	714	429	89	4,402	151,974,744
55-59	572	477	521	534	561	300	133	3,098	106,936,872
60	86	71	89	101	72	51	16	486	16,704,756
61	70	77	110	76	64	32	17	446	15,424,044
62	51	51	61	69	43	29	10	314	10,018,440
63	31	45	58	55	37	18	16	260	8,353,776
64	37	43	55	48	22	21	12	238	7,899,468
65	24	24	31	48	21	14	9	171	5,493,828
66	16	17	22	19	18	8	9	109	3,567,996
67	12	12	13	15	10	5	6	73	2,451,096
68	8	11	9	10	11	5	1	55	1,879,740
69	3	8	9	8	2	1	2	33	926,652
70+	20	6	11	22	9	4	6	78	2,123,160
Totals	15,922	8,056	5,946	4,296	2,610	1,129	333	38,292	\$ 1,155,224,484

The average age for State Division members (excluding State Troopers) was 42.8 years, and the average service was 8.7 years.
The average age for State Troopers was 41.2 years, and the average service was 13.3 years.

School Division Members included in the School Division valuation totaled 61,004 involving annual salaries totaling \$1,545,492,384.

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20	45							45	\$ 290,484
20-24	823	8						831	12,462,936
25-29	3,521	530	16					4,067	78,215,316
30-34	3,904	2,356	480	9				6,749	140,025,660
35-39	4,779	2,420	2,379	630	2			10,210	236,693,412
40-44	5,033	2,997	2,479	2,767	580			13,856	370,259,496
45-49	2,804	2,149	1,865	1,673	1,639	261	2	10,393	297,425,388
50-54	1,411	1,302	1,373	1,238	1,130	941	141	7,536	221,517,372
55-59	815	707	915	894	626	434	233	4,624	126,969,252
60	120	98	122	135	93	37	25	630	16,215,672
61	105	100	111	126	54	21	18	535	12,147,456
62	67	60	77	74	41	21	21	361	8,760,888
63	56	53	51	74	29	16	16	295	6,986,100
64	47	57	43	38	32	11	14	242	5,516,484
65	28	45	39	32	35	10	10	199	4,134,084
66	29	20	26	23	10	6	5	119	2,441,964
67	23	22	21	11	11	3	1	92	1,869,480
68	16	14	12	9	6	6	5	68	1,254,576
69	14	10	9	6	5	4		48	762,444
70+	28	29	20	14	9	2	2	104	1,543,920
Totals	23,668	12,977	10,038	7,753	4,302	1,773	493	61,004	\$ 1,545,492,384

The average age for School Division members was 43.0 years, and the average service was 9.1 years.

By Attained Age and Years of Service — 12-31-90

Municipal Division

Members included in the Municipal Division valuation totaled 7,357 involving annual salaries totaling \$198,863,704.

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20.....	18							18	\$ 144,617
20-24.....	221	4						225	3,411,051
25-29.....	611	138	5					754	16,676,503
30-34.....	764	405	146	2				1,317	33,391,189
35-39.....	700	384	263	113	2			1,462	40,336,359
40-44.....	523	359	253	194	49	1		1,379	40,496,275
45-49.....	271	185	187	139	86	31		899	27,025,635
50-54.....	142	116	94	88	65	39	12	556	16,424,430
55-59.....	85	74	83	86	61	26	17	432	13,363,739
60.....	13	11	11	16	9	3	1	64	1,771,245
61.....	16	9	8	11	4	4	3	55	1,374,325
62.....	6	10	3	12	1	1	4	37	995,778
63.....	11	14	10	6	4		1	46	1,104,261
64.....	6	3	5	5	1		3	23	500,912
65.....	2	4	8	5	2	1	1	23	623,002
66.....		5	3	2	1		1	12	258,796
67.....	5	3	2	1	2		1	14	232,616
68.....	5	2	1	2	2			12	277,718
69.....	3	1	3	1				8	166,356
70+.....	13	5	1		1		1	21	288,897
Totals.....	3,415	1,732	1,086	683	290	106	45	7,357	\$ 198,863,704

The average age for Municipal Division members was 40.2 years, and the average service was 7.5 years.

Judicial Division

Members included in the Judicial Division valuation totaled 245 involving annual salaries totaling \$13,131,876.

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
30-34.....	4							4	\$ 110,688
35-39.....	12	6	1					19	970,752
40-44.....	20	15	16	2				53	2,648,508
45-49.....	11	22	19	6				58	3,321,084
50-54.....	5	5	12	9	3			34	1,799,520
55-59.....	9	2	7	11	4	2	1	36	2,099,916
60.....		1	2	1				4	234,192
61.....	1		4	1				6	320,604
62.....		1	2	1	1	2		7	335,316
63.....	2		2					4	199,692
64.....		1				1		2	126,000
65.....				3	1			4	256,500
66.....	1		2		2			5	262,104
67.....	1	1	1	1				4	252,108
68.....				1				1	67,500
69.....			1	1				2	74,196
70+.....						2		2	53,196
Totals.....	66	54	69	37	11	7	1	245	\$ 13,131,876

The average age for Judicial Division members was 49.8 years, and the average service was 10.0 years.

Solvency Test

The PERA funding objective is to be able to pay long-term benefit promises through contributions that remain approximately level from year to year as a percent of salaries earned by members. In this way, members and employers in each year pay their fair share for retirement service accrued in that year by PERA members. Occasionally rates are increased, but only to add or improve benefit provisions.

If the retirement system follows level contribution rate financing principles, the system will pay all promised benefits when due — the ultimate test of financial soundness.

A short-term solvency test is one means of checking PERA's funding progress. In a short-term solvency test, the retirement plan's present assets (investments and cash) are compared with: 1) Member contributions on deposit, 2) the liabilities for future benefits to

persons who have retired and 3) the liabilities for service already rendered by active members. In a system that has been following the discipline of level contribution rate financing, the liabilities for member contributions on deposit (liability 1) and the liabilities for future benefits to present retirees (liability 2) will be fully covered by present assets, except in rare circumstances.

In addition, the liabilities for service already rendered by members (liability 3) will be partially covered by the remainder of present assets. Generally, if the system has been using level contribution rate financing, the funded portion of liability 3 will increase over time. It is unusual for liability 3 to be fully funded.

The schedule below illustrates the progress of funding liability 3 of PERA, and is indicative of PERA's policy to follow the discipline of level contribution rate funding.

TOTAL ACTUARIAL LIABILITIES

Valuation Date	Member Contributions (1)	Retirees and Beneficiaries (2)	Employer-Financed Portion of Active Members (3)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Reported Assets		
					(1)	(2)	(3)
12/31/81.....	\$ 674,778,335	\$1,039,344,715	\$2,236,428,561	\$2,731,317,956	100%	100%	45.5%
12/31/82.....	752,901,555	1,261,240,932	2,527,282,001	3,199,623,171	100%	100%	46.9%
12/31/83.....	843,058,135	1,505,814,909	2,751,961,085	3,752,861,340	100%	100%	51.0%
12/31/84.....	937,173,328	1,753,309,252	3,084,444,755	4,393,831,995	100%	100%	55.2%
12/31/85.....	1,042,574,126	2,020,932,989	3,405,202,669	5,194,918,164	100%	100%	62.6%
12/31/86.....	1,160,217,971	2,216,934,541	3,771,614,184	6,247,694,817	100%	100%	76.1%
12/31/87.....	1,259,278,057	2,734,034,675	4,213,269,209	7,019,254,128	100%	100%	71.8%
12/31/88.....	1,381,638,915	3,084,669,583	4,411,273,368	7,775,426,015	100%	100%	75.0%
12/31/89.....	1,500,592,533	3,455,861,901	4,723,623,212	8,722,658,715	100%	100%	79.7%
12/31/90.....	1,635,129,849	3,842,084,802	5,076,877,515	9,477,521,126	100%	100%	79.0%

Summary of Unfunded Actuarial Accrued Liabilities

Unfunded actuarial accrued liabilities are the difference between actuarially calculated liabilities for service already rendered and the assets of the retirement fund. It is natural for unfunded liabilities to exist for PERA and other retirement plans.

The law governing PERA requires that these liabilities be financed systematically over future years. The period for amortizing unfunded actuarial accrued liabilities is currently under the 60-year limit specified in State law in all divisions of PERA. (The law requires that contribution rates be set at a level which, if actuarial experience matches plan assumptions, will pay off unfunded liabilities over 60 years or less.) The amortization periods have shown stability over the last decade.

Benefits to retirees are "fully funded," that is, assets reserved for benefits currently being paid equal liabilities for those benefits. Liabilities for members are based on service rendered toward their retirement benefits which will be payable in the future. Unfunded actuarial accrued liabilities exist because liabilities for such service by members exceed assets currently on hand for such future benefits.

Because inflation continues, the value of dollars is decreasing. Looking at just the dollar amounts of assets, benefits paid, member salaries and unfunded actuarial accrued liabilities will be misleading.

While no one or two measures can fully describe the financial condition of the plan, unfunded actuarial accrued liability dollars divided by member salary dollars provide a meaningful index. The smaller the ratio, the stronger the system.

Observation of this relative index over a period of years will give an indication of the financial strength of the system. This ratio has increased at times over the last decade, but the recent trend shows stability.

Actuarial assumptions were revised in 1986 to recognize higher investment returns expected over the long term. Investment returns in the last five years have helped to increase assets, reduce unfunded actuarial accrued liabilities and lower the ratio of unfunded liabilities to member salaries.

UNFUNDED ACTUARIAL ACCRUED LIABILITIES (UAAL)

Valuation Date	Total Actuarial Accrued Liabilities	Valuation Assets	Assets as a % of Accrued Liabilities	Unfunded Actuarial Accrued Liabilities	Member Salaries	UAAL as a % of Member Salaries
12/31/81.....	\$3,950,551,611	\$2,731,317,956	69.1%	\$1,219,233,655	\$1,649,921,520	73.9%
12/31/82.....	4,541,424,488	3,199,623,171	70.5%	1,341,801,317	1,802,596,767	74.4%
12/31/83.....	5,100,834,129	3,752,861,340	73.6%	1,347,972,789	1,923,936,078	70.1%
12/31/84.....	5,774,927,335	4,393,831,995	76.1%	1,381,095,340	2,091,707,220	66.0%
12/31/85.....	6,468,709,784	5,194,918,164	80.3%	1,273,791,620	2,270,948,105	56.1%
12/31/86.....	7,148,766,696	6,247,694,817	87.4%	901,071,879	2,409,384,090	37.4%
12/31/87.....	8,206,581,941	7,019,254,128	85.5%	1,187,327,813	2,531,357,702	46.9%
12/31/88.....	8,877,578,866	7,775,426,015	87.6%	1,102,145,851	2,642,664,024	41.7%
12/31/89.....	9,680,077,646	8,722,658,715	90.1%	957,418,931	2,755,113,097	34.8%
12/31/90.....	10,554,092,157	9,477,521,126	89.8%	1,076,571,031	2,912,712,448	37.0%

Schedule of Gains and Losses in Accrued Liabilities

Years Ended December 31
Resulting From Differences Between Assumed Experience and Actual Experience

(In Millions of Dollars)

\$ Gain (or Loss) for Year

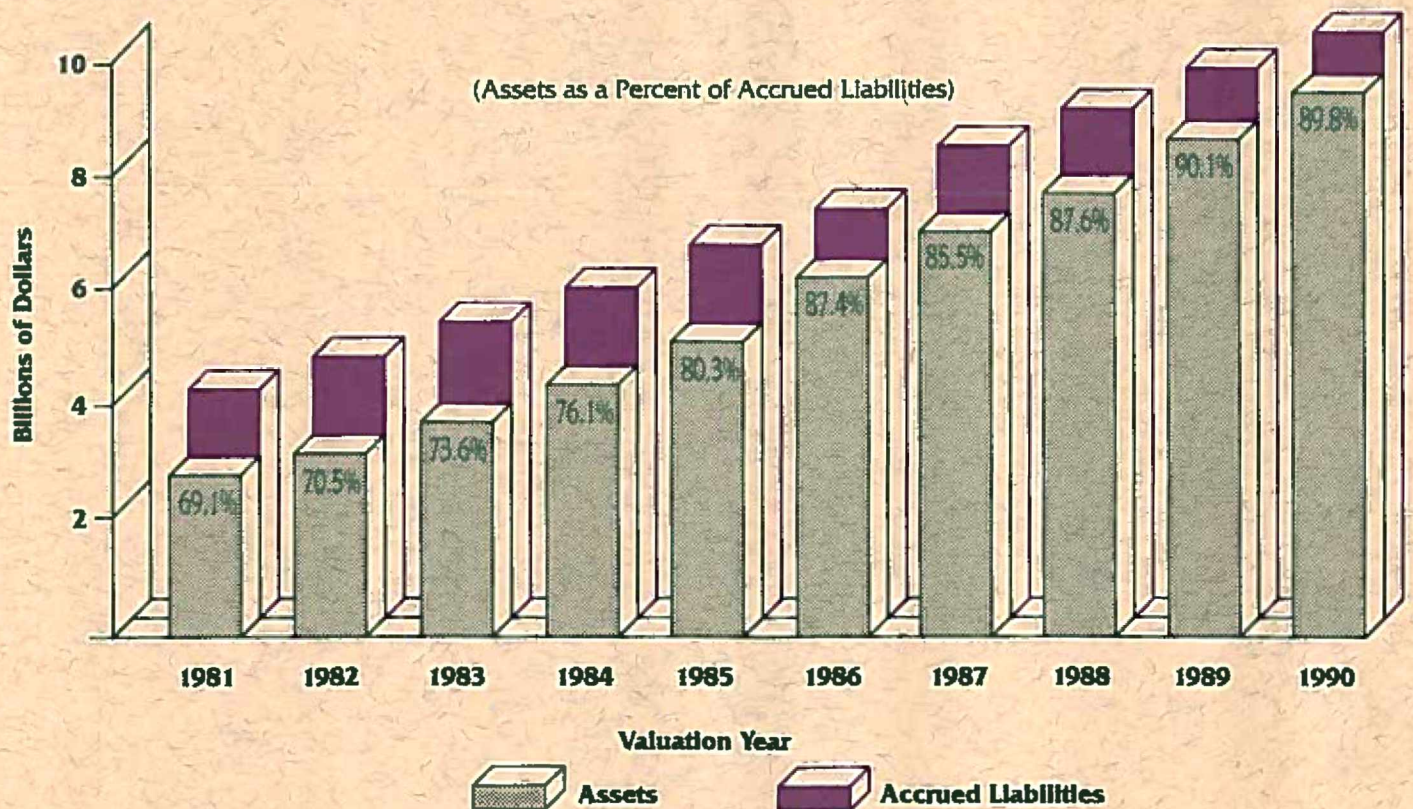
Type of Activity	1990	1989	1988	1987	1986 ¹
Age and service retirements	\$ (4.80)	\$ (6.50)	\$ (4.90)	\$ 0.00	\$ (5.30)
Disability retirements.....	(4.80)	(3.90)	(2.20)	9.70	(2.12)
Death-in-service benefits.....	(0.20)	4.20	6.00	3.70	2.36
Withdrawal from employment	(96.80)	(46.70)	(28.50)	(24.60)	20.31
Pay increases.....	63.10	66.70	152.30	44.50	25.30
Investment income.....	(53.60)	223.50	85.00	121.20	471.26
Other.....	0.70	(49.70)	(69.40)	(116.70)	38.18
Gain (or loss) during year from financial experience	(96.40)	187.60	138.30	37.80	549.99
Non-recurring Items ²	(11.10)	(22.70)	(27.00)	(327.50) ³	(138.54)
Composite gain (or loss) during year.....	<u>\$(107.50)</u>	<u>\$164.90</u>	<u>\$111.30</u>	<u>\$(289.70)</u>	<u>\$411.45</u>

¹Revised assumptions.

²Non-recurring items include changes due to amendments, changes in actuarial method or assumptions and special transfers to retired life funds.

³Effect of law changes.

Assets and Accrued Liabilities 1981-1990



Schedule of Computed Employer Contribution Rate

Expressed as a Percentage of Member Payroll

	State Division	School Division	Municipal Division	Judicial Division
Contributions:				
Age and service retirements	10.85%	12.58%	10.30%	14.33%
Disability retirements.....	1.69%	0.98%	1.62%	1.22%
Survivor benefits.....	0.73%	0.55%	0.69%	1.64%
Future refunds	1.88%	1.71%	1.98%	0.81%
Total normal cost	15.15%	15.82%	14.59%	18.00%
Member contributions	8.08% ¹	8.00%	8.00%	8.00% ²
Employer normal cost	7.07%	7.82%	6.59%	10.00%
Percentage available to amortize unfunded actuarial accrued liabilities	2.35%	1.88%	0.81%	2.20%
Amortization period	28 years	19 years	24 years	19 years
Total employer contribution rate for actuarially funded benefits.....	9.42%¹	9.70%	7.40%	12.20%
Cost of living stabilization fund ³	2.00%	2.00%	2.00%	2.00%
Health care fund ⁴	0.80%	0.80%	0.80%	0.80%
Statutory employer contribution rate	12.22%¹	12.50%	10.20%	15.00%

¹Weighted average of more than one statutory rate.

²Assumes no judge will elect a refund of contributions made during the 17th and through the 20th year of service.

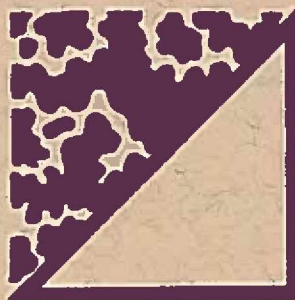
³Used to provide ad-hoc increases to benefit recipients.

⁴Used to pay a portion of health care premiums for benefit recipients.

Schedule of Contribution Rate History**Percent of Payroll**

		Member Contribution Rate	Employer Contribution Rate
State Division			
Members (Other Than State Troopers)			
8-1-31	to 6-30-38	3.50%	0.00%
7-1-38	to 6-30-49	3.50%	3.50%
7-1-49	to 6-30-58	5.00%	5.00%
7-1-58	to 6-30-69	6.00%	6.00%
7-1-69	to 6-30-70	7.00%	7.00%
7-1-70	to 6-30-71	7.00%	8.00%
7-1-71	to 6-30-73	7.00%	8.50%
7-1-73	to 6-30-74	7.75%	9.50%
7-1-74	to 6-30-75	7.75%	10.50%
7-1-75	to 8-31-80	7.75%	10.64%
9-1-80	to 12-31-81	7.75%	12.20%
1-1-82	to 6-30-87	8.00%	12.20%
7-1-87	to 6-30-88	8.00%	10.20%
7-1-88	to 12-31-90	8.00%	12.20%
State Troopers			
1-1-50	to 6-30-69	7.00%	7.00%
7-1-69	to 6-30-70	8.00%	8.00%
7-1-70	to 6-30-71	8.00%	9.00%
7-1-71	to 6-30-73	8.00%	10.00%
7-1-73	to 6-30-74	8.75%	10.50%
7-1-74	to 6-30-75	8.75%	11.50%
7-1-75	to 8-31-80	8.75%	11.64%
9-1-80	to 12-31-81	9.00%	11.64%
1-1-82	to 6-30-87	9.00%	13.20%
7-1-87	to 6-30-88	9.00%	11.20%
7-1-88	to 6-30-89	9.00%	13.20%
7-1-89	to 12-31-90	12.30%	13.20%
School Division			
1-1-44	to 12-31-49	3.50%	3.50%
1-1-50	to 6-30-58	5.00%	5.00%
7-1-58	to 6-30-69	6.00%	6.00%
7-1-69	to 12-31-69	7.00%	6.00%
1-1-70	to 12-31-70	7.00%	7.50%
1-1-71	to 12-31-71	7.00%	8.50%
1-1-72	to 6-30-73	7.00%	9.25%
7-1-73	to 12-31-73	7.75%	9.25%
1-1-74	to 12-31-74	7.75%	10.25%
1-1-75	to 12-31-75	7.75%	11.25%
1-1-76	to 12-31-80	7.75%	12.10%
1-1-81	to 12-31-81	7.75%	12.50%
1-1-82	to 6-30-87	8.00%	12.50%
7-1-87	to 6-30-88	8.00%	11.50%
7-1-88	to 12-31-90	8.00%	12.50%
Municipal Division			
1-1-44	to 12-31-49	3.50%	3.50%
1-1-50	to 6-30-58	5.00%	5.00%
7-1-58	to 6-30-69	6.00%	6.00%
7-1-69	to 12-31-69	7.00%	6.00%
1-1-70	to 12-31-70	7.00%	7.00%
1-1-71	to 6-30-73	7.00%	7.50%
7-1-73	to 12-31-73	7.75%	7.50%
1-1-74	to 12-31-74	7.75%	8.50%
1-1-75	to 12-31-75	7.75%	9.50%
1-1-76	to 12-31-80	7.75%	9.86%
1-1-81	to 12-31-81	7.75%	10.20%
1-1-82	to 12-31-90	8.00%	10.20%
Judicial Division			
7-1-49	to 6-30-57	5.00%	5.00%
7-1-57	to 6-30-73	6.00%	12.00%
7-1-73	to 6-30-80	7.00%	12.00%
7-1-80	to 8-30-80	7.00%	13.00%
9-1-80	to 12-31-80	7.00%	15.00%
1-1-82	to 6-30-87	8.00%	15.00%
7-1-87	to 6-30-88	8.00%	13.00%
7-1-88	to 12-31-90	8.00%	15.00%

STATISTICAL SECTION*



*UNAUDITED

Schedule of Disbursements by Function

(In Thousands of Dollars)

	Refunds	Benefit Payments ¹	Administrative Expenses	Total Expenses
STATE DIVISION				
1981	\$ 16,550	\$ 53,094	\$ 1,161	\$ 70,805
1982	17,091	65,067	1,358	83,516
1983	12,934	77,262	1,782	91,978
1984	14,951	87,948	1,960	104,859
1985	15,246	99,239	2,248	116,733
1986 ¹	13,358	111,483	2,810 ²	127,651
1987 ¹	13,735	126,099	2,993 ²	142,827
1988 ¹	14,679	143,901	3,035 ²	161,615
1989 ¹	19,942	155,956	4,134 ²	180,032
1990 ¹	15,750	170,434	4,031 ²	190,215
SCHOOL DIVISION				
1981	\$ 14,597	\$ 47,181	\$ 1,570	\$ 63,348
1982	13,242	58,369	1,885	73,496
1983	12,280	71,506	2,486	86,272
1984	13,868	81,989	2,726	98,583
1985	13,290	92,511	3,173	108,974
1986 ¹	12,152	103,500	4,015 ²	119,667
1987 ¹	11,108	118,194	4,318 ²	133,620
1988 ¹	11,575	137,135	4,355 ²	153,065
1989 ¹	14,419	153,409	5,872 ²	173,700
1990 ¹	13,200	172,787	5,775 ²	191,762
MUNICIPAL DIVISION				
1981	\$ 2,304	\$ 4,040	\$ 167	\$ 6,511
1982	1,911	4,937	198	7,046
1983	2,122	5,989	273	8,384
1984	2,715	7,137	314	10,166
1985	2,796	8,008	365	11,169
1986 ¹	2,661	9,352	470 ²	12,483
1987 ¹	2,690	10,860	516 ²	14,066
1988 ¹	3,358	12,703	520 ²	16,581
1989 ¹	4,017	13,856	683 ²	18,556
1990 ¹	3,640	15,248	663 ²	19,551
JUDICIAL DIVISION				
1981	\$ 84	\$ 927	\$ 8	\$ 1,019
1982	27	1,072	10	1,109
1983	13	1,367	14	1,394
1984	41	1,496	15	1,552
1985	85	1,664	17	1,766
1986 ¹	66	1,886	21 ²	1,973
1987 ¹	171	2,241	22 ²	2,434
1988 ¹	43	2,446	24 ²	2,513
1989 ¹	28	2,660	32 ²	2,720
1990 ¹	31	2,825	32 ²	2,888

¹Information for 1986-1990 is on an accrual basis; information for prior years is on a cash basis.

²Total for 1986-1990 does not include the Health Care Fund, the Common Operating Fund or the Insurance Dividend Reserve.

³Benefit payments include both retirement and survivor benefit payments.

Schedule of Receipts by Source

(In Thousands of Dollars)

	Member Contributions ¹	Employer Contributions ¹	Investment Income	Misc. Income ²	Total Revenues
STATE DIVISION					
1981	\$ 53,153	\$ 83,369	\$ 50,932	\$ 158	\$ 187,612
1982	58,995	89,973	114,948	117	264,033
1983	61,865	94,148	146,782	26	302,821
1984	66,838	101,341	178,807	26	347,012
1985	71,777	108,263	251,086	34	431,160
1986	75,086	87,901 ³	333,992 ⁴	41	497,020
1987	79,757	83,022 ³	68,972 ⁴	41	231,792
1988	82,706	86,733 ³	321,160 ⁴	—	490,599
1989	86,146	100,439 ³	507,304 ⁴	—	693,889
1990	90,971	106,133 ³	2,789 ⁴	—	199,893
SCHOOL DIVISION					
1981	\$ 62,747	\$ 100,234	\$ 64,749	\$ 259	\$ 227,989
1982	67,985	110,520	148,913	255	327,673
1983	74,736	118,813	192,869	56	386,474
1984	80,604	126,826	243,906	30	451,366
1985	89,181	138,009	329,785	49	557,024
1986	98,030	117,210 ³	447,388 ⁴	47	662,675
1987	104,176	119,167 ³	91,707 ⁴	13	315,063
1988	108,280	123,744 ³	446,556 ⁴	—	678,580
1989	114,701	138,821 ³	716,172 ⁴	—	969,694
1990	117,852	142,783 ³	5,560 ⁴	—	266,195
MUNICIPAL DIVISION					
1981	\$ 7,438	\$ 9,762	\$ 4,774	\$ 18	\$ 21,992
1982	8,882	11,347	13,867	14	34,110
1983	9,888	12,604	18,493	10	40,995
1984	10,977	13,938	21,744	8	46,667
1985	12,033	15,305	30,812	7	58,157
1986	13,029	12,044 ³	41,087 ⁴	7	66,167
1987	13,738	12,693 ³	8,368 ⁴	7	34,806
1988	14,488	12,848 ³	42,562 ⁴	—	69,898
1989	14,236	13,169 ³	66,472 ⁴	—	93,877
1990	15,781	14,600 ³	529 ⁴	—	30,910
JUDICIAL DIVISION					
1981	\$ 476	\$ 1,224	\$ 749	\$ 1	\$ 2,450
1982	722	1,366	1,882	—	3,970
1983	736	1,380	2,541	—	4,657
1984	874	1,476	2,831	—	5,181
1985	879	1,623	3,469	—	5,971
1986	875	1,365 ³	4,438 ⁴	—	6,678
1987	872	1,207 ³	1,065 ⁴	—	3,144
1988	958	1,401 ³	4,559 ⁴	—	6,918
1989	1,023	1,585 ³	7,181 ⁴	—	9,789
1990	1,047	1,599 ³	31 ⁴	—	2,677

¹The member and employer contribution rate history can be found on page 58.

²Membership fees not available for benefits. Membership fee discontinued after 1987.

³Contribution in 1986-1990 is net of Health Care Fund and Cost of Living Stabilization Fund contributions.

⁴Investment income for 1986-1990 does not include amounts allocated to the Health Care Fund, Cost of Living Stabilization Fund and Common Operating Fund.

Schedule of Benefit Disbursements by Type*

(In Thousands of Dollars)

Year Ended	Retirement Benefits	Survivor Benefits	Refunds	Health Care	Total
12/31/81	\$ 101,108	\$ 4,134	\$32,794	\$ —	\$ 138,036
12/31/82	124,494	4,951	27,733	—	157,178
12/31/83	150,378	5,746	28,843	—	184,967
12/31/84	171,980	6,385	34,519	—	212,884
12/31/85	193,936	7,485	32,069	—	233,490
12/31/86	217,403	8,818	28,237	5,031	259,489
12/31/87	247,963	9,431	27,704	16,841	301,939
12/31/88	286,261	9,924	29,655	21,282	347,122
12/31/89	315,206	10,675	38,406	19,308	383,595
12/31/90	349,931	11,363	32,621	29,948	423,863

*Numbers are derived on accrual basis.

Membership and Benefit Recipient Statistics*

	State Division	School Division	Municipal Division	Judicial Division	Total
Active members - Dec. 31, 1990	<u>38,292</u>	<u>61,004</u>	<u>7,357</u>	<u>245</u>	<u>106,898</u>
Retirements during 1990:					
Disability retirements	175	137	31	1	344
Service retirements	635	1,083	72	4	1,794
Total	<u>810</u>	<u>1,220</u>	<u>103</u>	<u>5</u>	<u>2,138</u>
Retirement benefits:					
Total receiving retirement benefits on Dec. 31, 1989	14,362	15,545	1,485	154	31,546
Total retiring during 1990	810	1,220	103	5	2,138
Cobeneficiaries continuing after retiree's death ...	132	126	20	3	281
Returning to retirement rolls from suspension	19	24	1	0	44
Total	<u>15,323</u>	<u>16,915</u>	<u>1,609</u>	<u>162</u>	<u>34,009</u>
Retirees deceased during year	(493)	(474)	(51)	(7)	(1,025)
Retirees returning to work	(17)	(25)	(0)	(0)	(42)
Total receiving retirement benefits - Dec. 31, 1990	<u>14,813</u>	<u>16,416</u>	<u>1,558</u>	<u>155</u>	<u>32,942</u>
Total paid in retirement benefits in 1990	\$ 164,896,270	\$ 168,509,790	\$ 14,411,916	\$ 2,580,118	\$ 350,398,094
Average monthly benefit on Dec. 31, 1990	\$ 968	\$ 914	\$ 806	\$ 1,450	\$ 935
Average monthly benefit for members retired during 1990	\$ 1,204	\$ 1,223	\$ 956	\$ 1,929	\$ 1,205
Survivor benefit accounts:					
Total benefits being paid on Dec. 31, 1990	643	580	123	19	1,361
Total benefits paid in 1990	\$ 5,728,394	\$ 4,588,488	\$ 859,717	\$ 248,872	\$ 11,425,471
Deferred benefits:					
Deferred retirements to age 60 or 65	873	1,548	97	9	2,527
Total annual future benefits	\$ 6,900,000	\$ 9,600,000	\$ 800,000	\$ 75,000	\$ 17,375,000
Future survivor beneficiaries	31	38	5	0	74
Total annual future benefits	\$ 128,960	\$ 129,618	\$ 22,560	\$ 0	\$ 281,138

*Numbers are not actuarially derived. Rather, they are calculated on a cash/calendar year basis and include the Cost of Living Stabilization Fund and survivor benefits.

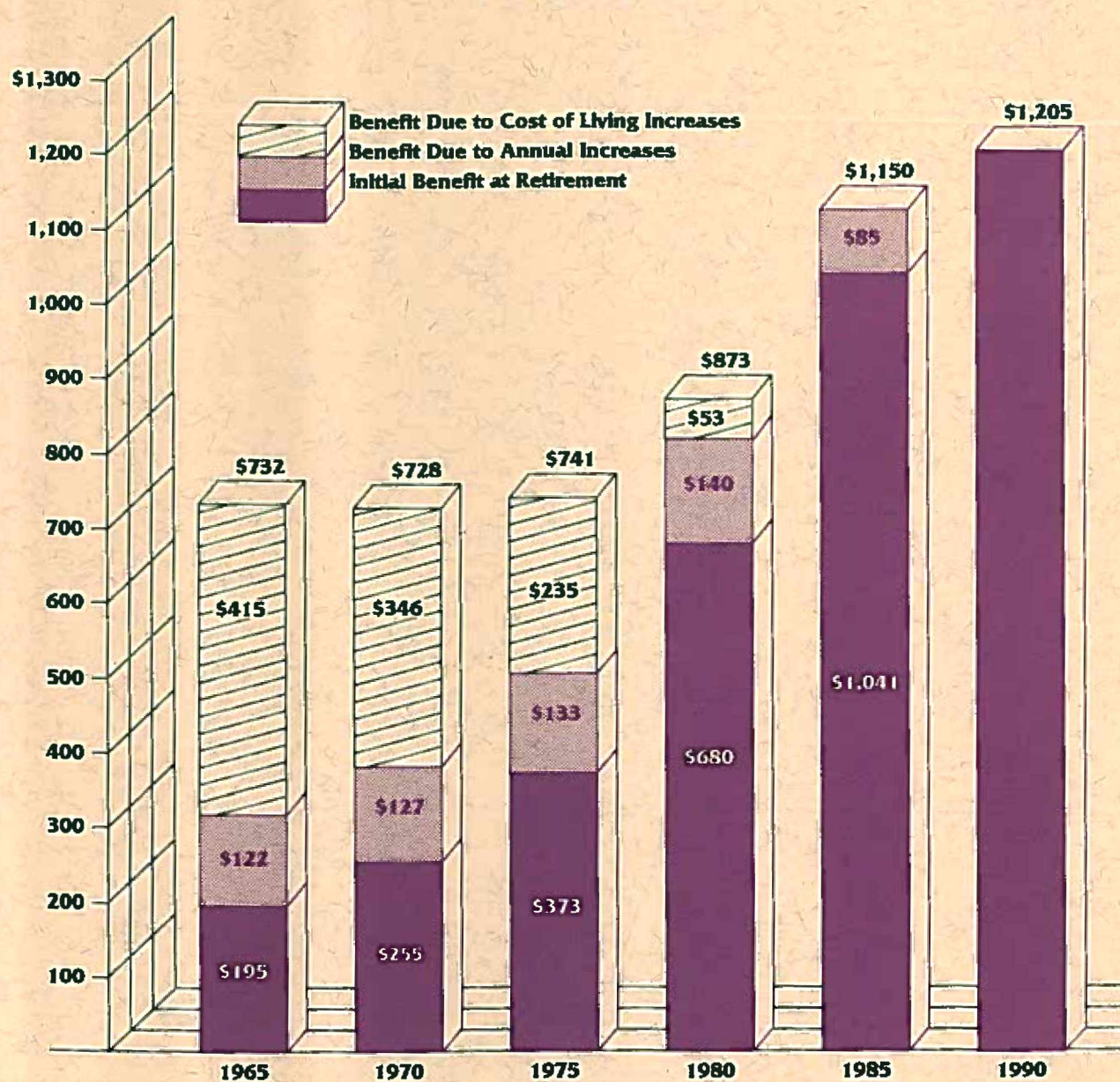
Schedule of Average Retirement Benefits Payable¹

Year Ended	Average Monthly Benefit	Average Age at Retirement	Average Current Age of Retirees	Average Years of Service at Retirement
December 31, 1981.....	\$457	62.7	70.2	16.4
December 31, 1982.....	570	62.5	70.0	16.7
December 31, 1983.....	596	62.3	70.0	17.0
December 31, 1984.....	648	62.1	70.0	17.2
December 31, 1985.....	676	61.8	70.1	17.4
December 31, 1986.....	727	61.6	70.1	17.5
December 31, 1987.....	778	61.4	69.7	17.8
December 31, 1988.....	828	61.7	69.8	18.0
December 31, 1989.....	864	61.1	70.0	18.2
December 31, 1990.....	935	60.9	70.0	18.3

¹Includes disability retirements, but not survivor benefits.

Average Monthly Benefit by Year of Retirement

December 31, 1990



Schedule of Participating Employers

STATE DIVISION

Agencies and Instrumentalities

Colorado Association of School Boards
 Colorado Compensation Insurance Authority
 Colorado Council on Arts and Humanities
 Colorado High School Activities Association
 Colorado Lottery
 Colorado State Fair
 Colorado State Hospital
 Colorado Student Loan Program
 Colorado Water Resources and
 Power Development Authority
 Department of Administration
 Department of Agriculture
 Department of Corrections
 Department of Education
 Department of Health
 Department of Highways
 Department of Institutions
 Department of Labor and Employment
 Department of Law
 Department of Local Affairs
 Department of Military Affairs
 Department of Natural Resources
 Department of Personnel
 Department of Public Safety
 Department of Regulatory Agencies
 Department of Revenue
 Department of Social Services
 Department of State
 Department of the Treasury
 Fire and Police Pension Association
 General Assembly
 Grand Junction Regional Center
 Joint Budget Committee
 Judicial Department
 Legislative Council
 Moffat Tunnel Commission
 Office of the District Attorneys
 Office of the Governor
 Office of Legislative Legal Services
 Office of the Lieutenant Governor
 Office of the Secretary of State
 Public Employees' Retirement Association
 Pueblo Regional Center
 Special District Association of Colorado
 State Auditor's Office
 State Historical Society
 Wheat Ridge Regional Center

Institutions of Higher Education

Adams State College
 Arapahoe Community College
 Auraria Higher Education Center
 Aurora Community College
 Colorado Advanced Technical Institute
 Colorado School of Mines
 Colorado State University
 Commission on Higher Education
 Denver Community College
 Fort Lewis College
 Front Range Community College
 Lamar Community College
 Mesa State College
 Metropolitan State College at Denver
 Morgan Community College
 Otero Junior College
 Pikes Peak Community College
 Pueblo Vocational Community College
 Red Rocks Community College
 School for the Deaf & Blind
 State Board for Community Colleges and
 Occupational Education
 The State Colleges in Colorado
 Trinidad State Junior College
 University of Colorado at Boulder
 University of Colorado at Colorado Springs
 University of Colorado at Denver
 University of Colorado Health Sciences Center
 University of Northern Colorado
 University of Southern Colorado
 Western State College

SCHOOL DIVISION**Adams County**

Adams County School District 14
 Bennett School District 29J
 Brighton School District 27J
 Mapleton School District 1
 Northglenn-Thornton School District 12
 Strasburg School District 31J
 Westminster School District 50

Alamosa County

Alamosa County School District Re-11J
 Sangre de Cristo School District Re-22J

Arapahoe County

Aurora School District 28J (Adams-Arapahoe)
 Byers School District 32J
 Cherry Creek School District 5
 Deer Trail School District 26J
 Englewood School District 1
 Littleton School District 6
 Sheridan School District 2

Archuleta County

Archuleta County School District 50 Jt

Baca County

Campo School District RE-6
 Pritchett School District RE-3
 Springfield School District RE-4
 Vilas School District RE-5
 Walsh School District RE-1

Bent County

Las Animas School District RE-1
 McClave School District RE-2

Boulder County

Boulder Valley School District RE2
 St. Vrain Valley School District RE1J

Chaffee County

Buena Vista School District R-31
 Salida School District R-32(J)

Cheyenne County

Cheyenne County School District Re-5
 Kit Carson School District R-1

Clear Creek County

Clear Creek School District RE-1

Conejos County

North Conejos School District RE1J
 Sanford School District 6J
 South Conejos School District RE 10

Costilla County

Centennial School District R-1
 Sierra Grande School District RE-1

Crowley County

Crowley County School District RE-1

Custer County

Custer County Consolidated School District C-1

Delta County

Delta County School District 50(J)

Dolores County

Dolores County School District Re No.1

Douglas County

Douglas County School District Re 1

Eagle County

Eagle County School District Re 50

Elbert County

Agate School District 300
 Big Sandy School District 100J
 Elbert School District 200
 Elizabeth School District C-1
 Kiowa School District C-2

El Paso County

Academy School District #20
 Calhan School District RJ1
 Cheyenne Mountain School District 12
 Colorado Springs School District 11
 Edison School District 54 Jt
 Ellicott School District 22
 Falcon School District 49
 Fountain School District 8
 Hanover School District 28
 Harrison School District 2
 Lewis-Palmer School District 38
 Manitou Springs School District 14
 Miami School District 60 Jt
 Peyton School District 23 Jt
 Widefield School District 3

Fremont County

Canon City School District Re-1
 Cotopaxi School District Re-3
 Florence School District Re-2

Garfield County

Garfield School District Re-2
 Garfield School District 16
 Roaring Fork School District Re-1

Gilpin County

Gilpin County School District Re-1

Grand County

East Grand School District 2
 West Grand School District 1

Gunnison County

Gunnison Watershed School District Re1]

Hinsdale County

Hinsdale County School District Re-1

Huerfano County

Huerfano School District Re-1

La Veta School District Re-2

Jackson County

North Park School District R-1

Jefferson County

Jefferson County School District R-1

Kiowa County

Eads School District Re-1

Plainview School District Re-2

Kit Carson County

Arriba-Flagler Consolidated School District No. 20

Bethune School District R-5

Burlington School District Re-6]

Hi-Plains School District R-23

Stratton School District R-4

Lake County

Lake County School District R-1

La Plata County

Bayfield School District 10]t-R

Durango School District 9-R

Ignacio School District 11]t

Larimer County

Park School District R-3

Poudre School District R-1

Thompson School District R-2]

Las Animas County

Aguilar Reorganized School District 6

Branson Reorganized School District 82

Hoehne Reorganized School District 3

Kim Reorganized School District 88

Primero Reorganized School District 2

Trinidad School District 1

Lincoln County

Genoa/Hugo School District C-113

Karval School District Re 23

Limon School District Re 4]

Logan County

Buffalo School District Re-4

Frenchman School District Re-3

Plateau School District Re-5

Valley School District Re-1

Mesa County

De Beque School District 49]t

Mesa County Valley School District 51

Plateau Valley School District 50

Mineral County

Creede Consolidated School District 1

Moffat County

Moffat County School District Re No. 1

Montezuma County

Dolores School District RE 4A

Mancos School District Re-6

Montezuma-Cortez School District Re 1

Montrose County

Montrose County School District Re-1]

West End School District Re-2

Morgan County

Brush School District Re-2 (])

Fort Morgan School District Re-3

Weldon Valley School District Re-20 (])

Wiggins School District Re-50 (])

Otero County

Cheraw School District 31

East Otero School District R1

Fowler School District R4]

Manzanola School District 3]

Rocky Ford School District R2

Swink School District 33

Ouray County

Ouray School District R-1

Ridgway School District R-2

Park County

Park County School District Re-2

Matte Canyon School District 1

Phillips County

Haxtun School District Re-2]

Holyoke School District Re-1]

Pitkin County

Aspen School District 1

Prowers County

Granada School District Re-1

Holly School District Re-3

Lamar School District Re-2

Wiley School District Re-13]t

Pueblo County

Pueblo City School District 60

Pueblo County School District 70

Rio Blanco County

Meeker School District RE 1
Rangely School District RE4

Rio Grande County

Del Norte School District C-7
Monte Vista School District C-8
Sargent School District Re-33J

Routt County

Hayden School District Re 1
South Routt School District Re 3
Steamboat Springs School District Re 2.

Saguache County

Center Consolidated School District 26 Jt
Moffat School District 2
Mountain Valley School District Re 1

San Juan County

Silverton School District 1

San Miguel County

Norwood School District R-2J
Telluride School District R-1

Sedgwick County

Julesburg School District Re 1
Platte Valley School District Re3

Summit County

Summit School District Re 1

Teller County

Cripple Creek-Victor School District Re-1
Woodland Park School District RE-2

Washington County

Akron School District R-1
Arickaree School District R-2
Lone Star School District 101
Otis School District R-3
WoodlIn School District R-104

Weld County

Ault-Highland School District Re-9
Briggsdale School District Re-10
Eaton School District Re-2
Fort Lupton School District Re-8
Gilcrest School District Re-1
Greeley School District 6
Johnstown School District Re-5J
Keenesburg School District Re-3
Pawnee School District Re-12
Platte Valley School District Re-7
Prairie School District Re-11
Windsor School District Re-4

Yuma County

East Yuma County School District R-J-2
West Yuma County School District R-J-1

Boards of Cooperative Educational Services (BOCES)

Adams County BOCES
Arkansas Valley BOCES
East Central BOCES
Northeast Colorado BOCES
Northern Colorado BOCES
South Central BOCES
South Platte Valley BOCES
Southeast Metropolitan BOCES
Southeastern BOCES
Weld BOCES

Boards of Cooperative Services (BOCS)

Deita-Montrose BOCS
Larimer County BOCS
Montezuma County BOCS
Mountain BOCS
Northwest Colorado BOCS
Pikes Peak BOCS
San Juan BOCS
San Luis Valley BOCS
Southwest BOCS

Vocational Schools

Boulder Valley Vocational Technical Center
Delta-Montrose Area Vocational School
Larimer County Vocational Technical Center
San Juan Basin Area Vocational School
San Luis Valley Area Vocational School

Local District Colleges

Alms Community College
Colorado Mountain College
Colorado Northwestern Community College
Northeastern Junior College

MUNICIPAL DIVISION

Alamosa Housing Authority
Aurora Housing Authority
Black Hawk-Central City Sanitation District
Blanca-Fort Garland Metropolitan District
Brush Housing Authority
Carbon Valley Park & Recreation District
Castle Pines Metropolitan District
Center Housing Authority
City of Alamosa
City of Arvada
City of Boulder
City of Colorado Springs
City of Fort Morgan
City of Lafayette
City of Lamar
City of Manitou Springs

City of Pueblo
 City of Wray
 City of Yuma
 Colorado Housing Finance Authority
 Colorado Springs Public Utilities
 Costilla Housing Authority
 Cunningham Fire Protection District¹
 East Larimer County Water District
 Eastern Rio Blanco Parks & Recreation Department
 Estes Park Public Library
 Fairmont Fire Protection District²
 Forest Lake Metropolitan District
 Fremont Sanitation District
 Garfield Sanitation District
 Lamar Housing Authority
 Left Hand Water District¹
 Longmont Housing Authority
 Longmont Rural Fire Protection District¹
 Meeker Regional Library District
 Memorial Hospital—Colorado Springs
 Mountain Village Metropolitan District
 No. Chaffee County Regional Library
 Northeast Colorado Health Department
 Parker Water & Sanitation District²
 Pueblo City-County Health Department
 Pueblo Regional Library
 Rio Blanco Western Recreation Parks
 Saguache Housing Authority
 San Miguel County Public Library
 Southwest Regional Library
 Steamboat Springs Rural Fire Protection District¹
 Town of Bayfield
 Town of Crawford
 Town of Dinosaur¹
 Town of Estes Park
 Town of Firestone
 Town of Parker²
 Town of Platteville
 Town of Seibert
 Tri-County Health Department
 Weld County Health Department
 Windsor-Severance Library District
 Yuma Housing Authority

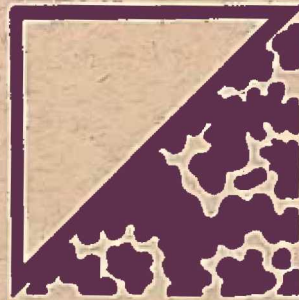
JUDICIAL DIVISION

1st-23rd District Court
 24th District-Denver Probate Court
 25th District-Denver Juvenile Court
 Adams County Court
 Alamosa County Court
 Arapahoe County Court
 Archuleta County Court
 Baca County Court
 Bent County Court
 Boulder County Court
 Chaffee County Court
 Cheyenne County Court
 Clear Creek County Court

Conejos County Court
 Costilla County Court
 Court of Appeals
 Crowley County Court
 Custer County Court
 Delta County Court
 Denver County Court
 Dolores County Court
 Douglas County Court
 Eagle County Court
 El Paso County Court
 Elbert County Court
 Fremont County Court
 Garfield County Court
 Gilpin County Court
 Grand County Court
 Gunnison County Court
 Hinsdale County Court
 Huerfano County Court
 Jackson County Court
 Jefferson County Court
 Kiowa County Court
 Kit Carson County Court
 La Plata County Court
 Lake County Court
 Larimer County Court
 Las Animas County Court
 Lincoln County Court
 Logan County Court
 Mineral County Court
 Moffat County Court
 Montezuma County Court
 Morgan County Court
 Otero County Court
 Ouray County Court
 Park County Court
 Phillips County Court
 Pitkin County Court
 Prowers County Court
 Pueblo County Court
 Rio Blanco County Court
 Rio Grande County Court
 Routt County Court
 Saguache County Court
 San Juan County Court
 San Miguel County Court
 Sedgwick County Court
 Summit County Court
 Supreme Court
 Teller County Court
 Washington County Court
 Weld County Court
 Yuma County Court

¹ Affiliated in 1990.
² Disaffiliated in 1990.
³ inactive affiliate.
⁴ Voted to disaffiliate in 1990.

OTHER PERA PROGRAMS SECTION*



*UNAUDITED

Health Care Program

The PERA Health Care Program began covering enrolled benefit recipients and qualified dependents on July 1, 1986. This benefit was developed after legislation in 1985 established the Program and the Health Care Fund.

The Health Care Fund receives employer contributions equal to 0.8 percent of member salaries from affiliated employers. This allocation is invested, and any earnings are added to the fund.

Under the Program, PERA subsidizes a portion of the monthly premium for health care coverage. The benefit recipient pays any remaining part of that premium through an automatic deduction from the monthly retirement benefit. In 1990, the maximum subsidy was increased from \$95 to \$115 per month for benefit recipients whose retirement benefits were based on at least 20 years of PERA service

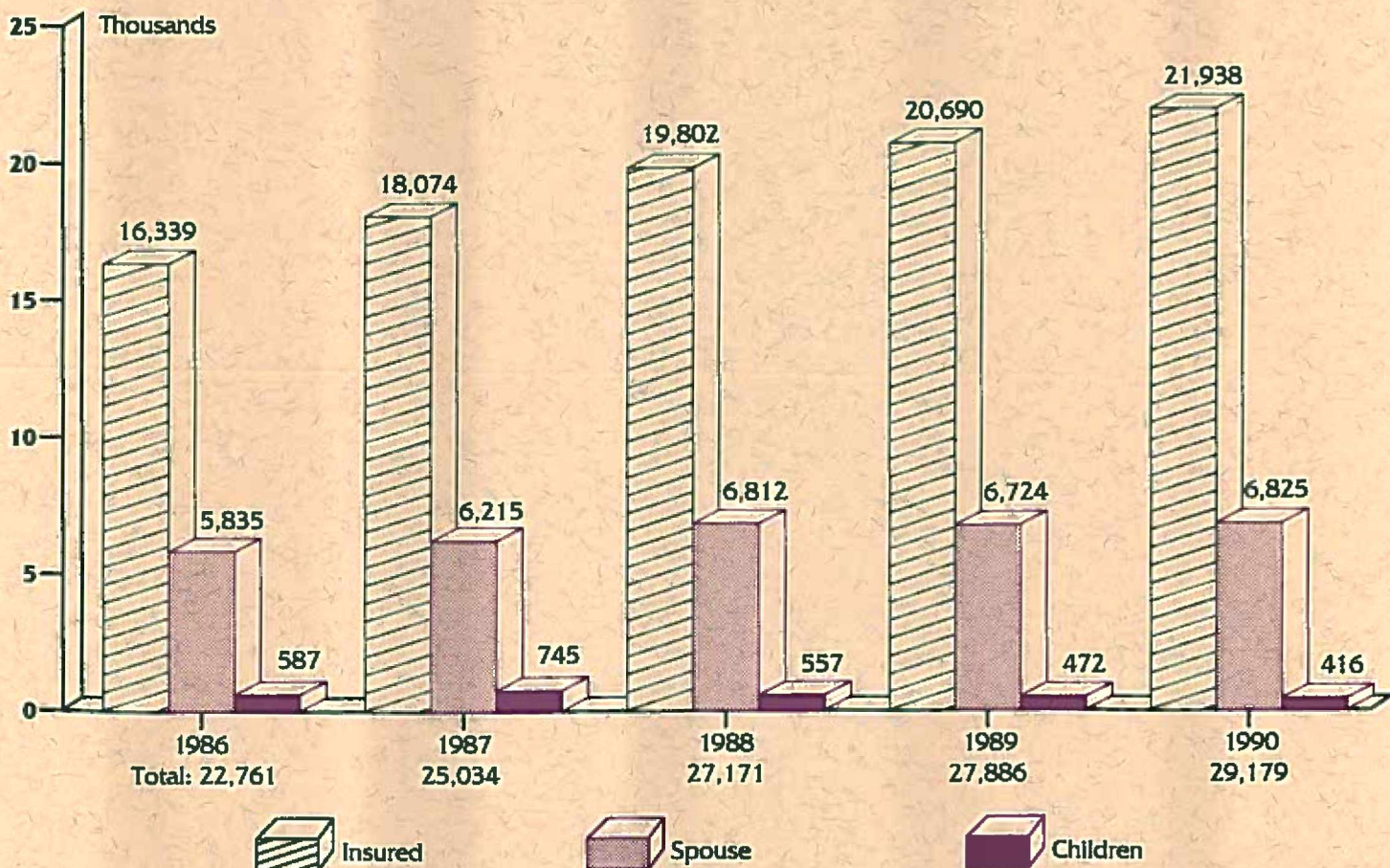
credit. For those with less service, the subsidy was reduced by 5 percent (\$5.75) for each year under 20 years.

Monthly premium costs for participants depend on the health care plan selected, the number of persons being covered, Medicare eligibility and the number of years of service credit.

Under the Program, PERA has contracted with a major medical indemnity carrier to administer claims for three self-insured programs, and with seven Health Maintenance Organizations providing services within Colorado.

The annual open enrollment for the Health Care Program was held between May 1 and June 30, 1990. During that period, PERA benefit recipients could join the Program for the first time, transfer from one carrier to another or add or delete eligible dependents.

Health Care Enrollments



Life Insurance Program

PERA provides its members with access to two group, decreasing-term life insurance plans — Rocky Mountain Life and Prudential, a plan offered by the National Conference on Public Employee Retirement Systems. In 1988, the Board voted to transfer the plan underwritten by the New York Life Insurance Company to Rocky Mountain Life.

Members may join one or both of the plans, and may continue coverage into retirement. During the annual open enrollment period,

members enrolling are not required to furnish evidence of good health for themselves or their dependents. Members may enroll outside the enrollment period, but must provide a health statement from a physician. Monthly premiums are paid by payroll deduction; the premiums are \$9 for Prudential and \$10 for Rocky Mountain Life.

PERA also administers a special Rocky Mountain Life plan for retired State employees. This group is closed with no provision for new participants.

Life Insurance Enrollment

Year	New York Life/ Rocky Mountain Life	Prudential	Rocky Mountain Life (Closed Group)	Total Enrollments
1981	17,729	11,472	—	29,201
1982	17,553	12,077	—	29,630
1983	18,242	12,298	—	30,540
1984	19,643	12,837	—	32,480
1985	21,296	13,635	—	34,931
1986	23,052	13,863	5,030	41,945
1987	24,394	14,113	4,800	43,307
1988	25,157	14,152	4,600	43,909
1989	33,241	14,306	4,462	52,009
1990	34,245	15,129	4,208	53,582

Life Insurance Dollars Paid

Year	New York Life/ Rocky Mountain Life	Prudential	Rocky Mountain Life (Closed Group)	Total Paid
1981	\$ 1,137,044	\$ 619,274	—	\$1,756,318
1982	1,388,697	528,458	—	1,917,155
1983	1,114,010	447,706	—	1,561,716
1984	1,484,583	872,860	—	2,357,443
1985	1,950,696	910,057	—	2,860,753
1986	1,670,531	802,016	\$119,000	2,591,547
1987	2,097,665	865,783	212,000	3,175,448
1988	1,121,670	711,309	297,000	2,129,979
1989	3,548,164	1,080,144	209,504	4,837,812
1990	4,766,110	951,121	302,809	6,020,041

Voluntary Investment Program

The PERA Voluntary Investment Program (VIP) was established on July 1, 1985, under Section 401(k) of the Internal Revenue Code. Program participation is voluntary, and contributions are entirely separate from those that members make to PERA each month.

VIP allows participants to defer income taxes by investing some of their current income for retirement. Earnings on VIP investments are also tax-deferred.

In 1990, members were able to invest up to 18 percent of their annual gross salary, to a maximum of \$7,979 in the Program. Contributions are deducted from the participant's monthly salary.

VIP offers members a choice of three funds in which they may invest. They are a Short-Term Fund, a Fixed Income (bond) Fund and a Growth Stock (equity) Fund. Each quarter, members may change their contribution amount, transfer their account balance between funds and change the contribution percentage designated to each fund.

The Program also has loan and hardship withdrawal provisions.

On December 31, 1990, VIP had accumulated assets of \$19,242,631 and 2,594 accounts.

Year	Assets	Number of Accounts
1985 (July-Dec.)	\$ 203,272	236
1986	1,750,673	902
1987	4,292,351	1,322
1988	7,975,075	1,596
1989	13,359,939	2,103
1990	19,242,631	2,594

VIP Fund Performance

	Jan-Mar 1990	Apr-Jun 1990	July-Sept 1990	Oct-Dec 1990	Calendar Year 1990	Calendar Year 1989	Since Inception (7-1-85)
Short Term.....	2.2%	2.2%	2.2%	2.2%	9.0%	9.3%	59.7%
Fixed Income.....	0.4%	2.9%	1.9%	5.4%	11.0%	10.1%	83.6%
Growth Stock.....	-2.7%	7.0%	-10.5%	3.1%	-4.0%	32.0%	85.1%

Note: The "time weighted" or actual return a participant may have realized may be less or more, depending on when the member began investing in a particular fund and/or the amount of investments the member had in a respective fund during each calendar quarter. A "time-weighted" rate of return measures each quarter's earnings based on \$1 invested in each fund for the period specified. The rate of return is quoted prior to the administrative charge.

