

Iowa Public Employees' Retirement System

report to the

Joint Public Retirement Systems Committee

October 14, 2003

Donna M. Mueller, CEO

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IPERS – Who Are We

- A multi-employer, multi-governmental level, defined benefit pension plan created in 1953 to supplement Social Security for public workers' retirements
- The largest of four public pension plans in Iowa
- Contributory System

Mission Statement

To provide cost-effective and sufficient core retirement benefits and services exclusively to members and beneficiaries for their care in retirement, to reduce personnel turnover and to attract competent men and women to public service in the State of Iowa.



Governance - Chapter 97B

- CEO appointed by the Governor, with confirmation by the Senate
- Investment Board oversees Investment Policy, Investment related contracts and Actuarial contracts
- Comprised of 11 members, 7 voting and 4 non-voting
 - 6 voting members appointed by Governor
 - 3 who are members of the System
 - 3 public members with institutional investment or financial experience
 - Treasurer of State, also a voting member
 - 4 non-voting members: 2 Representatives, 2 Senators



Governance

(cont.)

- Benefits Advisory Committee
 - Comprised of representatives of constituent groups concerned with the system
 - Representatives of employers, active members, and retired members
 - Consider and make recommendations to IPERS and General Assembly

See Appendix for membership

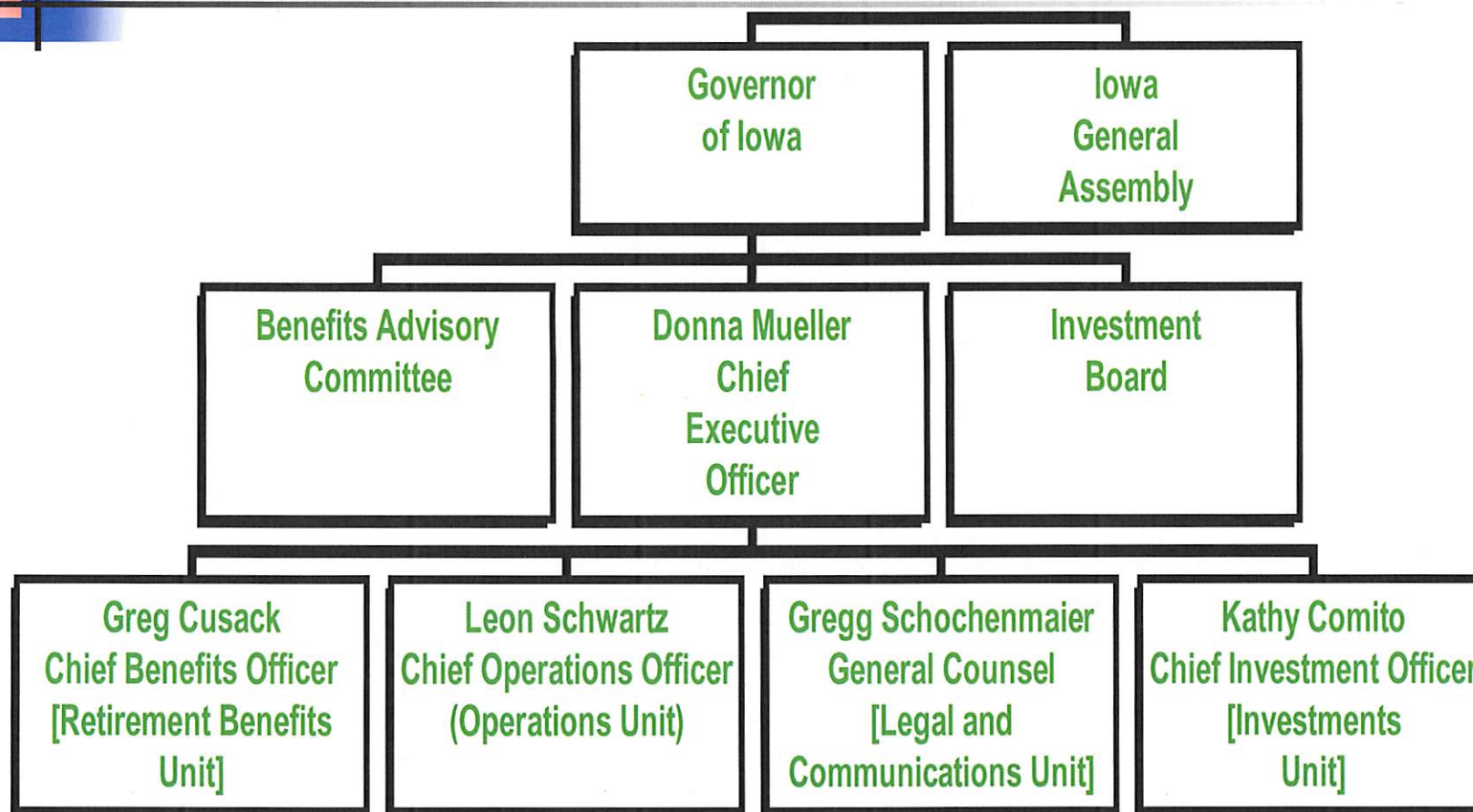


Legislative Partnership

- Partnership with Legislature on plan design, strategic planning, and administrative costs
 - Appropriations process “oks” transfers from IPERS’ Trust Fund for non-investment related administrative expenses
 - State Government Committees, through their pension interim committees, regularly review and adjust IPERS’ plan design, benefit enhancements and (only once before) its contribution rates required of members and participating employers
- Plan Sponsor is Iowa Legislature and Governor as the creators of the Plan
- Plan Administrator is the professional staff at IPERS



Table of Organization

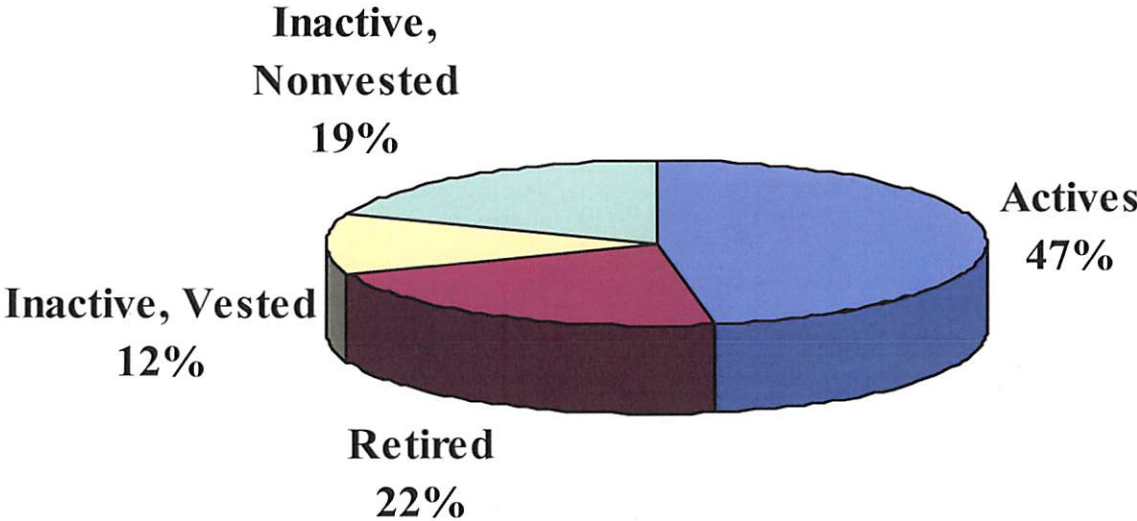


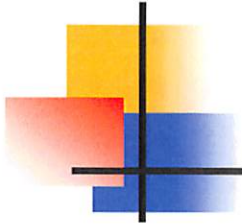


Who Are Our Members

- Most public employees in Iowa
 - exceptions: judges, highway patrol and members of the department of public safety, police and fire personnel in cities over 8,000 population, and those at our universities and community colleges who elect coverage under TIAA-CREF

IPERS Total Membership: 337,897 Persons



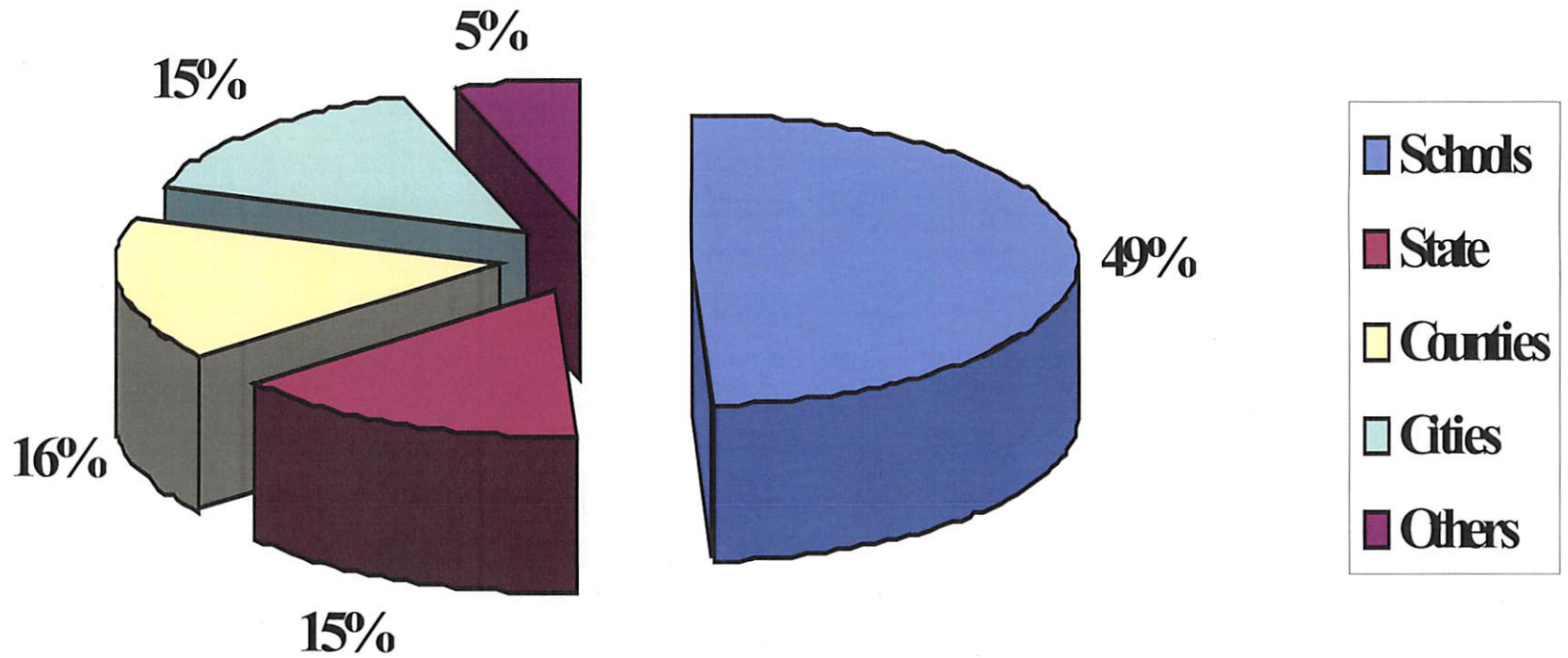


- 2,400 participating employers
 - Covering the state, counties, cities, schools and others (i.e. water districts and agencies)

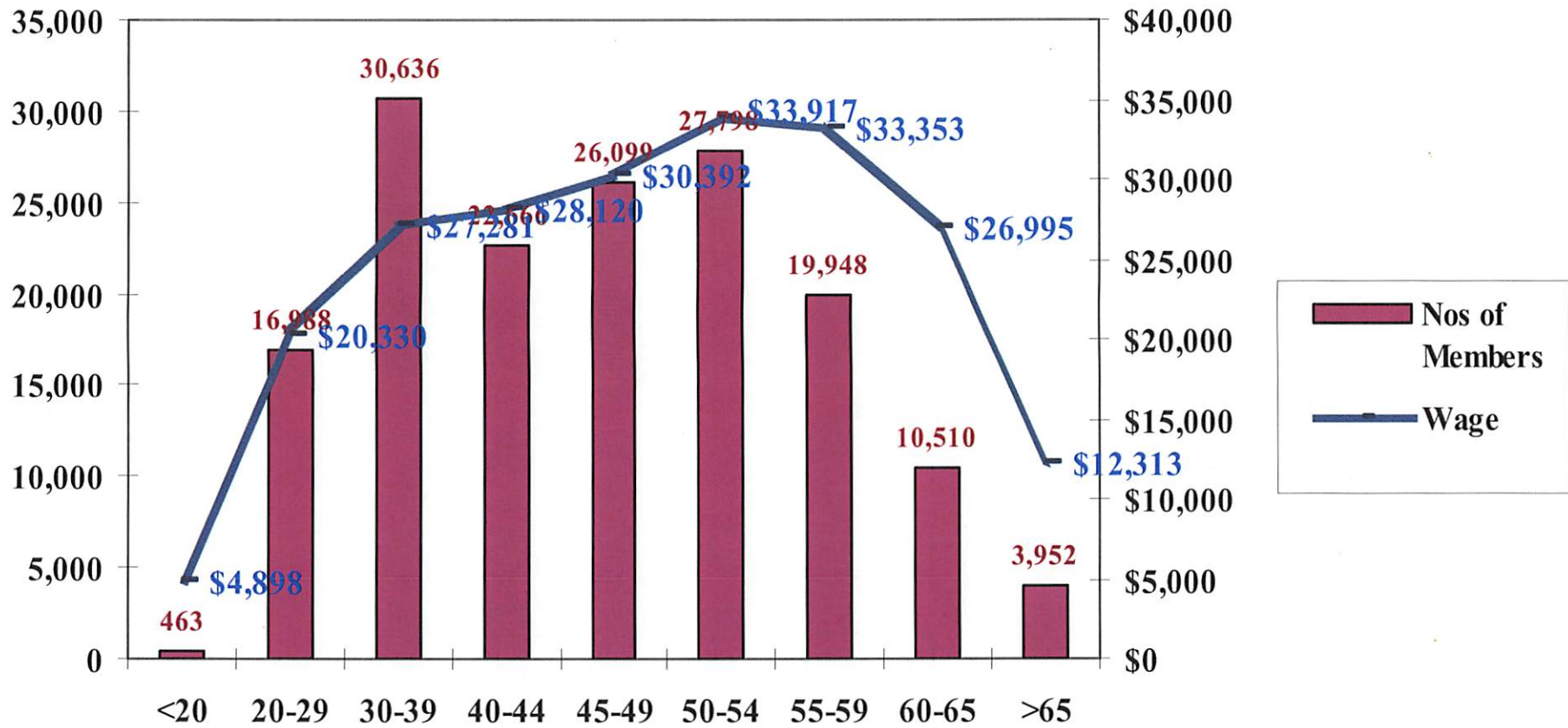
- Employees of school districts and community colleges represent just under 50% of the active population

Active Members by Major Employer Groups

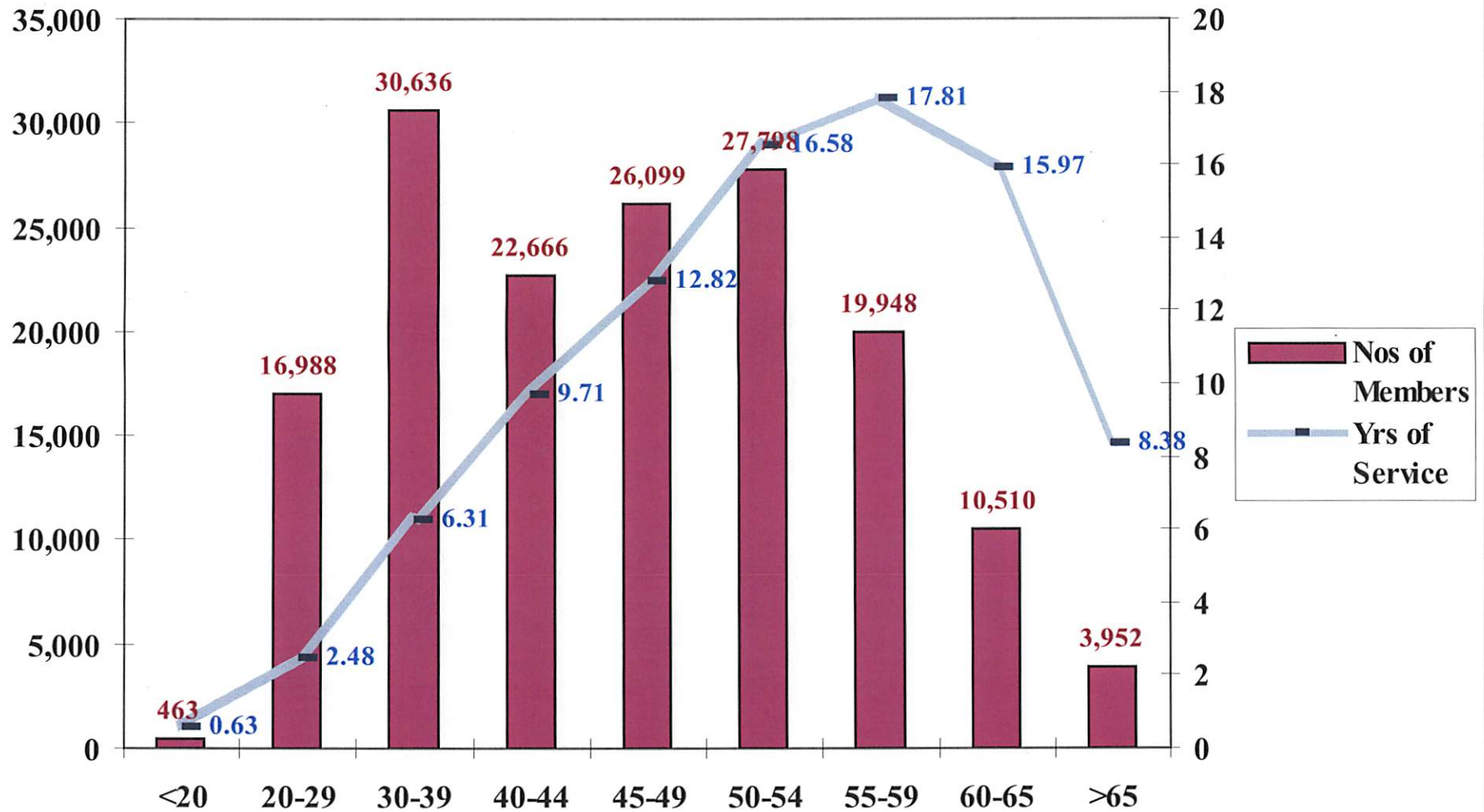
159,253 Persons



Average Wages of Members by Age



Average Years of Service of Active Members, by Age

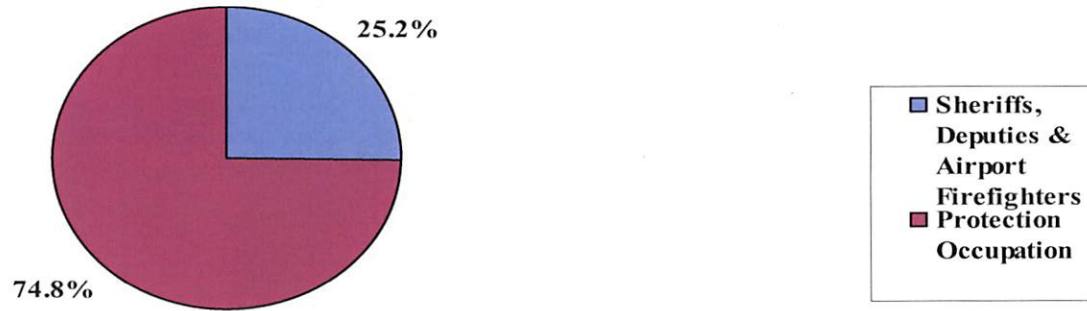




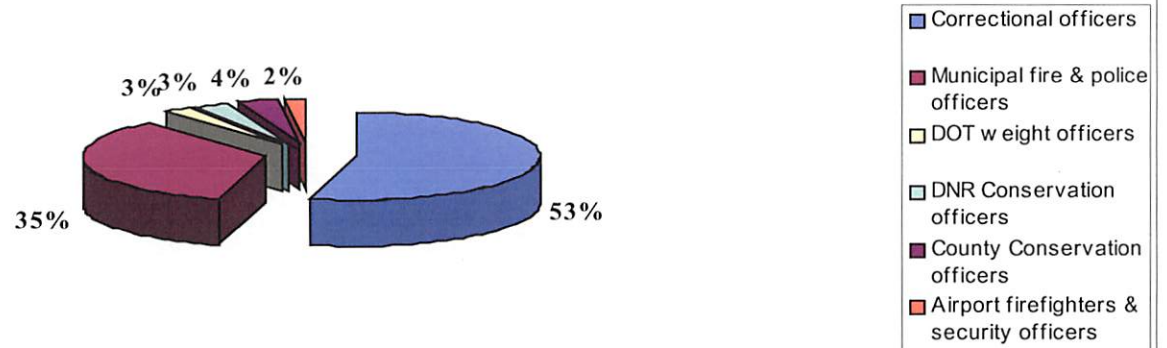
Protective Service Group

- 3.5% of the active membership
- Actuarial contribution rates adjusted annually
- Benefit formula similar to 411 and PORS systems

Protective Service Groups - 5,868 Members



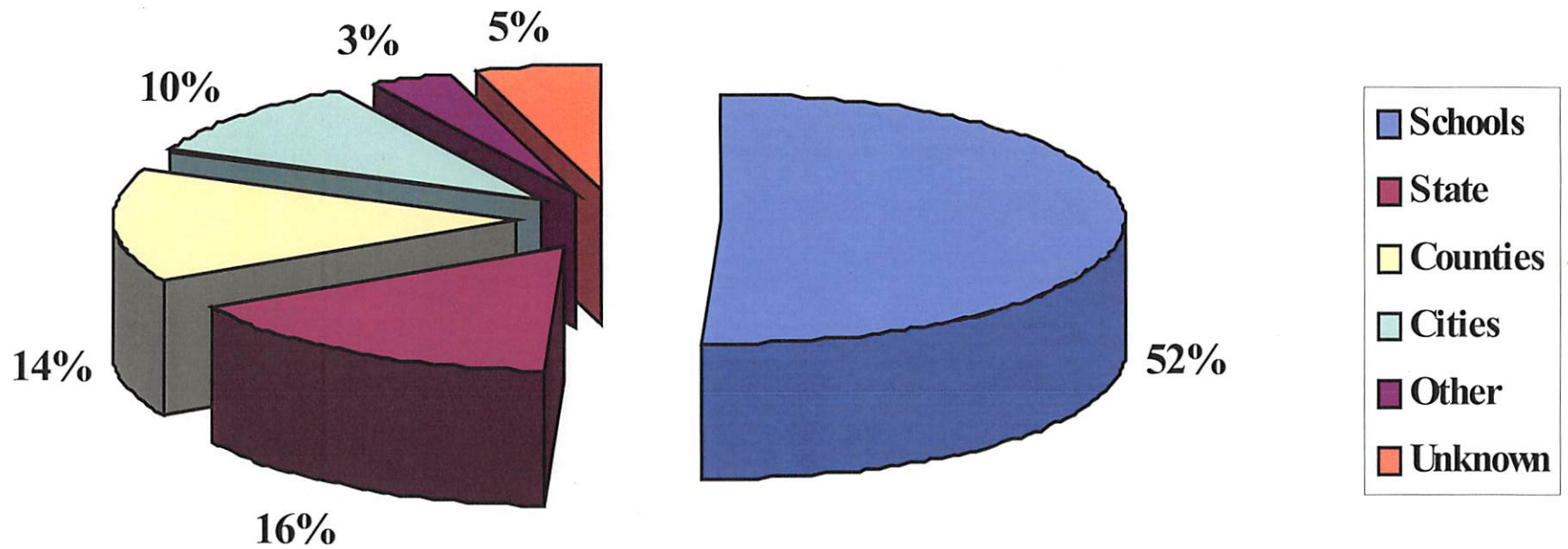
Protection Occupation Groups



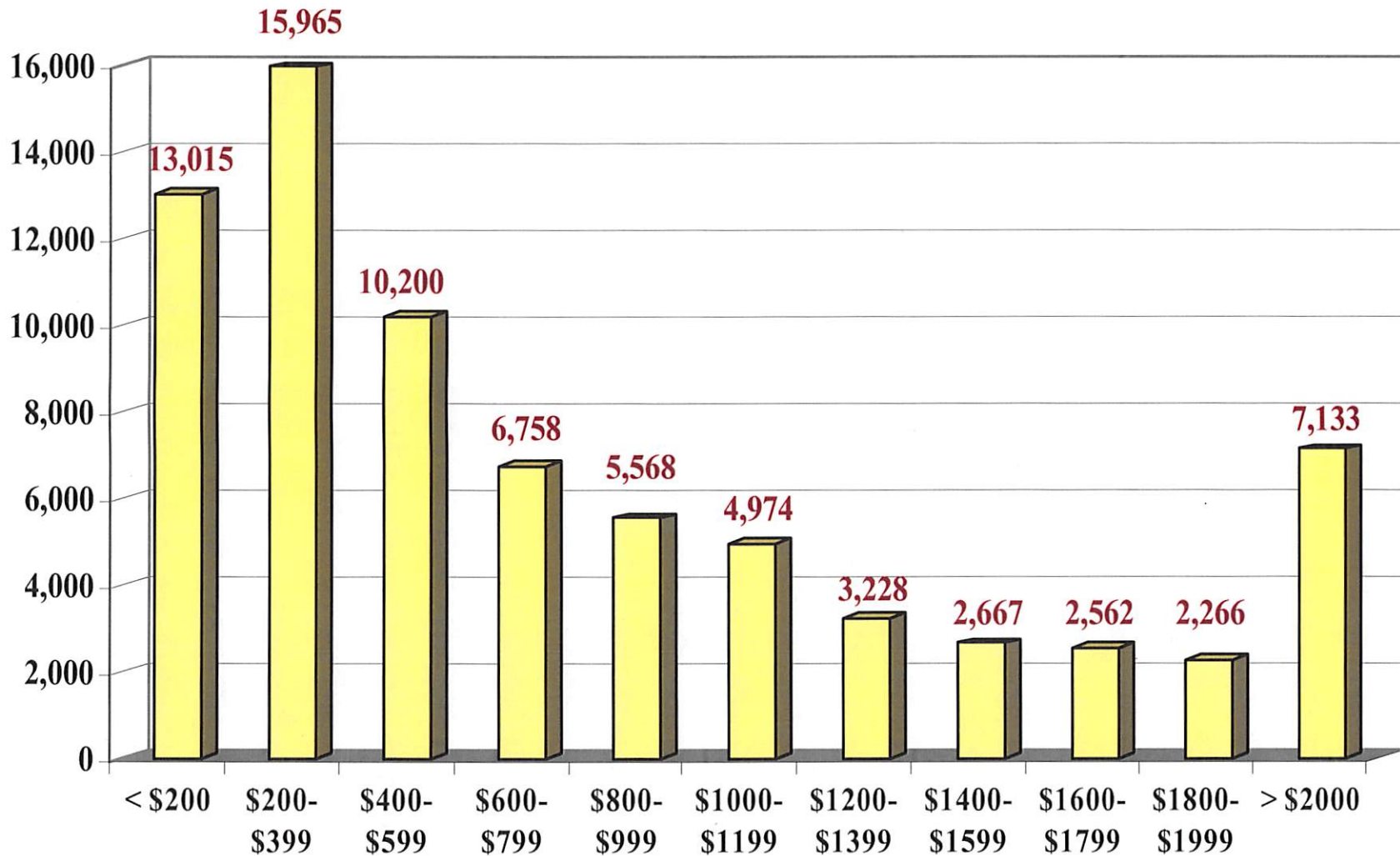
Retiree Demographics

All Retirees by Employer Group

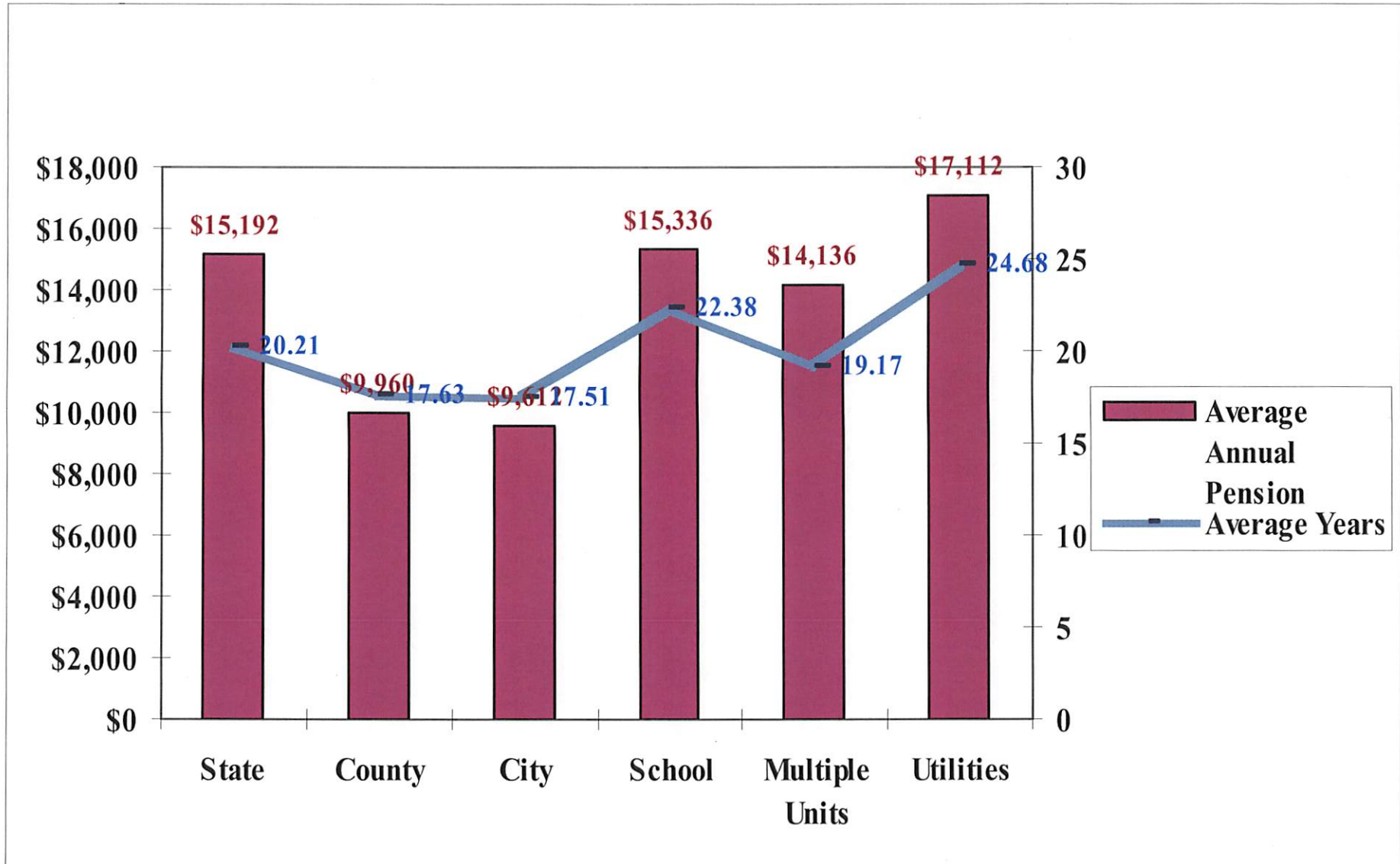
74,336 Persons



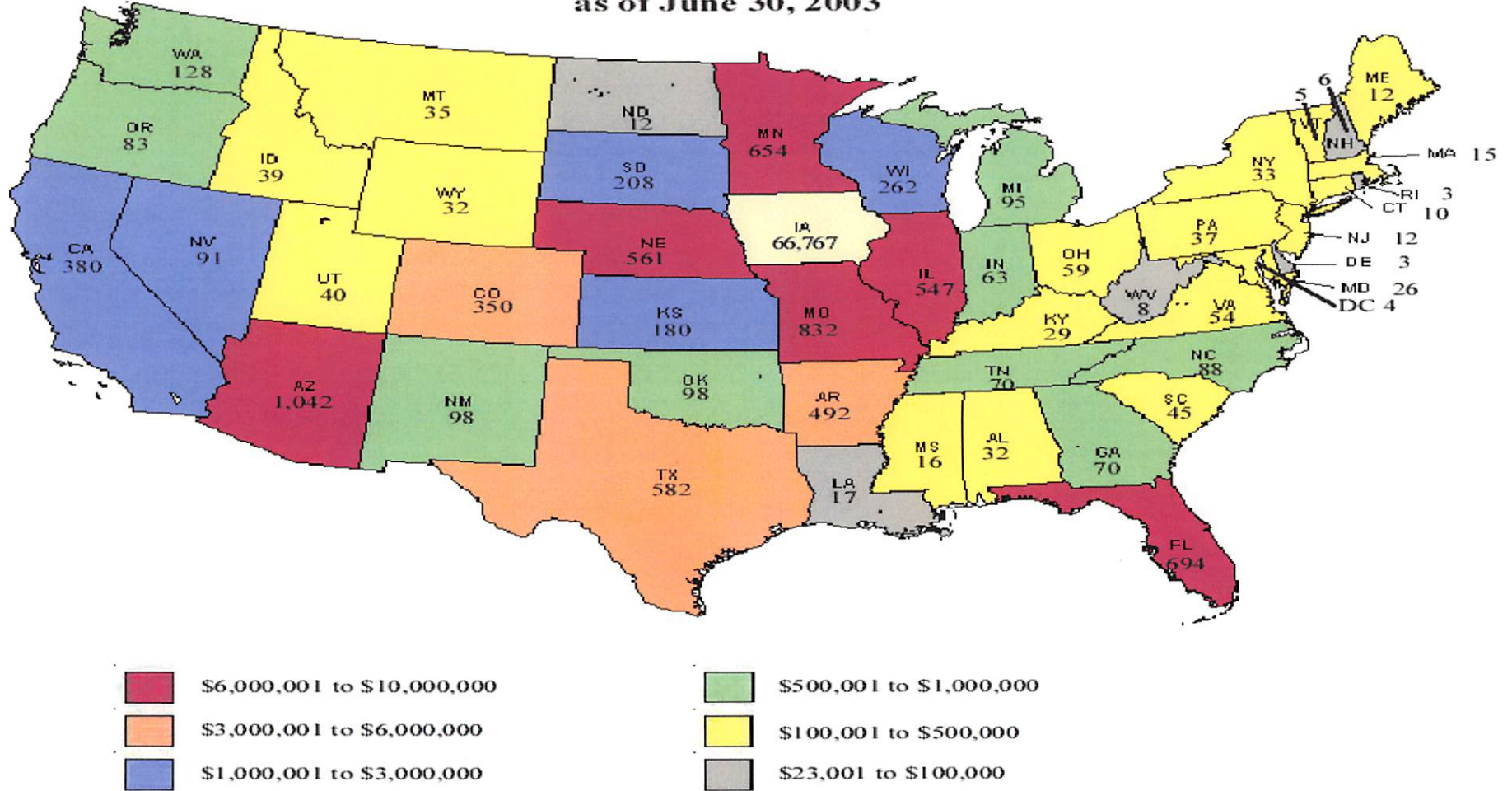
All Retirees by Monthly Benefit Distribution



FY 2003 Retirees by Annual Pension & Years of Service

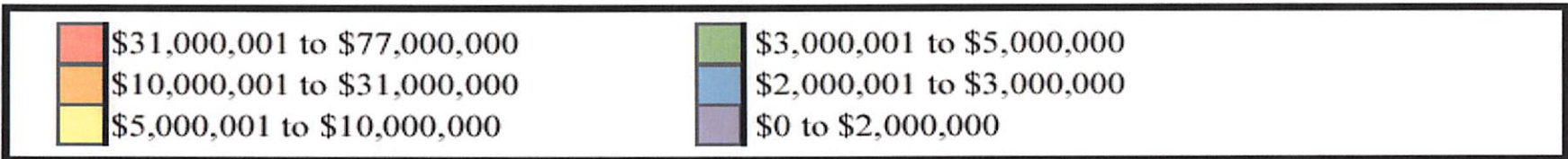
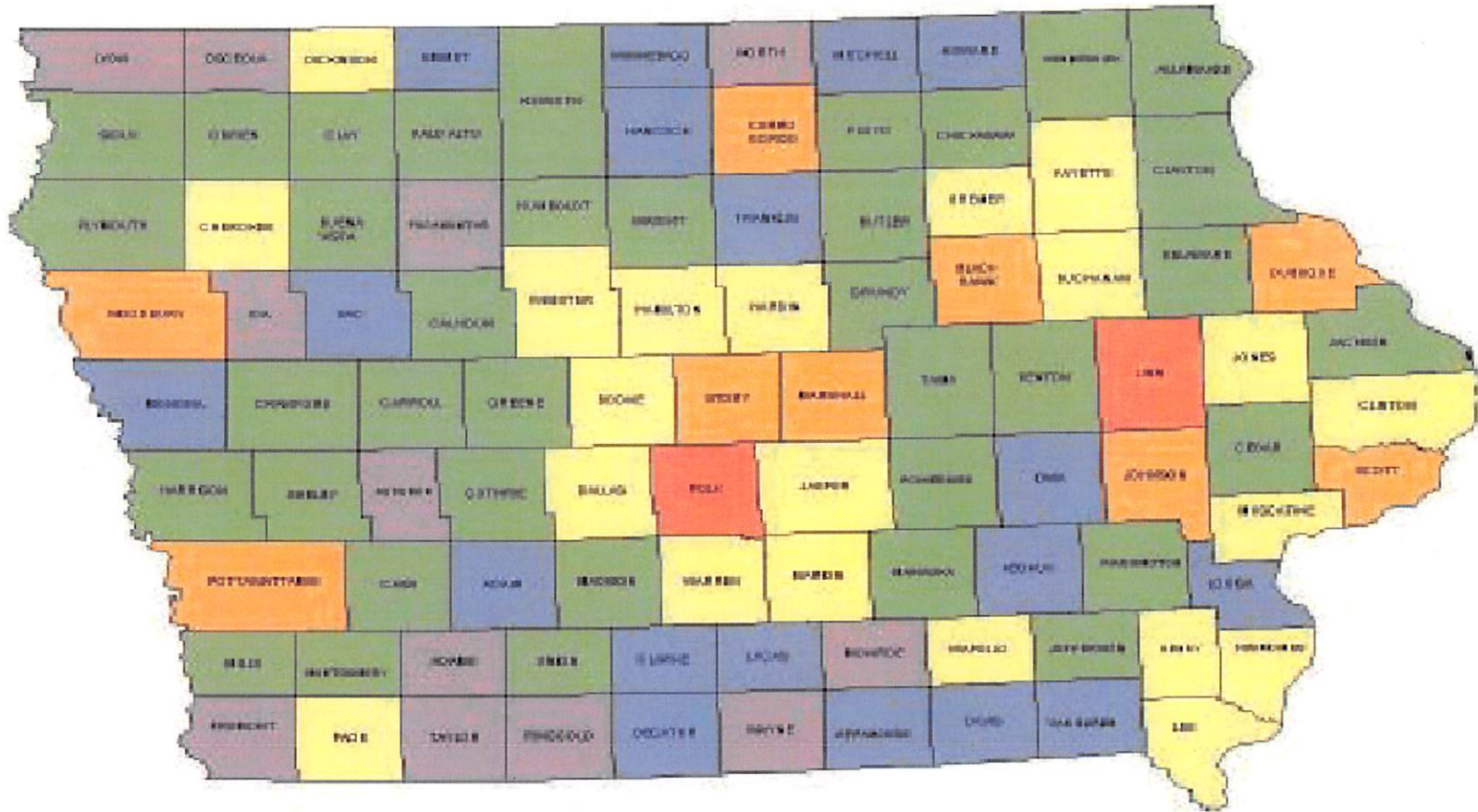


**Distribution of IPERS Benefit Payments Outside of Iowa
as of June 30, 2003**



89% paid to Iowa residents

IPERS Benefit Payments in Iowa Counties as of June 30, 2003



Payments by County Listing in Appendix



Essential Services Provided

- Invests and safeguards almost \$16 billion in assets for members' retirement, death and/or termination (refund) of benefits
- Paid a total of \$767.5 million out in total benefits (pensions, death benefits and refunds) in FY 2003
- Collected almost \$472 million in contributions from employees and participating employers in FY 2003



FY 2003 Services

- 74,000 retirement estimates prepared
- 1,666 death benefits processed
- 6,850 refunds paid
- 1,404 purchases of IPERS' service processed



Benchmarking Services

- Wilshire Associates assists IPERS' with assessing its investment performance compared to the pension fund universe
- Cost Effectiveness Measurement, Inc. assists with benchmarking member services and administrative costs as well as plan design



Investment Peer Group Rankings

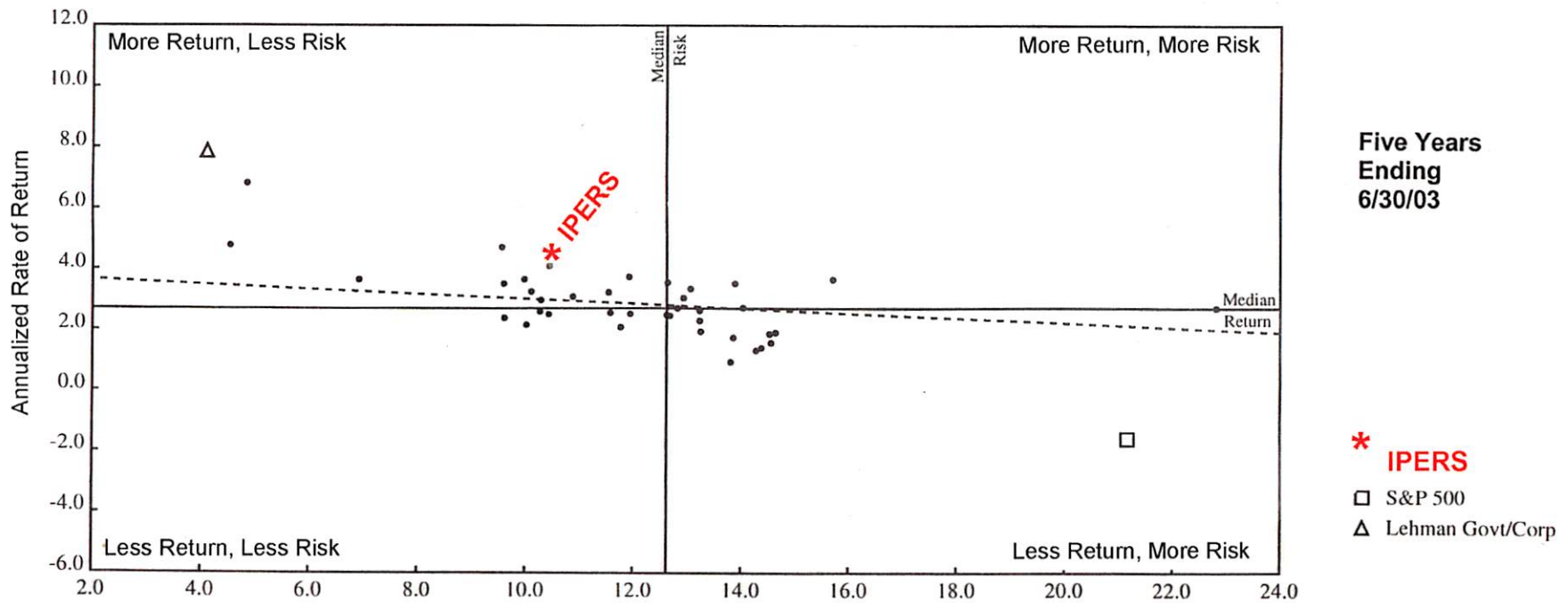
Investment Peer Group Rankings

IPERS' investment performance consistently ranks in the top quartile of large U.S. public pension funds¹.

IPERS' Investment Return Percentile Rank (1 st Percentile = Highest Return)		
One Year	Five Years	Ten Years
15th	8th	11th

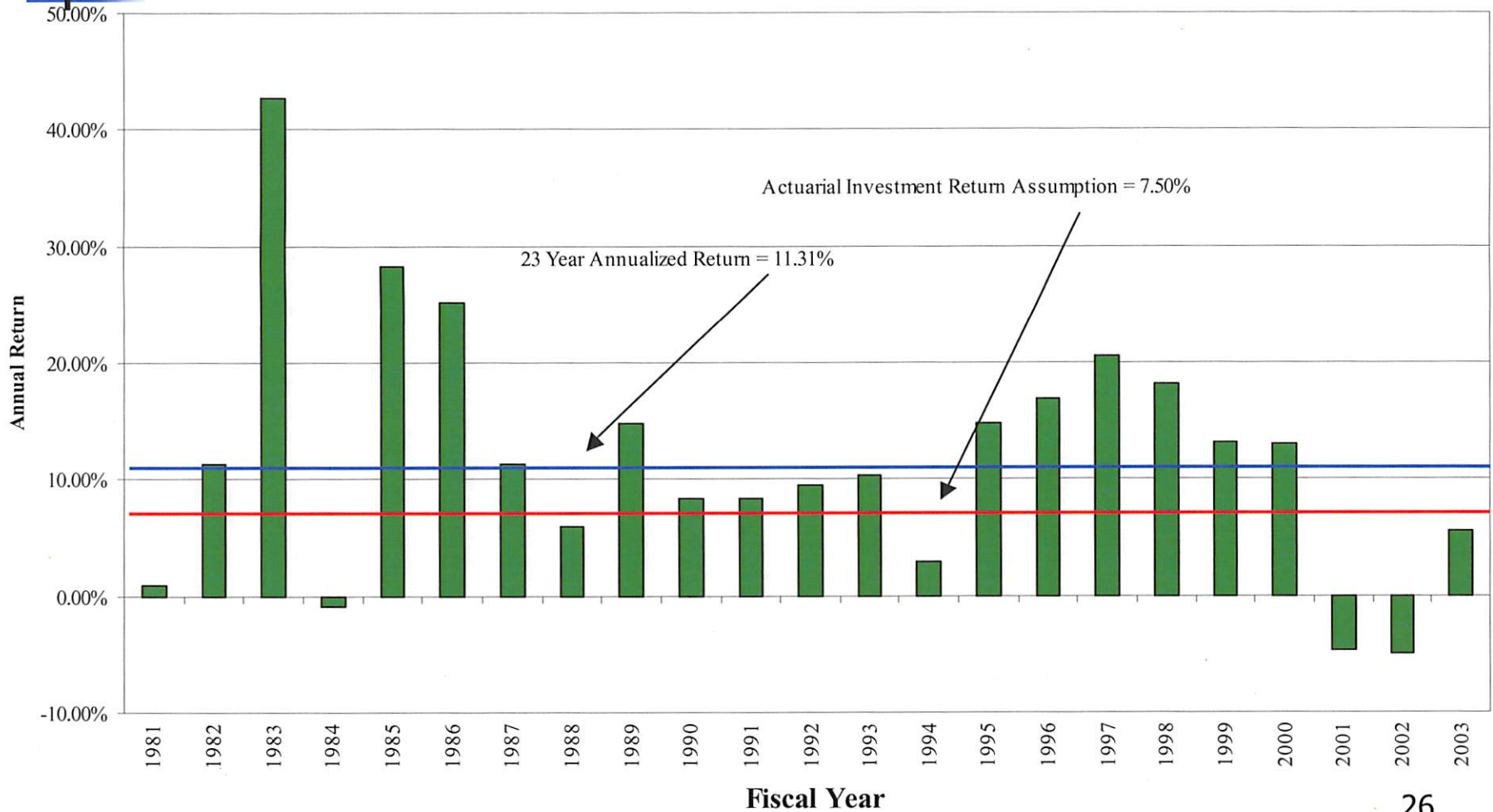
FY03 Return = 5.59%

Diversified Portfolio with less risk than Peers



¹Trust Universe Comparison Service's Universe of Public Funds Larger than \$1 Billion in assets.

IPERS Fiscal Year Investment Returns (1981 – 2003)



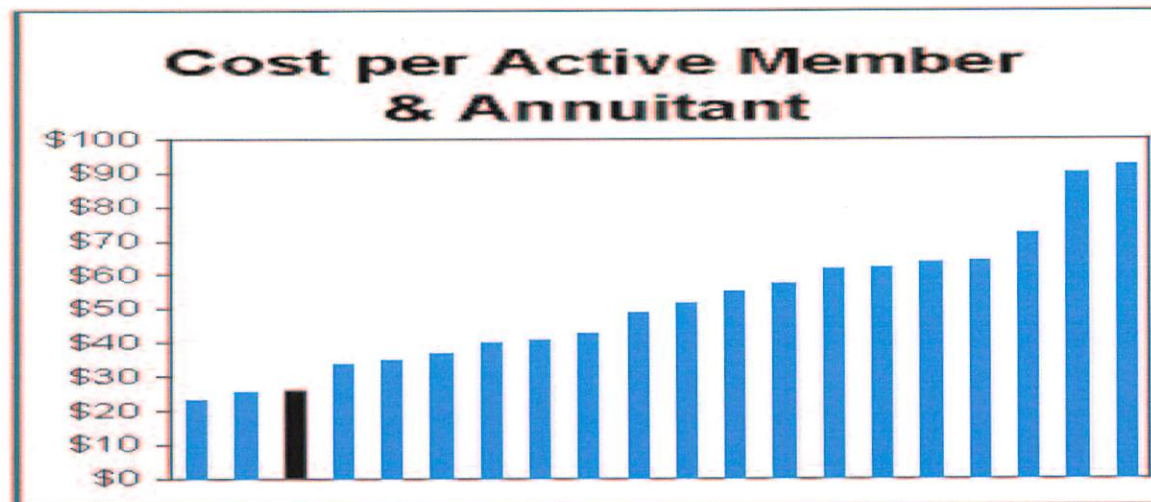


Cost Effectiveness Measurement (CEM)

- CEM completed first Benefit Administration Benchmarking Analysis of IPERS in 2003
- Analysis included 20 US public plans closest to IPERS in size and composition
- Found that relative complexity of the plan was equal to the peer group median

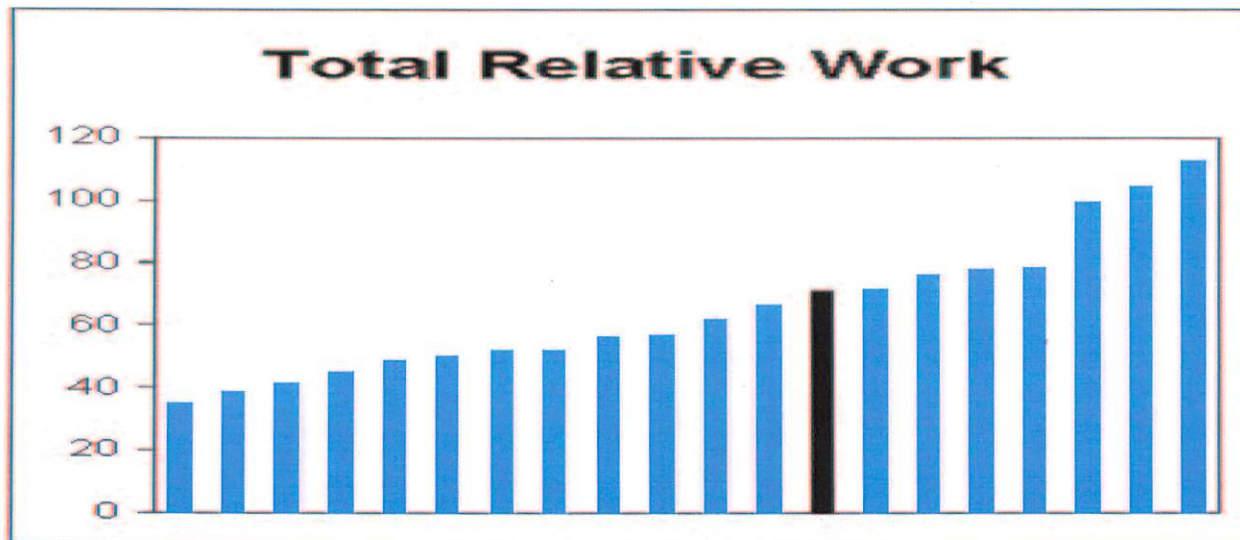
Cost Effectiveness Measurement (cont.)

- IPERS total cost of \$26 per active member and annuitant is third lowest of the peers (peer median cost is \$50)



Cost Effectiveness Measurement (cont.)

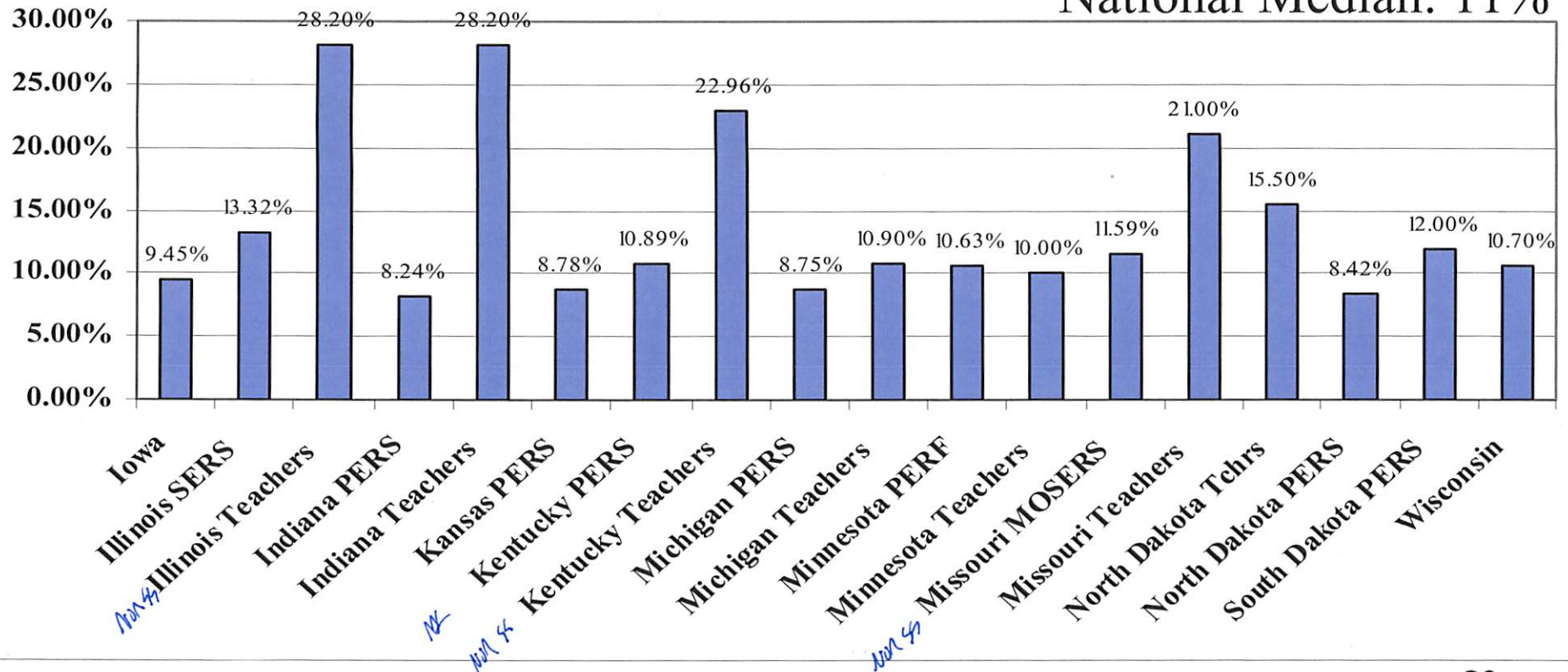
- IPERS Total Relative Work per active member and annuitant is above peer median



Plan Design Comparison (Public Fund Survey, 121 funds)

Contribution Rates: Iowa & Neighboring States: FY 2002

National Median: 11%





Plan Design Elements

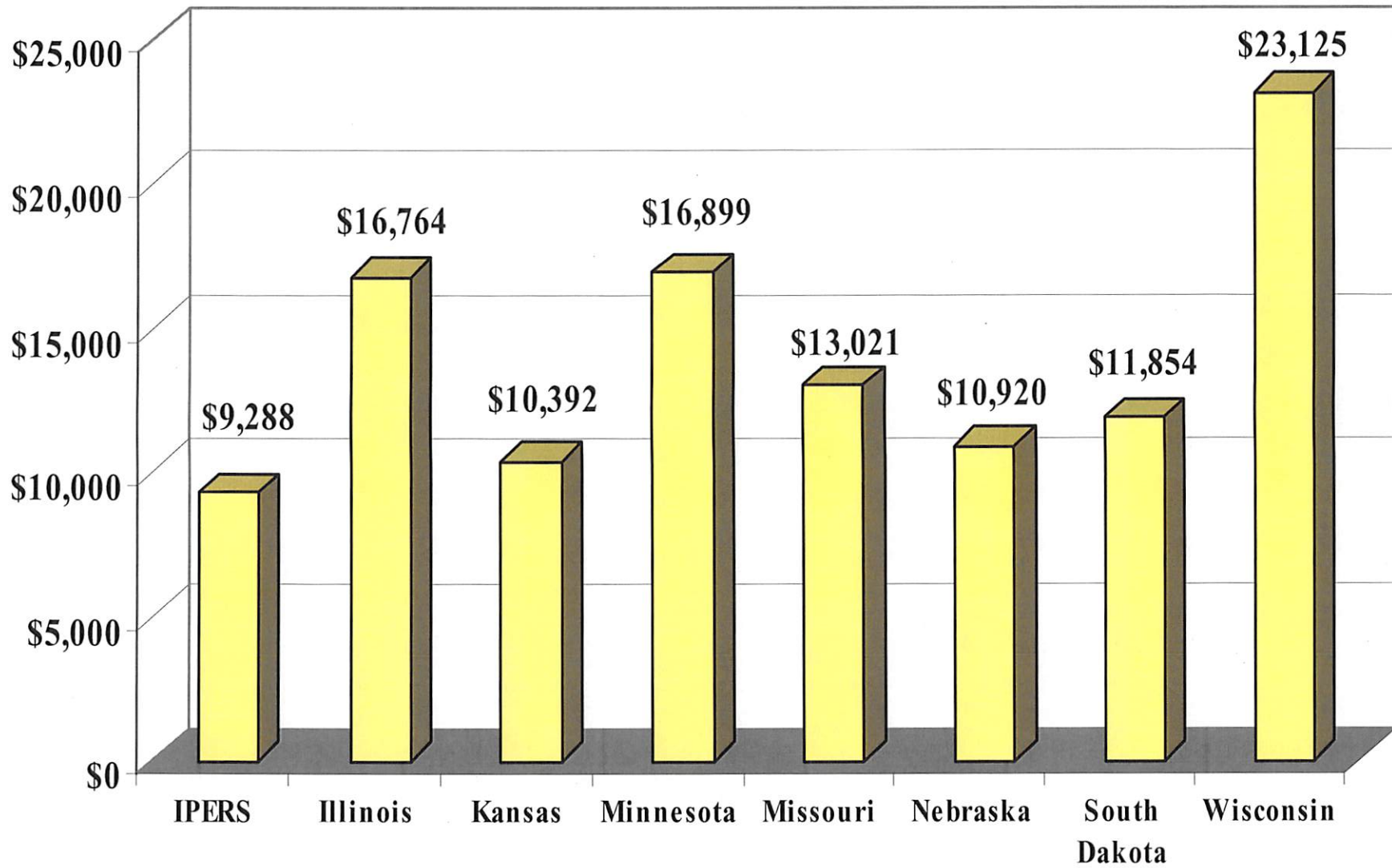
- Years to Vest: IPERS 4 years; Nationwide average: 5.78
- Average of Wage Years Used in Benefit Formula: IPERS 3; Nationwide average: 3.37
- Benefit Formula: % Value of Each Year of Service: IPERS (using 35 years) 1.86%; Nationwide average: 1.86%
- Cap on Years of Service Beyond Which No Further Accrual Value is Allowed: IPERS: 35 years; Nationwide Standard: NONE! (Only 3 systems other than Iowa have such a limitation.)



Plan Design (cont.)

- Normal Retirement Age: IPERS: 65; Nationwide average: 62.05
- Early Retirement Provisions: IPERS: 62/20 and Rule of 88; Nationwide Standard: 38 systems have NO minimum early retirement age; rather they use various "rules" stipulating that when "X" years of service have been served the member may leave at any time. Rules of 60/10, 62/20, 88 and 85 are not uncommon

Average Annual Pension, IPERS Compared to Neighboring State Systems





Funding Status

- FY 2002 annual actuarial valuation reported a funding ratio of 92.6%
- Average public fund funding ratio nationally for FY 2002 was 91-93%
- FY 2002 valuation warned of IPERS' growing unfunded liability
- Within the context of current statutory contribution rate, IPERS' amortization "schedule" of the unfunded liability increased from 21 years to 39 years to infinite over the past 3 valuations
- Milliman USA, Inc. retained to study issue and options to return IPERS to actuarial balance



The Actuarial Valuation

- A set of projections and measurements to determine whether the plan is “on track” to becoming fully-funded over a specific time period, given a set of benefit provisions, plan members, and current plan assets
 - Based on a single “best estimate” scenario of how the future will unfold over the long term
 - Designed to produce stable pattern of funding

The Actuarial Valuation and the Year's Funding Cost

Present value of total projected benefits	Present value of future normal costs	Present value of future normal costs	Normal cost	Actuarial funding cost for the year
	Actuarial accrued liability	Unfunded accrued liability	Amortization	
		Value of assets		



Valuation Timing

- June 30 Valuation Date
- Timeline
 - Member data by September 1
 - Financial data by September 30
 - Results by mid November
- June 30, 2002 most recent valuation



Key Actuarial Measures at 6/30/02

- Actuarial Value of Assets: \$15.613B
- Market Value of Assets: \$14.388B
- Deferred Investment Loss: \$1.225B



Key Actuarial Measures at 6/30/02

- Actuarial Liability: \$16.869B
- AVA: \$15.613B
- Unfunded AL: \$1.255B
- Funded Ratio: 93%

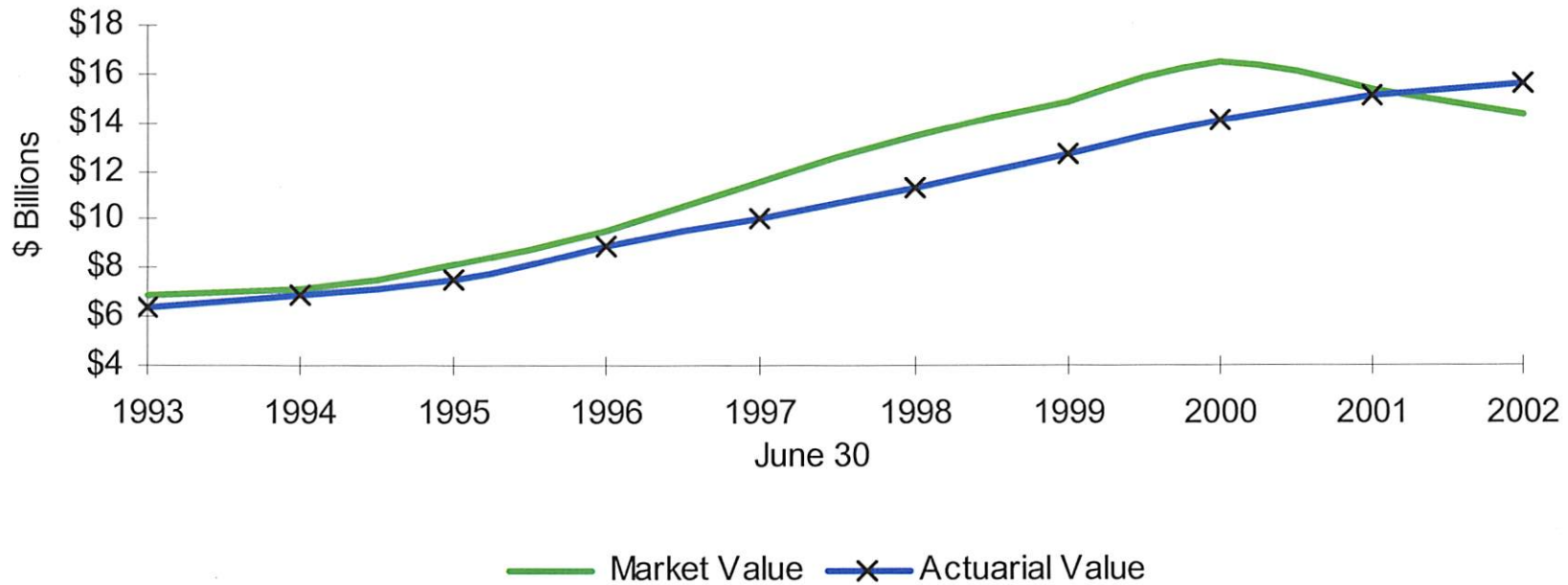


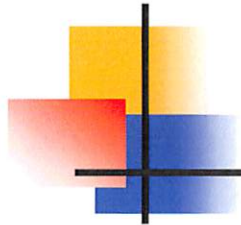
Key Actuarial Measures at 6/30/02

- Current statutory rate: 9.45%
- Normal cost rate: 9.03%
- UAL Payment: 0.42%
- Years to Amortize UAL=infinite

Historical Perspective

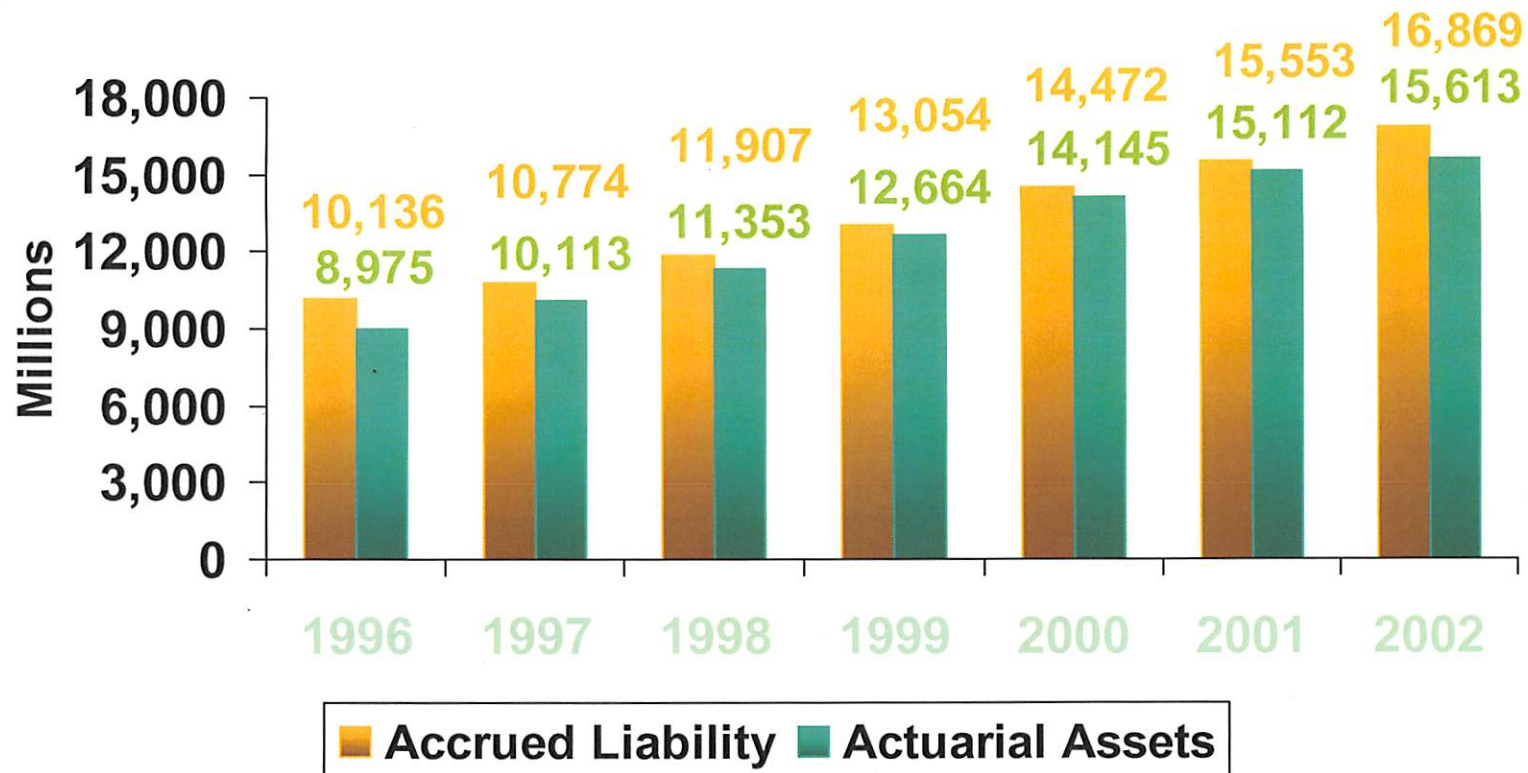
System Net Assets

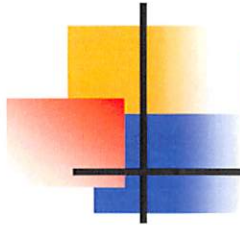




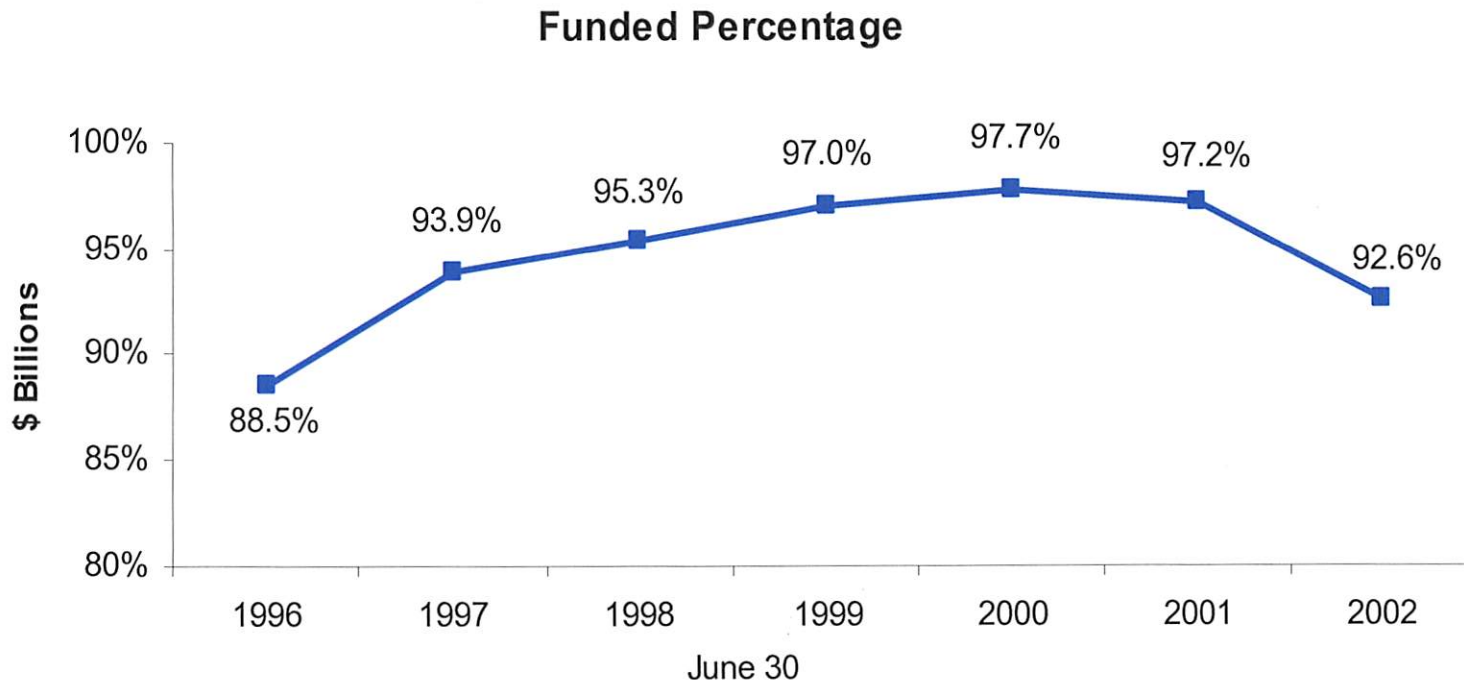
Historical Perspective

Actuarial Liability and Assets



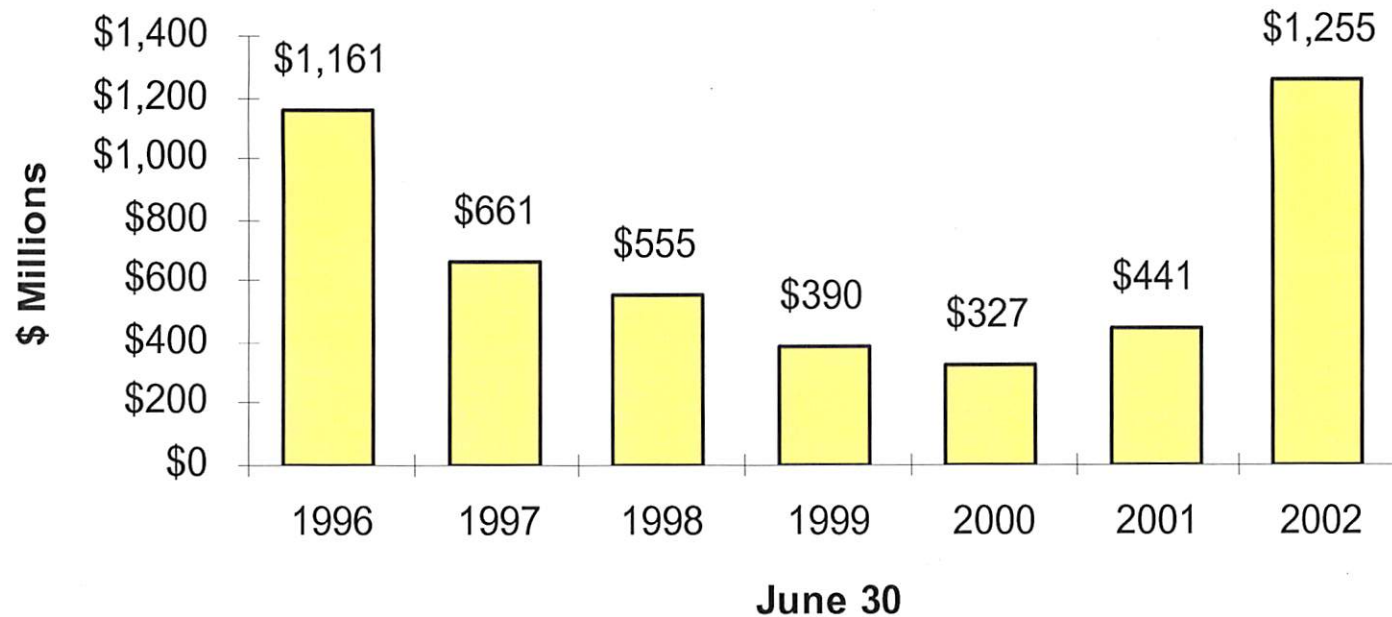


Historical Perspective



Historical Perspective

Unfunded Actuarial Liability

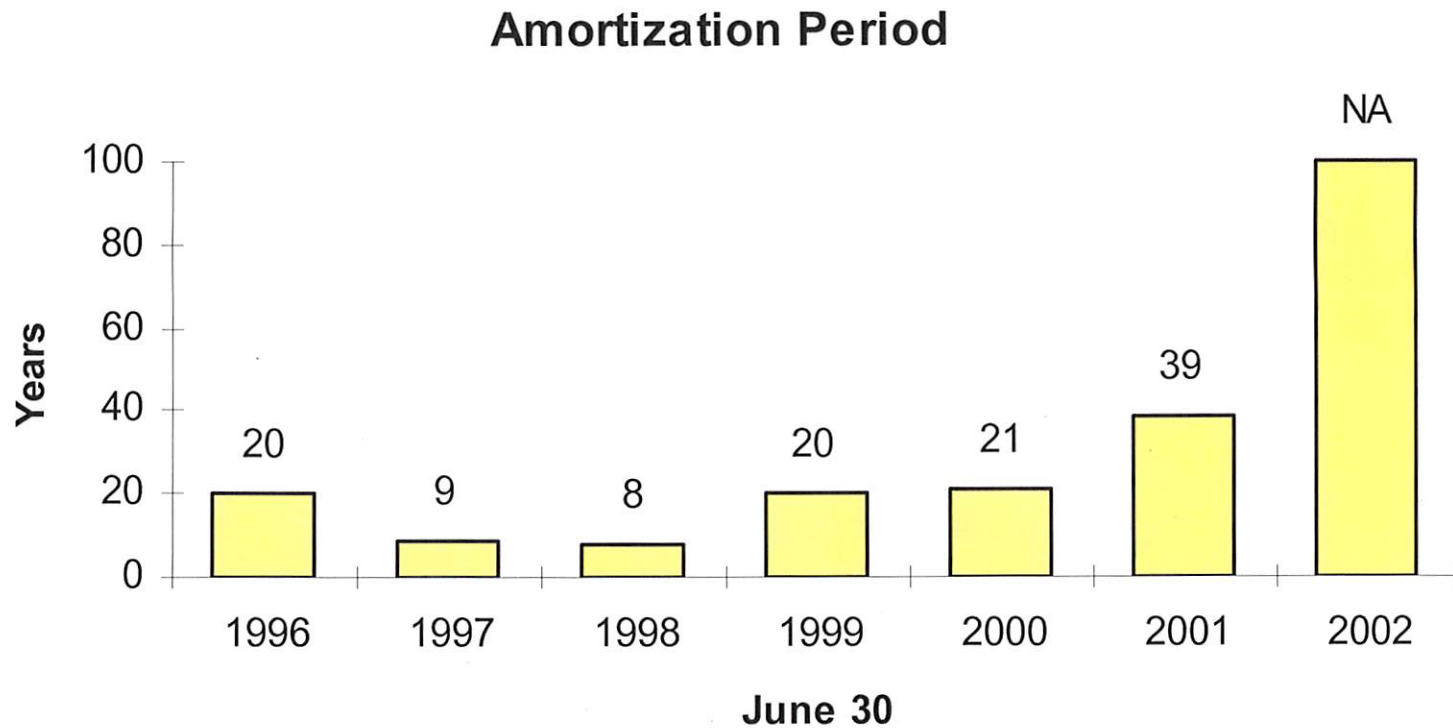




Changes in UAL

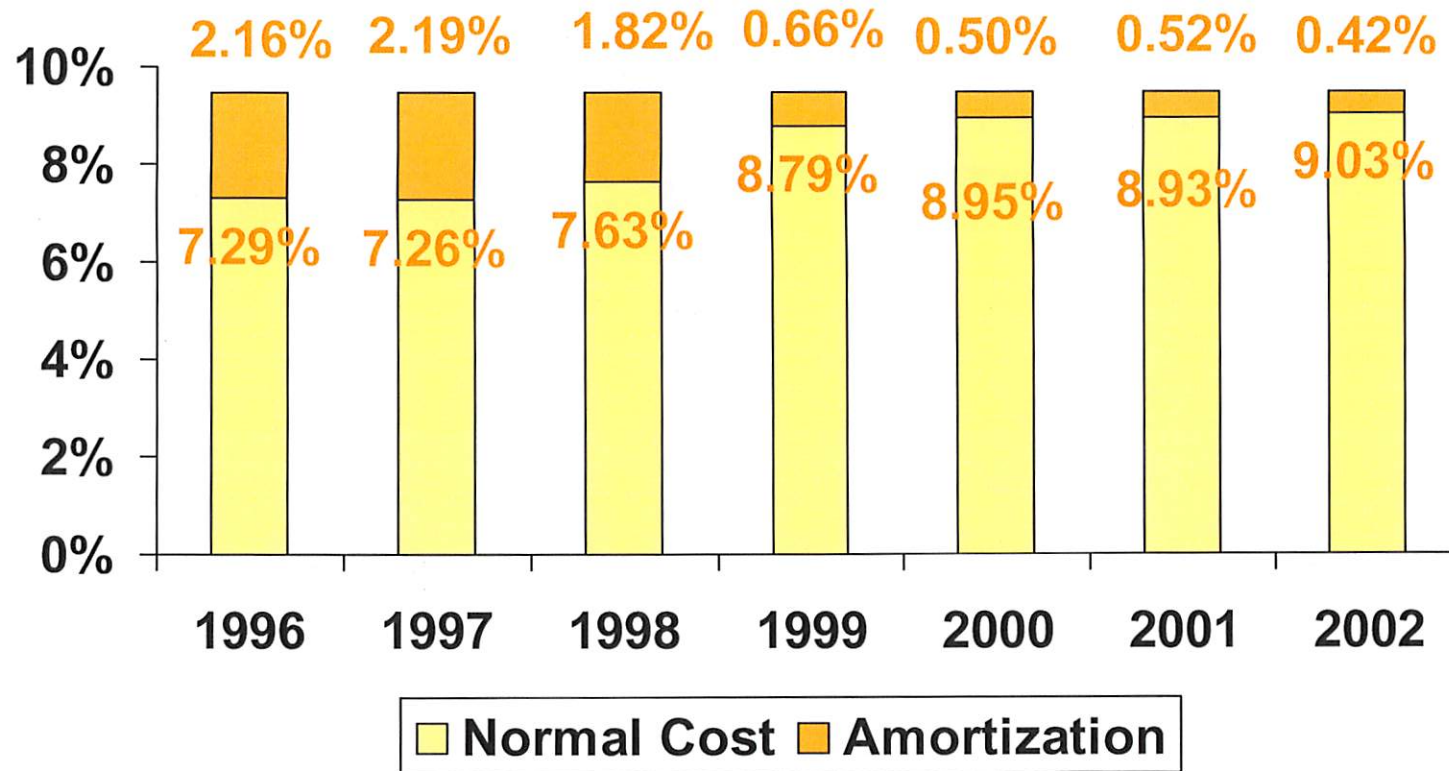
- Decline from FY1996 to 2001 due to investment experience above 7.5% assumption
- Increases since FY2001 due to investment experience below 7.5% assumption
- Other factors increasing UAL include changes in assumptions, demographic experience and benefit enhancements

Historical Perspective



Historical Perspective

Normal Cost and Amortization Rates





Increase in Normal Cost Rate

- Factors accounting for the increase in normal cost rate:
 - Changes in assumptions reflecting changes in the membership (mortality improvements, retirement patterns, etc.)
 - Increase in the average entry age of new members
 - Increases in benefits



Summary of Pertinent Data Showing Source Of Normal Cost Rate Increase

Year	Normal Cost Rate	Experience Study Results Leading to Assumption Changes	Benefit Improvements	Unknown
1996	7.29%			
1997	7.26%			-.03
1998	7.63%		.37	
1999	8.79%	1.16		
2000	8.95%		.16	
2001	8.93%			-.02
2002	9.03%	.10		

The experience study of 1999 discovered some significant trends in IPERS' demographics – most importantly, that retired members are, and are expected to, live longer than originally estimated. This increased liabilities and the normal cost rate.



Valuation Conclusions

- Three years of record low market returns
- Use of smoothing method results in deferred investment losses
- Normal cost vs statutory rate
- Long term funding concern
- Some change in funding policy and/or benefits policy is necessary
- Recommended Asset/Liability Study



What is an Asset/Liability Study

- An analysis of the financial continuum facing the plan
- Whereas an actuarial valuation is a snapshot of the plan as of today based on a single forecast of the future
- An A/L study provides the additional dimensions of:
 - Time
 - Probability
 - Decision variables
 - Asset allocation
 - Benefit provisions
 - Contribution levels



What is an Asset/Liability Study

- Simulation over time of the behavior of assets and liabilities based on
 - Realistic capital market assumptions
 - Liability measurements consistent with economic variables
 - Projection of plan membership population
 - Benefit provisions of System
- An A/L model translates the uncertainty into probable dollar consequences to the plan

The Stochastic Modeling Process



- Capital market assumptions were developed by Wilshire for first 10 years
 - Adjusted to provide actuarial rate of return for next 20 years
- 1,000 30-Year projections of possible outcomes were created by randomly drawing from the distributions
 - Each draw represents a possible scenario of investment returns over the next 30 years
- System liabilities and financial measures were projected by Milliman for each outcome



Modeling Liabilities

- Starting point 6/30/02 valuation
- Assumed size of active population remained same
- New entrant profile based on recent experience
- No change in actuarial assumptions or methods anticipated



Other Assumptions

- Assumes fixed contribution rate (current or proposed) will be contributed each year
- Actuarial contribution rate determined using 30 year amortization of UAL as level % of payroll

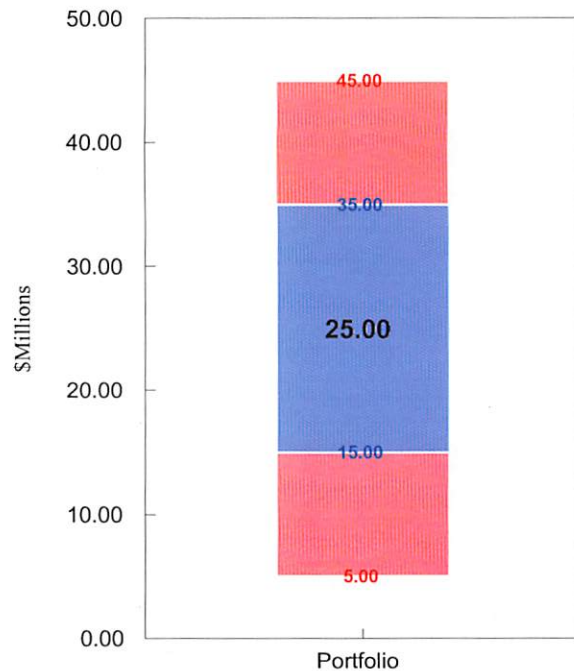


Sample Floating Bar Chart

Red Shows 5th to 95th Percentile Range

Blue Shows 25th to 75th Percentile Range

The Median Amount is Shown in Black



The results of 1000 projected scenarios are sorted from highest to lowest values and summarized by percentiles:

95th Percentile

(5% of Results Fall Above this Value)

75th Percentile

50th Percentile -
(Median)

*Most Likely Result
(50-50 Chance)*

25th Percentile

5th Percentile

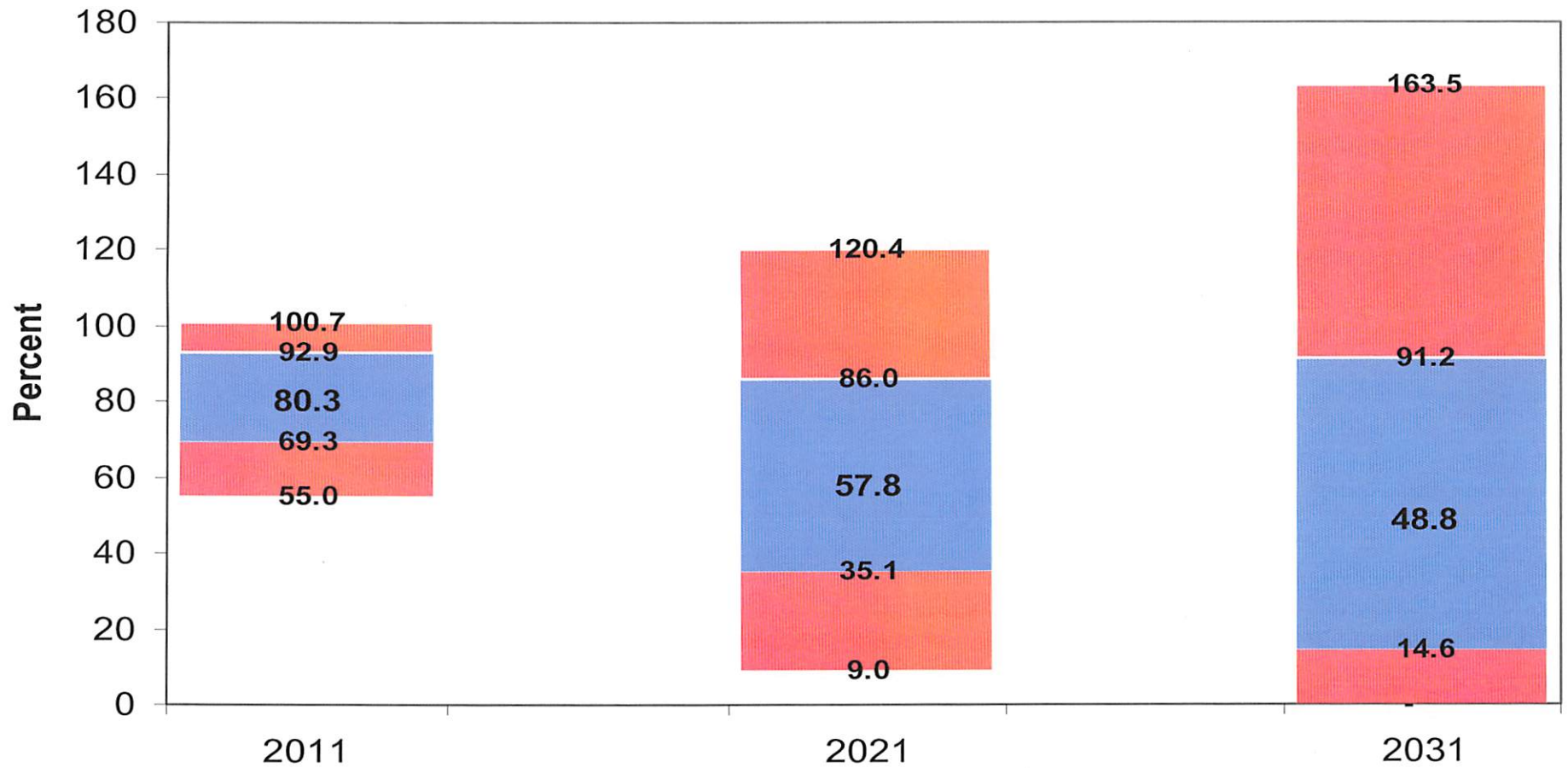
(5% of Results Fall Below this Value)

*50% of
Results Fall
Between
these
2 Values*

*90% of
Results Fall
Between
these
2 Values*

Current Plan – No Change

Funded Ratio Baseline





Possible Solutions

- Increase contribution rates
- Change benefit structure
 - new entrants
 - current members
- Change investment allocation mix
- Changes in benefits or contributions assumed effective 7/1/05
 - Input from IPERS staff
 - Contribution increases modeled to meet funding goal of 30 year amortization by 2014



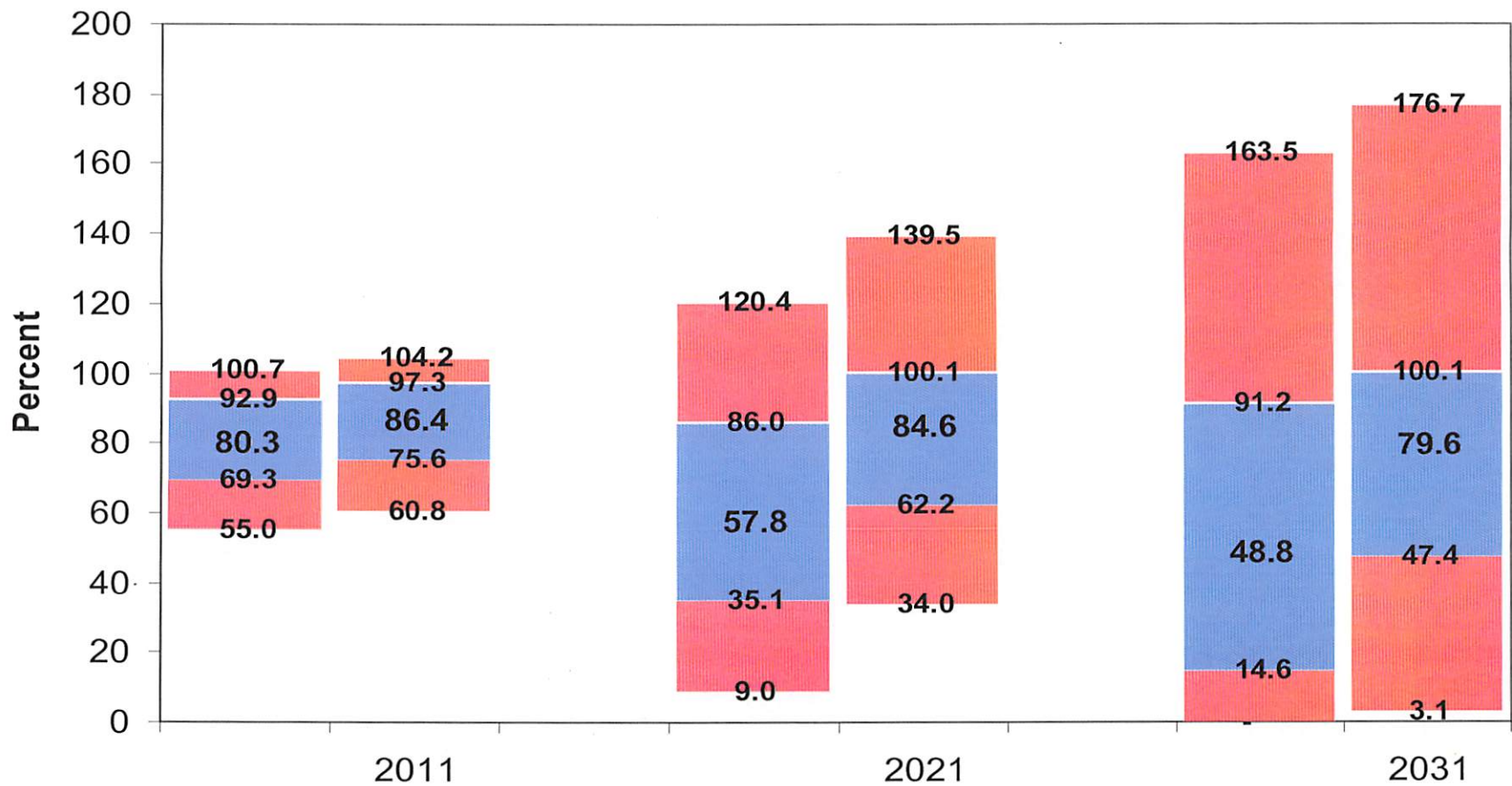
Increase in Current Contribution Rates

- Current benefit design for both current and future members
- In order to restore IPERS' actuarial soundness without changing the benefit structure, a combined contribution rate* of **13.25%** is required

* For purposes of modeling, a 40% employee/60% employer split was assumed

Current Benefits with Increased Contributions

Funded Ratio
Baseline (left) vs. Proposed (right)





Changes in Benefits Alone

- No change in contribution rate(remains 9.45%)
- In order to make System actuarially sound with current contribution rate, **new members' benefit multiplier would have to be 1% versus current 2%**



Alternative Benefit Design 1

- Current members
 - Multiplier changed from 2.0% to 1.9% for first 30 years (1% thereafter) - future accruals only
- Provisions for new members:
 - Actuarial equivalence for early retirement
 - Eliminate Rule of 88
 - Use high 5 years (3 now) for final average earnings
- 50% of FED reserve transferred back to general IPERS Trust Fund
- No future transfers to FED or SAAM



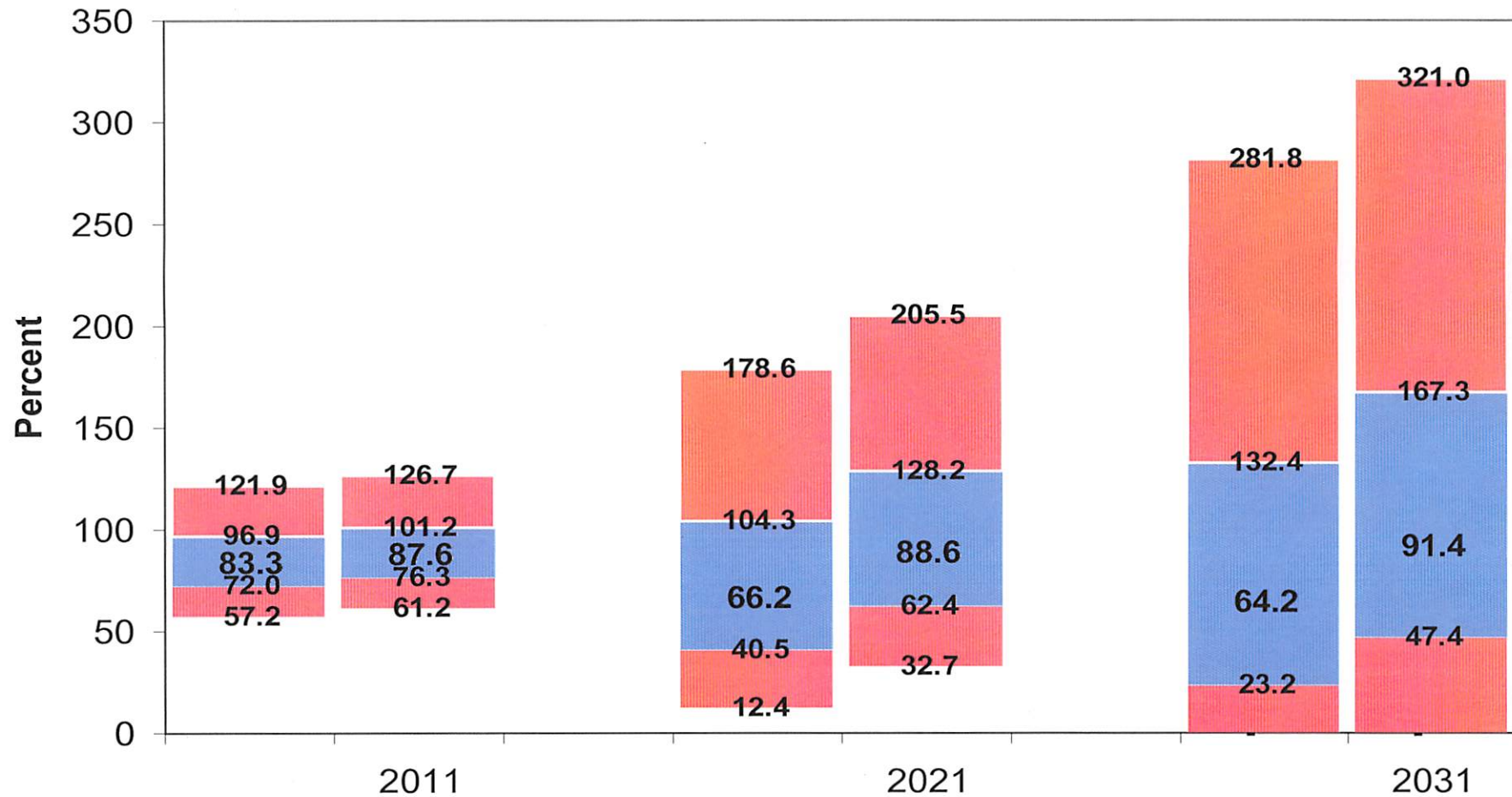
Alternative Benefit Design 1

- Alternative benefit design 1 without contribution rate increase does not meet funding target at 2014
- Combined contribution rate*: **12.0%**

* For purposes of modeling, a 50% employee/50% employer split was assumed

Alternative 1 – Higher Contributions

Funded Ratio
Current contributions (left) vs. Higher contributions (right)





Alternative Benefit Plan Design 2

- Current members
 - Multiplier changed from 2.0% to 1.8% for first 30 years (1% thereafter) - future accruals only
 - Actuarial equivalence for early retirement (phased in for current members)

- Provisions for new members:
 - Eliminate Rule of 88
 - Use high 5 years (3 now) for final average earnings

- 50% of FED reserve transferred back to general IPERS Trust Fund

- No future transfers to FED or SAAM



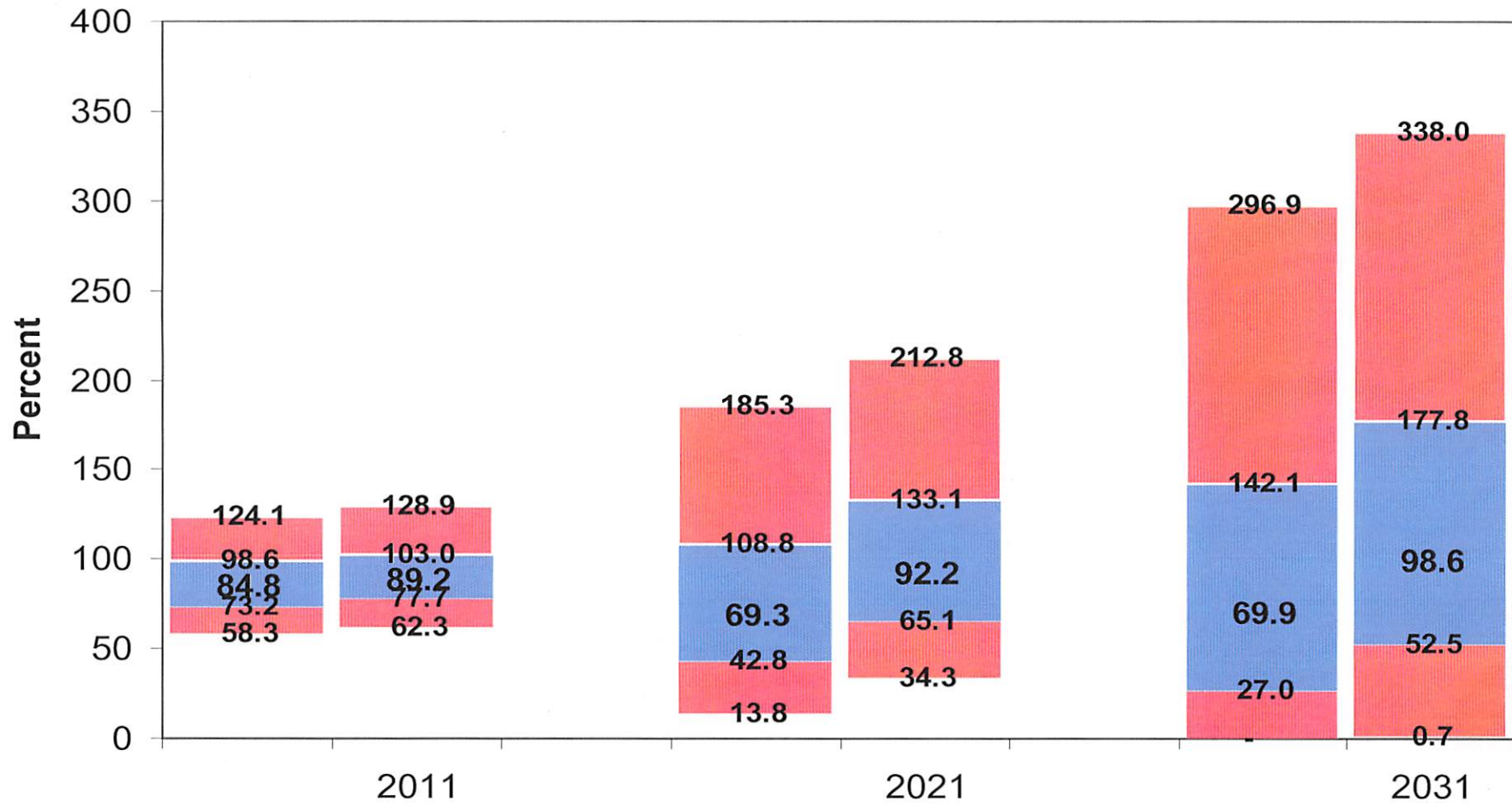
Alternative Benefit Plan Design 2

- Alternative benefit design 2 without contribution rate increase does not meet funding target at 2014
- Combined contribution rate*: **12.0%**

* For purposes of modeling, a 50% employee/50% employer split was assumed

Alternative 2 – Higher Contributions

Funded Ratio
Current contributions (left) vs. Higher contributions (right)





Solve the Problem with Investments

- To “solve” the funding problem, **a rate of return of over 11%** is needed each year through 2014
- Highest expected 10-year return for any asset class is 11% for private equity
- Can’t **“earn your way out”** of the problem



Summary of Findings

- Confirms long term funding concern
- Options
 - Increase contributions
 - Change benefits
 - Change asset allocation
- Asset allocation has minimal impact so other changes are necessary
- **Sooner** action is taken, the **lower** the contribution rate will be
- Need to continue to monitor progress



Benefits Advisory Committee Recommendations

- Beginning July 1, 2004 raise contribution rates to 13.45% by *phasing in* the increases over four years at 1.0% a year
- Maintain the current benefit structure for current members and new hires
- Maintain the 60/40 sharing split between employer and employee contribution rates



Recommendations (cont.)

- Inserting into the IPERS Code section a provision allowing IPERS to adjust rates (up or down) in the future if/when the actuary signals the need for such a change.
- Such empowerment would give IPERS the same ability to quickly respond as is *already* enjoyed by:
 - Iowa Municipal Fire and Police Retirement System (commonly called, the "411 System")
 - The Peace Officer Retirement System (often referred to as PORS, or via their Code section, 97A)
 - The Judicial Retirement System
 - **AND** the public safety personnel **within IPERS!**



Proposed Legislative Action

- **Anti-wage manipulation**
 - Final Average Salary variation limitation
- **Other anti-abuse provisions**
 - Unpaid leaves of absence
 - Refer fraud cases to county attorney and state auditor



Proposed Legislative Action (cont.)

- **Administrative expense reduction**
 - Inactive non-vested members shall not vest solely by attaining age 55
 - Authorize administrative fees for services beyond de minimus
 - Require mandatory lump sum payments for small retirement allowances
 - Require mandatory cash-out provisions for small accounts (death benefits, inactive members, retired reemployed accounts)



Proposed Legislative Action (cont.)

- Buy-back changes eliminating restoration of member's wage records
- Eliminate restoration of previously forfeited benefits
- Procedure for paying full death benefit to the heirs who file claims within 5 years
- Apply service purchases by retired reemployed members only to first retirement annuity
- Waiting period for reemployment after taking a refund clarified



Proposed Legislative Action (cont.)

- **Move IPERS closer to mainstream benefits provisions by removing certain plan provisions**
 - Limit pre-retirement death benefits to vested members
 - Retroactive benefit payments and service purchase adjustments eliminated
 - payments or adjustments, as applicable to begin month after application or service purchase



Proposed Legislative Action (cont.)

- **Clarifications of IPERS current practices and technical cleanup**
 - Cafeteria plan ambiguity removed
 - Damages that are not covered wages
 - Exception to reporting wages on as-paid basis (trailing wage exception)
 - Age 70 members can begin benefits without terminating employment
 - Special service disability benefits are offset by payments from employer-sponsored disability plan, program, or insurance policy payments



Strategic Challenge: FED

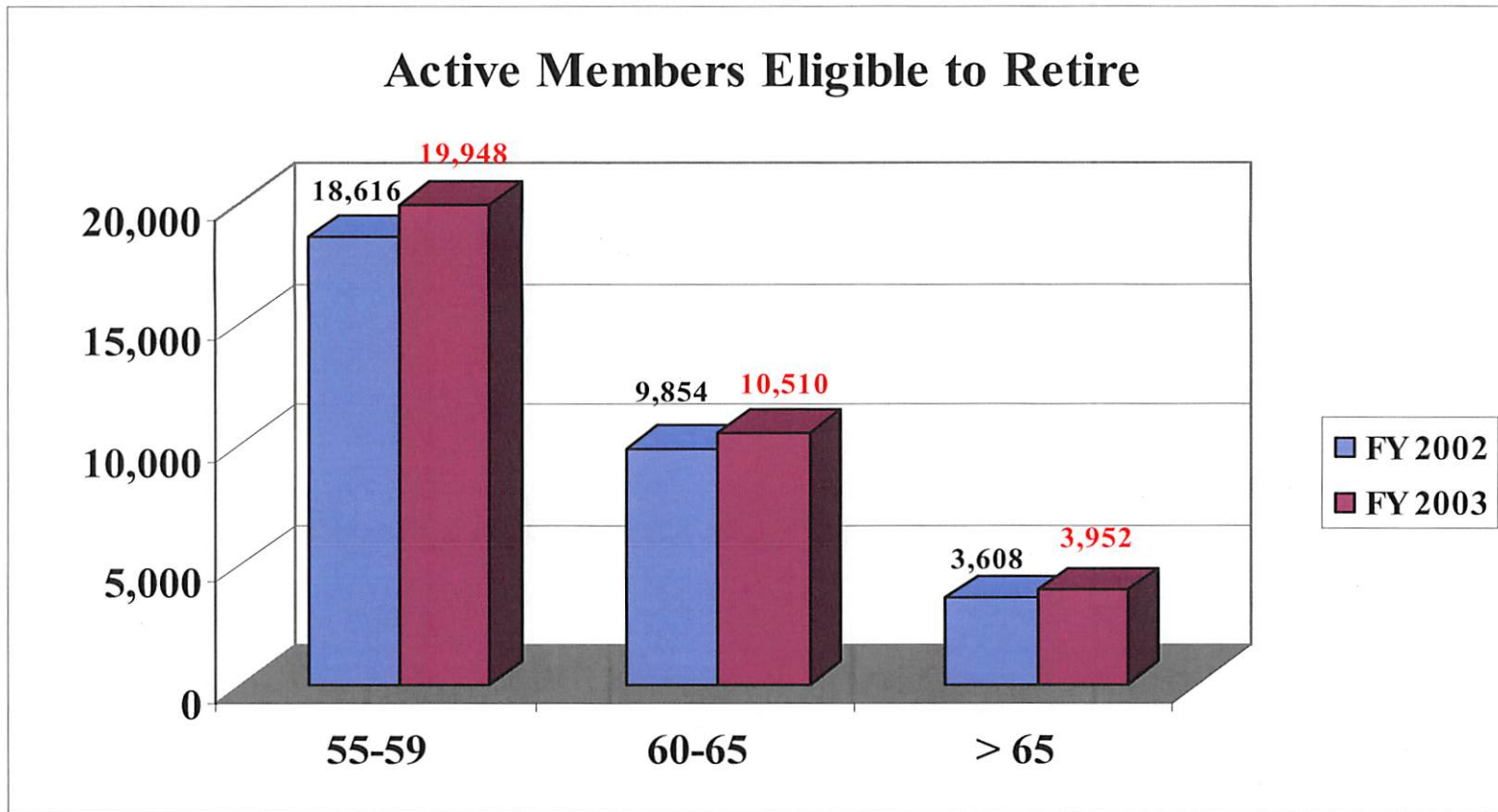
- Favorable Experience Dividend (FED) established in 1998 to provide post retirement assistance to retirees who retired after June 1990.
- No additional funding since FY 2000
- All future favorable experience must be dedicated to paying the unfunded liability; no growth anticipated
- Current value of \$487 million



FED Challenges (cont.)

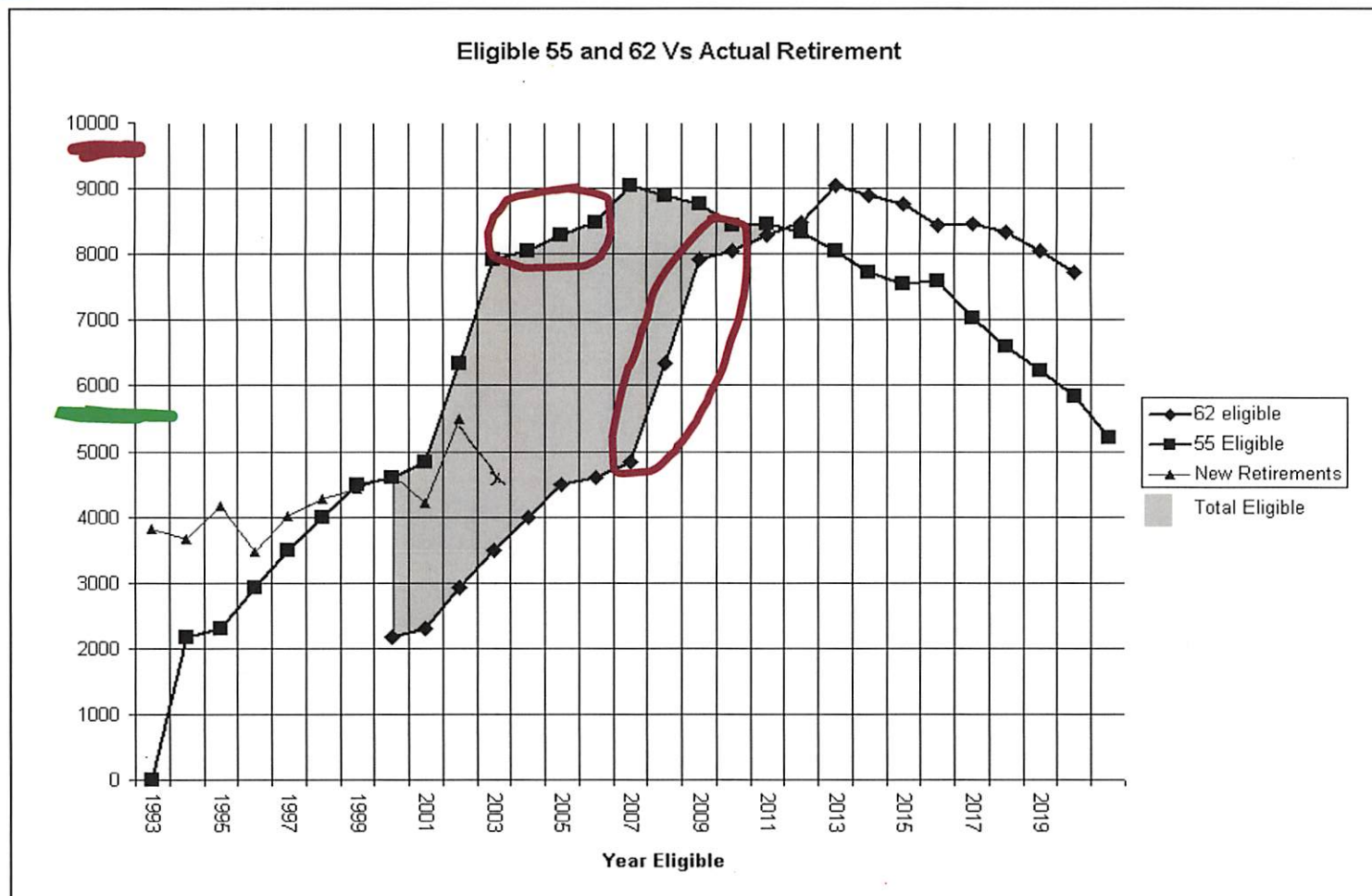
- BAC recommendation to set a ceiling on annual payments at 1.5% (3% is allowed), this extends ability to make FED payments for up to 5-7 years
- January 2003 FED payment made to 44,619 retirees. This number is expected to grow by approximately 5,000 retirees annually
- Challenge is to explore possible programs to replace the FED for current retirees and future retirees

Strategic Challenge: Baby Boomer Wave



Increased demand on services

Eligible 55 and 62 Vs Actual Retirement





Summary

- We must begin sooner rather than later on an action plan to restore the IPERS' Trust Fund to actuarial balance. We can accomplish this through increasing the income to pay towards the unfunded liability. The Investment Board and staff will continue their exemplary effort in seeking income through investments. However, as indicated in the asset/liability study, it is not probable to invest our way out of the problem.
- In addition, the system must receive the actuarially required contribution. The actuarial contribution rate will vary over time as the normal cost changes. Without a reduction in the current normal cost, the actuarially required contribution rate is greater than the statutory rate as last set in 1979. We must begin a phase-in of an increase in contribution rates with the goal to reach an actuarial contribution rate over the next four years.
- IPERS is a strong and viable public pension plan that plays an important role to the Iowa economy. Providing secure pensions to almost 75,000 retirees, about 89% of whom reside in Iowa, returns IPERS' investments to every county in the state, while also providing a secure income to retirees. Recognizing this, I look forward to working with the Legislature and Governor in returning IPERS to actuarial balance.



Appendices

IPERS' Investment Board

Mr. Bruce G. Kelley, Chair (Public Member with institutional investment, financial experience)

Mr. Michael Logan, Vice-Chair (Retired IPERS Member)

The Honorable Michael L. Fitzgerald (Treasurer of State)

Ms. Joanne L. Stockdale (Public Member with institutional investment, financial experience)

Mr. David Creighton, Sr. (Public Member with institutional investment, financial experience)

Ms. Lana Dettbarn (Active, Educational IPERS Member)

VACANT (Active, Non-Educational IPERS Member)

Senator Mark Ziemann

Senator Jack Kibbie

Representative Jeff Elgin

Representative Pam Jochum

Benefits Advisory Committee

Lowell Dauenbaugh, Chairman

Dr. Gene Gardner, Vice-Chairman

Employer Associations

Iowa Association of Counties, represented by Jim Maloney, Polk County Assessor

Iowa Association of Community College Trustees, represented by Dr. Gene Gardner

Iowa Association of School Boards, represented by Len Cockman



Appendices (cont.)

Employer Associations

Iowa League of Cities, represented by Andi Stewart

State of Iowa, represented by Mollie Anderson, Department of Administrative Services

Active, Vested and Retired Member Associations

American Federation of State, County and Municipal Employees, represented by Lewis Washington

Association of Chiefs of Police, represented by Roger Muri, Chief of Police, Atlantic

Iowa State Education Association, represented by Lowell Dauenbaugh

IPERS' Improvement Association, represented by Janie Garr

Retired School Personnel Association, represented by Walt Galvin

Sheriffs and Deputy Sheriffs Association, represented by Bill Sage, Deputy Sheriff, Cass County

State Police Officers' Council, represented by Deanna McCallum

Employer/Member Associations

School Administrators of Iowa, represented by Dr. Gaylord Tryon

Public Member

Dr. Marc Haack, University of Iowa, elected by the other BAC members as per *Code of Iowa* provisions



Appendices (cont.)

Payments by County

COUNTY	AMOUNT	AVERAGE	PAYEES	COUNTY	AMOUNT	AVERAGE	PAYEES
Adair	\$ 2,103,914	\$ 8,155	258	Cerro Gordo	12,158,510	10,518	1,156
Adams	1,196,232	7,339	163	Cherokee	5,292,479	9,640	549
Allamakee	3,683,073	8,896	414	Chickasaw	3,447,010	9,821	351
Appanoose	2,955,085	8,371	353	Clarke	2,186,194	8,037	272
Audubon	1,715,323	7,590	226	Clay	4,212,835	9,040	466
Benton	4,555,611	7,774	586	Clayton	4,709,328	8,852	532
Black Hawk	26,091,799	10,086	2,587	Clinton	9,199,283	9,735	945
Boone	7,574,770	8,954	846	Crawford	4,260,646	8,913	478
Bremer	6,095,593	9,569	637	Dallas	8,634,646	9,285	930
Buchanan	6,300,555	9,079	694	Davis	2,283,736	7,768	294
Buena Vista	4,448,050	8,688	512	Decatur	2,274,175	7,581	300
Butler	3,560,264	8,280	430	Delaware	4,451,935	9,392	474
Calhoun	3,278,891	7,997	410	Des Moines	9,478,757	10,314	919
Carroll	3,619,529	8,189	442	Dickinson	6,533,606	10,962	596
Cass	4,084,001	8,598	475	Dubuque	13,188,223	9,953	1,325
Cedar	3,723,679	8,762	425	Emmet	2,806,647	8,967	313



Appendices (cont.)

Payments by County

COUNTY	AMOUNT	AVERAGE	PAYEES	COUNTY	AMOUNT	AVERAGE	PAYEES
Fayette	5,000,374	8,504	588	Jasper	8,102,439	9,443	858
Floyd	4,343,686	8,956	485	Jefferson	\$ 3,622,753	\$ 9,434	384
Franklin	2,663,205	8,323	320	Johnson	15,557,763	9,452	1,646
Fremont	1,950,039	7,617	256	Jones	5,427,610	9,886	549
Greene	3,004,487	7,346	409	Keokuk	2,989,589	7,888	379
Grundy	3,346,950	8,367	400	Kossuth	3,416,999	8,294	412
Guthrie	3,891,683	8,885	438	Lee	7,917,926	10,023	790
Hamilton	5,148,097	10,035	513	Linn	39,503,339	11,424	3,458
Hancock	2,731,852	8,591	318	Louisa	2,977,266	9,859	302
Hardin	6,528,849	9,018	724	Lucas	2,527,284	8,153	310
Harrison	3,366,490	8,523	395	Lyon	1,972,110	8,149	242
Henry	5,384,047	8,914	604	Madison	3,014,996	8,590	351
Howard	2,623,435	8,328	315	Mahaska	4,429,628	8,601	515
Humboldt	3,245,155	8,585	378	Marion	5,459,868	8,736	625
Ida	1,585,068	8,299	191	Marshall	10,483,595	9,319	1,125
Iowa	2,945,239	7,939	371	Mills	4,459,130	8,830	505
Jackson	4,036,317	8,154	495	Mitchell	2,991,369	8,747	342



Appendices (cont.)

Payments by County

COUNTY	AMOUNT	AVERAGE	PAYEES	COUNTY	AMOUNT	AVERAGE	PAYEES
Monona	2,490,875	8,114	307	Shelby	3,071,578	8,392	366
Monroe	1,926,825	7,995	241	Sioux	4,452,660	8,096	550
Montgomery	3,002,123	7,778	386	Story	21,212,600	10,991	1,930
Muscatine	7,630,668	9,261	824	Tama	4,462,698	9,336	478
O'Brien	3,184,466	7,673	415	Taylor	1,986,445	7,852	253
Osceola	1,263,016	8,201	154	Union	4,096,811	8,625	475
Page	5,243,303	8,753	599	Van Buren	2,599,921	7,975	326
Palo Alto	3,218,583	8,107	397	Wapello	8,754,418	9,434	928
Plymouth	4,736,404	8,820	537	Warren	9,762,254	10,180	959
Pocahontas	1,876,306	8,158	230	Washington	4,767,868	7,740	616
Polk	76,709,031	10,759	7,130	Wayne	1,989,382	7,341	271
Pottawattamie	13,567,628	9,249	1,467	Webster	8,963,595	9,260	968
Poweshiek	4,302,862	9,374	459	Winnebago	2,724,316	8,760	311
Ringgold	1,938,833	7,914	245	Winneshiek	4,891,264	9,281	527
Sac	2,399,410	7,429	323	Woodbury	19,538,340	10,718	1,823
Scott	25,902,353	11,361	2,280	Worth	1,735,078	8,632	201
				Wright	3,804,620	8,647	440



Appendices (cont.)

Actuarial Accrued Liability – The difference between the actuarial present value of system benefits and the actuarial value of future normal costs. Also referred to as “accrued liability” or “actuarial liability.”

Actuarial Assumptions – Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Value of Assets – Often incorporates an asset smoothing method that recognizes a part of an investment gain/loss in year it occurs. Used in actuarial valuation instead of market values.

Experience Gain (Loss) – The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.

Normal Cost – The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.

Unfunded Actuarial Accrued Liability – The difference between actuarial accrued liability and the valuation assets. Sometimes referred to as “unfunded accrued liability” or “unfunded liability”.



Appendices (cont.)

- Pension Obligation Bonds
 - State elected officials may want to consider the issuance of Pension Obligation Bonds (POBs) as one part – but not the only part - of an IPERS funding shortfall solution.
 - Issuing POBs to pay off the IPERS unfunded actuarial liability, in the current low interest rate environment, could provide a lower cost of financing that liability than the 7.5% per year “interest” that will be otherwise accruing on the liability. This could save millions of dollars in the cost of paying down IPERS’ unfunded liability.



Appendices (cont.)

- The State of Illinois issued \$10 billion of POBs in June of this year at low interest rates (the Illinois 30-year POB yielded 4.37%). Several other states, including California, Kansas and Oregon, are considering POB issuance to lower the cost of financing their public pension funding shortfalls.
- POBs are issued by the pension fund's "Plan Sponsor", since it is the Plan Sponsor (or the employers, in multi-employer plans) that carries the obligation to pay off the unfunded liability.
- POBs must be issued as taxable bonds for federal income tax purposes, per the Tax Reform Act of 1986.



Appendices (cont.)

- There are issues to be resolved and certain risks associated with POBs:
 - IPERS has over 2400 employer groups. Determination would have to be made as to which employer or groups of employers would issue the bonds.
 - Should IPERS fail to earn an average annual investment return that exceeds the interest rate being paid on the POBs, the savings from the interest arbitrage is lost.
 - Should IPERS fail to earn an average annual investment return that meets or exceeds the actuary's assumed 7.5% annual return, additional unfunded actuarial liability – that has not been financed via the outstanding POBs - is created and will have to be paid off.
 - Issuance of POBs converts a "soft" or "flexible" obligation of the plan sponsor (payoff of the unfunded actuarial liability) to a "hard" or "inflexible" obligation (payment of POB interest and principal), although this can be partially mitigated by the structure of POB terms.

IPERS' Funded Status

Key Actuarial Measures per IPERS' Actuarial Consultant (Milliman, USA)

	FY 1996	FY 1997	FY 1998	FY 1999	FY2000	FY2001	FY2002
Portfolio Market Value	\$9.57 B	\$11.52 B	\$13.68 B	\$15.30 B	\$17.13 B	\$15.91 B	\$14.85 B
Actuarial Assets (AA)	\$8.98 B	\$10.11 B	\$11.35 B	\$12.65 B	\$14.15 B	\$15.11 B	\$15.61 B
Actuarial Liabilities (AL)	\$10.14 B	\$10.77 B	\$11.91 B	\$13.05 B	\$14.47 B	\$15.55 B	\$16.87 B
Funded Ratio (AA/AL)	88.5%	93.9%	95.3%	97.0%	97.7%	97.2%	92.6%
Unfunded Actuarial Liability (UAL)	\$1.16 B	\$ 661 M	\$555 M	\$390 M	\$327 M	\$441 M	\$1.26 B
UAL as % of Total Liabilities	11.5%	6.1%	4.7%	3.0%	2.3%	2.8%	7.4%
Years to Amortize UAL	20 Years	9 Years	8 Years	20 Years	21 Years	39 Years	Infinite
Normal Cost Rate	7.29%	7.26%	7.63%	8.79%	8.95%	8.93%	9.03%