FINAL REPORT

LEGISLATIVE COUNCIL STUDY COMMITTEE
TO EVALUATE THE ARIZONA STATE RETIREMENT SYSTEM

January 1991

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This final report of the Legislative Council Study Committee to Evaluate the Arizona State Retirement System is submitted to the Speaker of the House of Representatives and the President of the Senate pursuant to Laws 1989, Chapter 310, section 22.

Speaker Hull, co-chairman	*Senator Todd, co-chairman*
Representative Wessel	*Senator Hill*
Representative Gerard	*Senator Mawhinney*
Representative Evans	*Senator Osborn*
Representative Cajero	*Senator Hardt*

Mr. William Adler

Mr. Darrell Guy

Mr. Alan Maguire

Dr. Richard Smith

Mr. Lowell Sutton

BACKGROUND

Laws, 1989, Chapter 310, provided for the establishment of a fifteen member study committee to examine numerous issues relating to the Arizona State Retirement System (see Attachment A). Specifically, the study committee was charged with examining the following:

1. *ASRS's current benefit structure, compared to benefits provided by other states' retirement systems and private pension systems.*

2. *The partial health and accident insurance premium payments authorized for ASRS retirees with ten or more years of credited service and their dependents pursuant to Laws 1988, Chapter 307, section 1.*

3. *The sufficiency of the statutes relating to the Arizona State Retirement System and Plan and whether the existing statutes are being followed and implemented.*

4. *The composition, function and effectiveness of the Arizona State Retirement System Board and the Investment Advisory Council.*

5. *The policies regarding post-retirement benefit increases for retired persons.*

6. *The policies regarding early retirement incentives and the feasibility of implementing a corresponding actuarial reduction in benefits.*

7. *Whether the present funding of the Arizona State Retirement System adequately ensures that advanced funding of the system is provided on a sound actuarial basis.*

8. *The feasibility of requiring by legislation or rule a requirement that all proposed retirement legislation be accompanied by actuarial cost estimates produced by an independent actuary responsible to the Legislature, indicating the actuarial assumptions used, the method used to compute the cost, the potential annual cost rates and the total additional liability created by the proposal.*

9. *The present investment guidelines of the system with a policy goal of providing for allowable investments in order to provide timely payment to the system's beneficiaries in their retirement.*

10. *The implications of continuing the state's partial tax exempt status on pensions received by retired ASRS members.*

11. *The feasibility of increasing benefits to future retirees to hold them harmless as a result of taxing the benefits they receive on retirement.*

12. *Any other areas the committee determines is necessary in order to properly evaluate the Arizona State Retirement System.*

COMMITTEE PROCEEDINGS

The study committee held four public meetings as follows:

__September 18, 1989__ (See Attachment B)

At the study committee's first meeting presentations were made to help familiarize committee members with how the Arizona State Retirement System operates and compares with other public pension plans. Mr. Michael Carter of the Wyatt Company presented an analysis of ASRS retiree spendable income. The analysis compared the spendable income of state retirees after retirement with the income members were receiving before retirement to determine how well the retirement plan is providing benefits to its members. Also, Mr. Ed Gallison, executive director of ASRS, addressed the committee to both explain how the state retirement system operates and how it compares with other states' retirement systems, particularly with respect to benefits. Both Messrs. Carter and Gallison concluded that ASRS compared favorably with other states' pension plans. The meeting concluded with Mr. Gallison and several other members of the audience presenting their respective "wish lists" for proposed legislation during the 1990 legislative session.

__December 11, 1989__ (See Attachment C)

The study committee's second meeting focused on the retiree health insurance premium subsidy benefit program. In 1988, the legislature passed a retiree health benefit to help offset increasing health care costs for state retirees. To be eligible for the benefit, retirees had to have at least ten years of credited service and be either enrolled in their former employers' health care coverage or join the coverage offered to retirees by the State of Arizona (FHP currently has the state contract). Numerous technical and administrative difficulties arose with implementing the benefit, thus causing a troubled first year for the program. The majority of complaints about the program came from retirees concerned about: 1) administration of the program; 2) having to have at least ten years of credited service; and 3) having to join the coverage offered by the State (if they were not covered by their former employer).

Mr. Ed Gallison, Ms. Cathy McGonigle (DOA Personnel Director) and Mr. Bruce Bodaken (FHP Regional Vice President) addressed the committee to explain: 1) why the problems arose during the previous year; 2) what steps have been taken to ensure a smoother program year; and 3) how successful the program has been thus far. The general consensus from both those making formal presentations and comments from the public was that the retiree health benefit program is (after a "bumpy" start) working well. Concerns over retirees having to change insurance carriers, in general, and concerns with FHP, in particular, have been mitigated due to better information provided to retirees about FHP. It was also explained that FHP's rates increased only 11% compared with health insurance increases over 20% nationwide. FHP offers both indemnity and HMO coverage and was the only company to bid on both retirees under and over age 65. There remained concern over the ten-years-of-service requirement and several committee members and retirees stressed the need to proportionately reduce the health benefit for retirees with between five and ten years of credited service.

Laws 1989, Chapter 310 authorized the committee to hire consultants for technical or legal services as necessary and as approved by Legislative Council. During the second meeting, the committee reviewed and adopted a proposal for consulting services submitted by the actuarial *firm of Kaufmann and Goble. Subsequently, on December 12, 1989, Legislative Council approved the committee's recommendation that the firm of Kaufmann and Goble be hired. The consultants were directed to look at the items specified in Laws 1989, Chapter 310, with the exception of item #2 (relating to the retiree health benefit program); item #3 (relating to the sufficiency of statutes); item #8 (relating to an independent actuary responsible to the legislature); items #10 and #11 (relating to the taxation of retiree pensions); and item #12 (relating to "other" areas). The committee capped the fee for consultant services at $57,820.*

<u>January 3, 1990</u> (See Attachment D)

The study committee met a third time to consider and adopt the following recommendations:

1. *Continue the work of the Legislative Council Study Committee to Evaluate the Arizona State Retirement System through December 31, 1990.*

   (Co-chairman Hull explained to the committee that legislation concerning this recommendation would not be necessary since she and President Usdane can reappoint the committee on their own motion.)

2. *Extend but reduce the partial health and accident insurance premium payments authorized for retirees with ten or more years of credited service to retirees with five or more years of service proportionately as follows:*

   5 to 5.9 years of service = 50% of the premium payment
   6 to 6.9 years of service = 60% of the premium payment
   7 to 7.9 years of service = 70% of the premium payment
   8 to 8.9 years of service = 80% of the premium payment
   9 to 9.9 years of service = 90% of the premium payment

   Also, Mr. Gallison and Cathy McGonigle were instructed to determine whether administration of the retiree health benefit should remain under the Department of Administration or be transferred to the Arizona State Retirement System. The retiree health benefit program was originally placed under DOA because it was incorrectly assumed that the health insurance carriers covering active state employees would also cover state retirees. After examining the issue, Mr. Gallison and Cathy McGonigle both agreed that administration of the retiree health benefit program should be transferred to the Arizona State Retirement System.

   [Legislation was introduced during the 1990 legislative session to address these recommendations and was subsequently signed into law (Laws 1990, Chapter 235)].

3. *Extend the three percent "hold harmless" benefit increase enacted during the 1989 legislative session to September 15, 1990, retroactive to September 15, 1989. (This benefit was provided to help offset taxation of retiree pension income enacted in response to the US Supreme Court ruling in <u>Davis v. Michigan</u>.)*

   [Legislation was introduced during the 1990 legislative session to address this recommendation and was subsequently signed into law (Laws 1990, Chapter 217)].

December 5, 1990 *(See Attachment E)*

At the study committee's fourth and final meeting, Messrs. Sidney Kaufmann and Don Hurtado presented the findings and recommendations contained in their Final Report on the Study of the Arizona State Retirement System (see Attachment F). Mr. Michael Carter, from the Wyatt Company, was also asked to appear before the study committee to comment on the consultants' report (see Attachments G and H). Co-chairman Hull explained to the committee and audience that Messrs. Kaufmann and Hurtado were commissioned by the study committee to evaluate the Arizona State Retirement System and Mr. Carter was asked by the State Retirement System Board to respond to the consultants' report. She noted, however, that it did not turn into a case of "battling consultants." Instead, the focus of all three consultants' work was an emphasis on protecting and helping current and future beneficiaries of the State Retirement System. Co-chairman Hull emphasized that this remains the objective of the study committee and she hoped that this kind of cooperative effort was a signal of good things to come.

Following formal presentations, the committee received testimony from the public on various aspects of the consultants' report.

Following public comment, the committee considered each of the recommendations contained in the consultants' report and adopted this final report. The next section of this report summarizes the recommendations adopted by the study committee. Staff was asked to draft legislation accordingly.

RECOMMENDATIONS

The study committee voted on recommendations proposed in the consultants' final report as follows:

ITEM 1: EXAMINE THE CURRENT BENEFIT STRUCTURE OF THE SYSTEM AND COMPARE IT TO THOSE BENEFITS PROVIDED BY OTHER STATE RETIREMENT SYSTEMS AND PRIVATE PENSION SYSTEMS

Recommendations

1. *The Arizona State Retirement System Statement of Primary Intent presented in Figure 1 [of the consultants' final report] should be incorporated into State Statutes.*

   Committee Action: *Adopted, but amended to incorporate Michael Carter's comments concerning this recommendation. (Minority Report--Attachment I)*

2. *The definition of the Trust Fund Nature of the Arizona State Retirement System presented in Figure 3 [of the consultants' final report] should be incorporated into State Statutes.*

   Committee Action: *Adopted. Staff was asked to further consult with legal counsel concerning this recommendation.*

3. *Future enhancements to the Arizona State Retirement System's basic benefit plan and structure should be consistent with the statutory Statement of Primary Intent (reference Figure 1) [of the consultants' final report].*

   Committee Action: *Adopted. (Note, however, that the reference to Figure 1 is as amended pursuant to Michael Carter's comments.)*

4. *Amend the Arizona State Retirement System's present joint and survivor annuity option to eliminate the option to revoke the election under certain circumstances, and replace this feature with a one-time election at retirement to take a [sic] actuarially reduced benefit in favor of a "pop-up" option to provide for the circumstance of the survivor annuitant dying before the beneficiary.*

   Committee Action: *Adopted.*

5. *Major benefit enhancements should not be made to the Arizona State Retirement System's present benefit plan and structure.*

   Committee Action: *Did not adopt.*

6. *The Arizona State Retirement System should regularly and frequently inform active members about the availability of the supplemental, optional employee paid retirement benefits programs available through their employers.*

   Committee Action: *Adopted.*

7. *The Retirement Board should institute an aggressive public information/relations program designed to bring about a greater awareness among employees, retirees, employers and Legislators...of the excellence of the Arizona State Retirement System and its outstanding retirement benefits as compared to other public pension plans and the private sector.*

   Committee Action: *Adopted.*

ITEM 4: EXAMINE THE COMPOSITION, FUNCTION AND EFFECTIVENESS OF THE ARIZONA STATE RETIREMENT SYSTEM BOARD AND THE INVESTMENT ADVISORY COUNCIL

Recommendations

1. *A statutory limit should be placed upon the amount of time allowed for filling a vacancy on both the Retirement System Board and the Investment Advisory Council.*

   Committee Action: *Adopted.*

2. *Consideration should be given to increasing the term of the Investment Advisory Council members to three, three-year terms.*

   Committee Action: *Adopted.*

3. *The statutory experience qualifications for the members of the Investment Advisory Council should be increased so that all members are required to have at least ten years' experience as professionals in the investment management field.*

   Committee Action: *Adopted.*

4. *Consideration should be given to providing representation on the Retirement Board that would bring Legislative perspectives to the overall administration of the Arizona State Retirement System (e.g., this Legislative perspective might be provided by designating the chairman of the House Government Operations Committee and the chairman of the Senate Finance Committee, and their successor committees' chairman as advisory members).*

   Committee Action: *Adopted.*

5. *Consideration should be given to establishing a permanent, ongoing Public Employees Retirement System Sub-committee to oversee all Arizona public employees retirement systems, which could function as part of both the House Government Operations Committee, and the Senate Finance Committee, and their successor committees.*

   __Committee Action__: Adopted.

6. *In keeping with the definition of the __Trust Fund Nature of the Arizona State Retirement System__ as presented in Figure 3 [of the consultants' final report], the Arizona State Retirement System should have greater flexibility over its annual budget determination and expenditures (e.g., exemption from the traditional budgetary review and approval, and procurement authorities similar to that of the Arizona Public Safety Personnel Retirement System; or optionally allowing full discretionary expenditure up to some limitation such as a fractional percentage of total market value of assets).*

   __Committee Action__: Accepted for further study.

7. *The Retirement Board should institute a formal, on-going professional development and education program for all members of the Retirement Board, particularly in subjects on public employees retirement systems administration, benefit planning and design, actuarial valuation theory, investment management theory, the Arizona Legislative process, and other appropriate subjects; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.*

   __Committee Action__: Adopted, but amended to also include advisory members of the board.

8. *The Retirement Board, and the Director of the Arizona State Retirement System, should institute a formal, on-going program for active participation by all Retirement Board members and the Director in the various professional and trade organizations which are relevant to the activities of a public employees retirement system; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.*

   __Committee Action__: Adopted.

__Additional recommendations adopted by the study committee pertaining to Item 4__:

1. *Several of the study committee members noted they had received letters and calls from persons dissatisfied with recent activities of the ASRS Board. The committee directed staff to look further at how various states' retirement systems are administered.*

2. *The study committee also agreed that qualifications for the ASRS's director need to be prescribed in statute.*

ITEM 5: EXAMINE THE POLICIES REGARDING POST RETIREMENT BENEFIT INCREASES FOR RETIRED PERSONS

Recommendations

1. *Future Post-Retirement Benefit Enhancements should be granted only if they are consistent with the statutory Arizona State Retirement System Statement of Primary Intent (reference Figure 1) [in the consultants' final report].*

   Committee Action: *Accepted for further study.*

2. *The Post-Retirement Benefit Enhancement Dedicated Trust Fund concept described in Appendix 9 [in the consultants' final report] should be statutorily implemented, with the first annual distribution being made on July first of the first full year following enactment.*

   Committee Action: *Accepted for further study.*

3. *Statutorily require that future Post-Retirement Benefit Enhancements be granted only if they can be funded via the Post-Retirement Benefit Enhancement Dedicated Trust Fund (reference Appendix 9) [of the consultants' final report]; and that Post-Retirement Benefit Enhancements cannot be funded from increases in the contribution rate or from the primary Public Employees Retirement Trust Fund.*

   Committee Action: *Accepted for further study.*

4. *Consideration should be given to using part of the initial funding capacity of the Post-Retirement Benefit Enhancement Dedicated Trust Fund to bring the old 1.2% and 1.5% formula retirees' benefits up to a benefit based upon the present 2.0% formula...if such calculation would result in a benefit which exceeds the present benefit.*

   Committee Action: *Accepted for further study (as to cost implications) and amended as follows: the words "to using part of the initial funding capacity of the Post Retirement Benefit Enhancement Dedicated Trust Fund" were deleted.*

5. *Statutorily provide for future Post-Retirement Benefit Enhancements being granted only to those retirees who have reached age 65 and who have been retired for three or more years.*

   Committee Action: *Accepted for further study.*

6. *Statutorily prohibit future Post-Retirement Benefit Enhancements from being provided on an equal, across the board, lump-sum dollar amount basis; and require that such Post-Retirement Benefit Enhancements be based upon a percentage of retirement benefit amount, or reflect years of service credit such as providing a fixed dollar amount per year of service.*

   Committee Action: *Accepted for further study.*

7. *Statutorily provide that future Post-Retirement Benefit Enhancements be granted only as a percentage of the retirement benefit, and not as a fixed dollar amount...and granted only within the funding availability constraints of the Post-Retirement Benefit Enhancement Dedicated Trust Fund.*

Committee Action: Accepted for further study.

ITEM 6: EXAMINE THE POLICIES REGARDING EARLY RETIREMENT INCENTIVES WITH A PARTICULAR EXAMINATION ON THE FEASIBILITY OF IMPLEMENTING A CORRESPONDING ACTUARIAL REDUCTION IN BENEFITS

Recommendations

1. *Early retirement incentives, such as the 2.2% retirement incentive window, should be statutorily prohibited...unless it can be predetermined that the anticipated quantified savings will be greater than the incentives' costs to the Arizona State Retirement System and, ultimately, to the employers and employees.*

   Committee Action: Adopted, but amended as follows: the words "statutorily prohibited" were replaced with "discouraged."

2. *The early retirement adjustment factors should be corrected to more closely reflect the actuarial equivalent benefit.*

   Committee Action: Adopted.

ITEM 7: DETERMINE WHETHER THE PRESENT FUNDING OF THE ARIZONA STATE RETIREMENT SYSTEM ADEQUATELY ENSURES THAT ADVANCED FUNDING OF THE SYSTEM IS PROVIDED ON A SOUND ACTUARIAL BASIS

Recommendations

1. *The Arizona State Retirement System Primary Funding Objectives presented in Figure 2 [of the consultants' final report] should be incorporated into State Statutes.*

   Committee Action: Adopted, but amended to incorporate Michael Carter's comments concerning this recommendation. (Note: The committee adopted the minimum/maximum funding level concept in general, but felt that further study was needed to determine what that funding level should be.)

2. *Statutorily establish the objective of maintaining the Arizona State Retirement System's* ***Actuarial Value Funding Ratio*** *at a* **minimum** *funding level of 1.05 to provide a reserve for contingencies and losses from unanticipated market and investment volatility.*

Committee Action: Adopted with the following amendments: 1) the word "minimum" was replaced with "target"; 2) the words "of 1.05" are stricken; and 3) the target funding level is to be determined after further study.

3. *The statutory, actuarially determined contribution rate should be constitutionally shielded from legislated reduction.*

Committee Action: Did not adopt.

4. *Statutorily provide that any actuarially determined overfunding in excess of the Actuarial Value Funding Ratio's 1.05 funding level be annually transferred from the primary Retirement Fund's assets into the Post-Retirement Benefit Enhancement Dedicated Trust Fund.*

Committee Action: Accepted for further study.

5. *Statutorily require that the Retirement Board contract for an investigation of the mortality, disability, service and other experiences of the members and employers participating in the Arizona State Retirement System as of the year ended June 30, 1991; and that such experience investigation be conducted at least every four years thereafter; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.*

Committee Action: Adopted, but amended to instead require such a study be done every five years.

6. *Statutorily require that when the effect of a change in the actuarial assumptions used for the annual actuarial valuation of the Arizona State Retirement System causes the contribution rate to change by more than +/- 30% of itself, that the Legislature, in cooperation with the Retirement Board, commission an independent actuarial review of the most recent experience study and actuarial valuation with the objective of validating the changes in the actuarial assumptions; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.*

Committee Action: Accepted for further study.

7. *Statutorily require that when the effect of a change in the actuarial assumptions used for the annual actuarial valuation of the Arizona State Retirement System causes the actuarial accrued liability to change by more than +/- 20% of itself, that the Legislature, in cooperation with the Retirement Board, commission an independent actuarial review of the most recent experience study and actuarial valuation with the objective of validating the changes in the actuarial assumptions; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.*

   Committee Action: *Accepted for further study.*

8. *Consider conducting an actuarial study to determine the feasibility and cost-effectiveness of either fully or partially experience rating the contribution rates of the employers participating in the Arizona State Retirement System; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.*

   Committee Action: *Adopted.*

9. *Consider conducting an actuarial study to determine the feasibility and cost-effectiveness of 100% employer funding of the Arizona State Retirement System, with the initial cost to convert to this funding approach being paid via eliminating one, or more, of the next employee pay raises; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.*

   Committee Action: *Adopted.*

ITEM 9: EXAMINE THE PRESENT INVESTMENT GUIDELINES OF THE SYSTEM WITH A POLICY GOAL OF PROVIDING FOR ALLOWABLE INVESTMENTS IN ORDER TO PROVIDE TIMELY PAYMENT TO THE SYSTEM'S BENEFICIARIES IN THEIR RETIREMENT

Recommendations

1. *Consideration should be given to increasing the limit on foreign investments to 25% of the Arizona State Retirement System's assets, instead of entirely removing this restriction.*

   Committee Action: *Adopted, but amended to specify that the limit be increased "up to" 25%.*

2. *Concurrent with the statutory implementation of this Report's recommendations, consideration should be given to complete recodification and simplification of the present retirement statutes.*

   Committee Action: *Adopted.*

LIST OF ATTACHMENTS

ATTACHMENT A

Conference Engrossed

ISSUED BY
JIM SHUMWAY
SECRETARY OF STATE

State of Arizona
Senate
Thirty-ninth Legislature
First Regular Session
1989

Chapter 310

SENATE BILL 1129

AN ACT

RELATING TO PUBLIC OFFICERS AND EMPLOYEES; PRESCRIBING CONDITIONS UNDER WHICH A SURVIVING DEPENDENT OF A RETIRED MEMBER OF THE STATE RETIREMENT SYSTEM MAY CONTINUE TO OBTAIN GROUP HEALTH AND ACCIDENT COVERAGE; PRESCRIBING ELIGIBILITY OF UNIVERSITY EMPLOYEES FOR HEALTH AND ACCIDENT INSURANCE; PRESCRIBING CHANGE IN CALCULATION OF TOTAL EMPLOYER CONTRIBUTION TO RETIREMENT PLAN; PRESCRIBING DUTIES OF THE DEPARTMENT OF ADMINISTRATION; PRESCRIBING DEFINITIONS; PRESCRIBING PAYMENT OF GROUP HEALTH AND ACCIDENT INSURANCE PREMIUMS FROM THE STATE RETIREMENT PLAN; PRESCRIBING CREDIT FOR MILITARY SERVICE; PRESCRIBING CHANGE IN CALCULATION OF EMPLOYER CONTRIBUTIONS TO ELECTED OFFICIALS' RETIREMENT PLAN; PRESCRIBING CHANGE IN EMPLOYER AND EMPLOYEE CONTRIBUTIONS TO THE PUBLIC SAFETY PERSONNEL RETIREMENT PLAN; PRESCRIBING REINSTATEMENT OF SURVIVING SPOUSES' PENSIONS PREVIOUSLY TERMINATED BY REMARRIAGE; PRESCRIBING PAYMENT AMOUNTS; PROVIDING FOR TRANSFER OF CREDITED SERVICE BETWEEN RETIREMENT FUNDS UPON CHANGE OF EMPLOYMENT; PROVIDING ANNUAL BENEFIT INCREASES FOR EMPLOYEES ON PERMANENT DISABILITY; PRESCRIBING PAYMENT OF GROUP HEALTH INSURANCE FOR MEMBERS, SURVIVORS, AND DEPENDENTS; PRESCRIBING ELIGIBILITY FOR A NORMAL RETIREMENT PENSION FOR MEMBERS OF THE CORRECTIONS OFFICER RETIREMENT PLAN; PRESCRIBING CERTAIN EMPLOYER AND MEMBER CONTRIBUTIONS TO THE CORRECTIONS OFFICER RETIREMENT PLAN; PRESCRIBING RECALCULATION OF BENEFITS OF CERTAIN MEMBERS OF THE ARIZONA STATE RETIREMENT PLAN WHO RETIRED BEFORE A CERTAIN DATE AND RECALCULATION OF THE BENEFIT PAYMENTS TO MEMBERS AND BENEFICIARIES; PRESCRIBING A PERMANENT BENEFIT INCREASE OF TWO PER CENT OF THE BASE BENEFITS FOR PERSONS RECEIVING RETIREMENT BENEFITS ON OR BEFORE A CERTAIN DATE; PRESCRIBING RETROACTIVE TAX BENEFIT EQUITY ALLOWANCES; PRESCRIBING NORMAL RETIREMENT BENEFIT AMOUNT; PRESCRIBING REDUCTION IN STATE AID TO SCHOOLS; ESTABLISHING A LEGISLATIVE COUNCIL STUDY COMMITTEE ON THE STATE RETIREMENT SYSTEM; PRESCRIBING MEMBERS, PURPOSE, REIMBURSEMENT OF EXPENSES, STAFFING, AND A REPORT; PRESCRIBING LEGISLATIVE REIMBURSEMENT TO STATE RETIREMENT SYSTEM; PRESCRIBING AUTOMATIC TRANSFER OF CERTAIN EMPLOYEES FROM THE ARIZONA STATE RETIREMENT SYSTEM TO THE CORRECTIONS OFFICER RETIREMENT PLAN; PROVIDING FOR

EXCEPTIONS; PROVIDING FOR TRANSFER OF ASSETS FROM THE ARIZONA STATE RETIREMENT SYSTEM TO THE CORRECTIONS OFFICER RETIREMENT PLAN; MAKING TECHNICAL CORRECTIONS; REIMBURSING AN ACCOUNT FOR CERTAIN AMOUNTS SUBTRACTED; PRESCRIBING A REPORT; AMENDING SECTIONS 38-651.01, 38-781.01, 38-781.05, 38-781.41, 38-810, 38-843, 38-855, 38-856, 38-857, 38-881, 38-885, 38-891 AND 38-901, ARIZONA REVISED STATUTES; AMENDING TITLE 38, CHAPTER 5, ARTICLE 2.1, ARIZONA REVISED STATUTES, BY ADDING SECTION 38-781.42; AMENDING TITLE 38, CHAPTER 5, ARTICLE 4, ARIZONA REVISED STATUTES, BY ADDING SECTION 38-846.03; AMENDING TITLE 38, CHAPTER 5, ARIZONA REVISED STATUTES, BY ADDING ARTICLE 7; PROVIDING FOR CERTAIN REPEAL, AND PROVIDING FOR CONDITIONAL ENACTMENT.

Be it enacted by the Legislature of the State of Arizona:

Sec. 22. Legislative council study committee on the state retirement system; purpose

A. A legislative council joint study committee on the state retirement system is established consisting of five public members who are knowledgeable in public or private retirement systems and are appointed jointly by the president of the senate and the speaker of the house of representatives, five members of the senate who are appointed by the president of the senate and five members of the house of representatives who are appointed by the speaker of the house of representatives. The president of the senate and the speaker of the house of representatives shall each appoint one member of the committee as cochairman.

B. The committee shall evaluate the state retirement system and its structure, operation and accomplishments. In particular, the committee shall examine:

1. The current benefit structure of the system and compare it to those benefits provided by other state retirement systems and private pension systems.

2. The partial health and accident premium payments authorized for certain retired members of the Arizona state retirement plan and their dependents pursuant to Laws 1988, chapter 277, section 3 and Laws 1988, chapter 307, section 1. The committee shall also examine the effect on the Arizona state retirement system and current retirees if the benefits authorized pursuant to those laws were modified or eliminated but replaced with another benefit program.

3. The sufficiency of the statutes relating to the Arizona state retirement system and plan and whether or not the existing statutes are being followed and implemented.

4. The composition, function and effectiveness of the Arizona state retirement system board and the investment advisory council.

5. The policies regarding post-retirement benefit increases for retired persons.

6. The policies regarding early retirement incentives with a particular examination on the feasibility of implementing a corresponding actuarial reduction in benefits.

7. Whether the present funding of the Arizona state retirement system adequately ensures that advanced funding of the system is provided on a sound actuarial basis.

8. The feasibility of requiring by legislation or house and senate rule a requirement that all proposed retirement legislation be accompanied by actuarial cost estimates produced by an independent actuary responsible only to the legislature indicating the actuarial assumptions used, the method used to compute the cost, the potential annual cost rates and the total additional liability created by the proposal.

9. The present investment guidelines of the system with a policy goal of providing for allowable investments in order to provide timely payment to the system's beneficiaries in their retirement.

10. The implications on continuing the state tax exempt status on pensions received by retired members of the Arizona state retirement system.

11. The feasibility of increasing benefits to future retirees to hold them harmless as a result of taxing the benefits they receive on retirement.

12. Any other areas the committee determines is necessary in order to properly evaluate the Arizona state retirement system.

C. Members of the committee are not eligible to receive compensation but are eligible for reimbursement for expenses pursuant to title 38, chapter 4, article 2, Arizona Revised Statutes.

D. The committee shall provide a report of its findings and any recommendations to the president of the senate and the speaker of the house of representatives on or before December 31, 1989.

E. The staff and the actuary employed by the Arizona state retirement system shall provide the committee with any necessary technical services. The committee may use personnel employed by the legislative council for necessary technical, administrative and operational services and, with the approval of the legislative council, may hire consultants for technical or legal services as necessary from monies appropriated to the legislative council. The legislature shall appropriate necessary monies to reimburse the legislative council for the hiring of the consultants from the Arizona state retirement system fund.

(SECTION 22 OF LAWS 1989, CHAPTER 310 ONLY)

__Attachment B__

Study committee minutes
of
September 18, 1989

ATTACHMENT B

Chief Clerk
rec'd 9/27/89

MINUTES OF

**THE LEGISLATIVE COUNCIL STUDY COMMITTEE
TO EVALUATE THE STATE RETIREMENT SYSTEM**

DATE: Monday, September 18, 1989

PLACE: House Hearing Room #3

The meeting was called to order at 9:40 a.m. by Speaker Hull, Co-chair, and roll call was taken:

MEMBERS PRESENT:

Speaker Jane Dee Hull, Co-chair
Representative Nancy Wessel
Representative Susan Gerard

Senator Jeff Hill
Senator Jones Osborn
Senator A.V. "Bill" Hardt

Lowell Sutton
Alan Maguire
Richard Smith
William Adler

MEMBERS EXCUSED:

Senator Doug Todd, Co-chair
Senator John Mawhinney
Representative Carmen Cajero
Darrell Guy

Mrs. Hull asked the private sector members of the Committee to introduce themselves and give their backgrounds:

WILLIAM ADLER, an insurance agent with New York Life, stated he works in the pre-retirement planning area and spent a great amount of time working with people in State Retirement as a consultant.

LOWELL SUTTON said he had worked in the retirement area for 40 years in Arizona and South Dakota. Now retired, he was the former Administrator for the Public Safety Personnel Retirement System, the Judges' System and the Elected Officials' System for 18 years.

ALAN MAGUIRE explained he was formerly the active employee on the State Retirement Board and Deputy State Treasurer for Arizona. He is currently working for Rauscher, Pierce, Refsnes, Inc., an investment banking firm.

RICHARD SMITH, Chairman of the Department of Finance at Arizona State University, stated he was involved in a market valuation study of the State Retirement Plan last spring.

Mrs. Hull explained that **DARRELL GUY** is President of the Arizona Education Association.

Mrs. Hull stated the following areas the Committee would be considering:

1. Maximizing Benefits - how to best invest Retirement System monies.

2. Permanent COLA - one that would not bankrupt the System, perhaps patterning it after the Public Safety System.

3. Sufficiency of the Statutes - statutes need to be recodified and rewritten.

4. Board Membership, Powers and Duties - review the Legislative Council Study of 1983.

5. State's 5-Year Contribution - how it affects the Retirement System.

6. Davis Michigan Case - what to do for future State retirees in light of that decision.

7. Health insurance.

8. DOC Transfer to Separate Retirement Group - lack of health benefits.

Mrs. Hull introduced Senator Webster from Missouri, who was in attendance to learn more about the Arizona Retirement System.

MICHAEL CARTER, an Actuary with the Wyatt Company, presented an Analysis of the Arizona State Retirement System Spendable Income (copy filed with original minutes). He explained how the Arizona System stands relative to other public and private sector systems.

Mr. Carter explained that the Spendable Income Analysis compares the spendable income of a retiree after retirement with the income that member was receiving before retirement, to determine how well a retirement plan is providing benefits to its members. He stated the factors used in determining pre-retirement spendable income are the social security tax, federal tax, state contributions and tax, work-related expenses, and personal savings.

Mr. Carter pointed out that the Arizona Retirement System does not have an automatic cost-of-living increase like some states, but rather depends upon the Legislature to provide increases. The only inflation protection the retiree has is provided by Social Security.

Richard Smith inquired whether the Analysis considered a married couple situation in addition to a single individual because the cost adjustments would be higher as a result of reducing a married couples' child rearing expenses. Mr. Carter explained that the retiring employee would have already adjusted their life style before retiring.

Regarding private savings, Mr. Smith noted they were taken out before spendable income in figuring the pre-retirement spendable income but nothing was factored back in for the post-retirement figure. Mr. Carter explained it would typically be assumed they would cover post-retirement medical expenses.

Representative Evans asked if the graphs were based on projected unit credits. Mr. Carter stated there was no relevance in terms of the benefits being delivered because the contribution level does not impact the level of the benefits, however the reverse is true.

Mr. Adler asked what the impact would be since he assumed the report was based on option 1, which is the maximum benefit under the Plan and did not take into consideration any of the other six options. Mr. Carter confirmed option 1 was used because in typically doing a spendable analysis you look at what the normal option would be. Mr. Adler said he would disagree and the dollar amount could range from 15% to 20% less.

In response to Speaker Hull, Mr. Carter explained the study was not prepared with any preconceived notion. He said the System inquired and he had heard that other systems do spendable income analyses from time to time.

Speaker Hull asked if a past study, instead of a future analysis, wouldn't show the Legislative increases of $40.00 to 3% over the last 10 years. Mr. Carter stated it would be correct that ad hocs would show up and maybe it wouldn't look as serious, however, ten years ago we were experiencing double digit inflation and even the ad hocs did not keep up.

Speaker Hull inquired what percentage of working income retirement is based on. Mr. Carter stated the figure used most often is 70% of gross pre-retirement income.

Mr. Carter explained that the average retiree today receives $25,000 per year, has 22 to 26 years of service and is 62 years of age. He said there are also a number of people retiring with less than $25,000 income and less than 25 years of service.

Mr. Carter explained that the Arizona Retirement System is a defined benefit system and an individual takes a reduction in benefits if they retire early.

Mr. Carter, in reviewing the charts contained in the Wisconsin Report, explained that private sector retirement benefits in general are lower than the public sector because private sector plans are generally non-contributory, the cost being totally the obligation of the employer. He pointed out another reason for lower benefits in the private sector is that you would typically expect higher pay in the private sector while the public sector employee makes less money but is provided more security in post-retirement years.

Representative Evans noted a number of states were using investment experience and inquired whether a projected 8% investment which realized a 10% return would net a 2% adjustment. Mr. Carter responded if the actual investment return exceeded the assumed investment return, yes it could be used to provide benefits or to decrease the contribution rate.

Mr. Adler asked if there were any states that vest. Mr. Carter explained in the Arizona program, as is typical with other states, five or more years of service are considered vested and may draw a retirement benefit. If the employee elects to withdraw, they are forfeiting the state-provided benefit. He said most private sector plans have also moved to a 5-year vesting provision.

ED GALLISON, Director of the State Retirement System, explained how the Arizona State Retirement System operates and compares to other states. He referenced the Wisconsin Study (filed with original minutes) as being right to the point. He explained the purpose of a retirement system is to attract competent employees to the public sector. He explained the handout entitled Section L - Statistical Tables (filed with original minutes).

Mr. Gallison stated the State Retirement agenda was as follows:

1. Automatic COLA (cost of living adjustment) - it is the biggest gap between Arizona's System and others around the country.

2. Equity in the System - retirees feel the Legislature went back on a promise.

3. Health Insurance - consideration of the ten-year eligibility provision.

4. Administration of Retiree Insurance - look at effectiveness from the retirees perspective.

5. Davis/Michigan Case - assure future retirees an equal increase.

6. Funding - problem with volatility in contribution rates; look at vested employee contribution rate.

7. Investment Advisory Council - they would like to make a presentation before the Committee regarding amendments to the statutes on removal of restrictions on certain assets.

8. Indemnification of Council Members - liability problem; consider how other states address it.

9. Procurement Code - possible exemption.

Mr. Gallison, in summary, stated that as far as benefits go, Arizona does not compare favorably with other states, however, looking at the contribution rate as compares to other states, it's a bargain. He stressed that retirees do not like change; they want consistency.

Representative Gerard questioned how many "double-dippers" the Arizona Retirement System had. Mr. Gallison said they did not have any figures, but thought it was a small percentage.

Representative Evans inquired if all of the inequities within the System had been taken care of in regard to people who fell through the cracks. Mr. Gallison said all of the extreme cases had been but there were other problems they don't know how to address because of the differences in when they retired, their base salary, and their age when they retired.

Senator Osborn, with respect to the COLA, questioned whether any characteristics had been developed to initiate it. Mr. Gallison said they had not settled on any formula which would be appropriate but they had done cost analyses in the past on some types of COLAs. His personal preference would be to see an actuarial funded plan.

Representative Wessel asked if there were any figures available on how many people opted for early retirement. Mr. Gallison said they are still counting, but he would guess by the end of the window, November 15, between 3,500 and 4,000 would retire out of 8,500 eligible. In response to Representative Wessel, he added that the majority of them were school teachers.

Senator Hardt asked Mr. Gallison if he had changed his mind about the fixed contribution. Mr. Gallison responded he hadn't but thought it presented problems because when politics are involved with contributions, rates change.

Senator Osborn stated that most of the State's ad hoc changes had been in the area of benefit increases. He questioned how the employee contribution rate would be affected if all of those were dropped and a permanent actuarial funded COLA were instituted. Mr. Gallison stated it would basically be experience related because you would see just the types of changes that would take you from last year's rate to this year's rate.

Speaker Hull thanked staff for the information they had compiled for the Committee members and said they would be sending Committee members the ASU study and the Legislative Council study. She told the members to call her office with anything they wanted included on the next agenda.

DR. ROBERT J. LETSON, Legislative Chairman of CARE (Coalition of Active and Retired Employees) expressed the following concerns of the CARE Board:

1. COLA - need to address equity of the Plan and System.

2. Health Insurance - strongly support the continuation of the benefit for employees and dependents as it was passed.

3. Tax Equity 3% Provision - feel the provision of law contained in the retirement section was a contractual agreement that their benefits would not be taxed.

4. Integrity of the System - want the Legislature to maintain an actuarial required rate, whatever that might be.

DOROTHY KRAUSE, President APEA/AFSCME, representing the AFSCME Retirees, expressed the following concerns:

1. Opposed to allowing the Legislature to simply remove funds as if they were a savings and loan association.

2. Need escalator for retirees with more than 45 years credited service, which Legislature did not enact last year.

3. Need annual automatic increases. Twenty states have a cost-of-living adjustment built into the System.

4. Institute a 3% hold harmless clause for all persons employed before September, 1989 who subsequently retire, to fulfill what they believe is the state's contractual agreement.

5. Normal retirement should be reduced to 85.

6. Correctional officers must have parity in the 3% hold harmless and health insurance benefits.

MEETING OF COMMITTEE ON

Hearing Room No. 3

DATE 9/18/87

TIME 9:30 A.M.

NAME	REPRESENTING	BILL NO
Mary Kay Haviland	Az. Educ Assoc.	
S. Gettsch	ARC	
Antonio G. Carbajal	AFSCME	
Virginia Rogers Tuchinsky	ARTA & AREA	
[illegible] Jr	ASREA	
Bill Cook	ASREA	
Lon Pelton	ASRS	
Mary K. Binney	AFSCME	
W. Michael Carter	ASRS	
Randy Fenholt	ATRA	
Robert Morehouse	AARP. 741 E Claremont Phx Az 85014 (274-8395)	
Naomi Morehouse	ARTA	
MATTHEW SHAFFER	EBO	
ROBERT LETSON	CARE	
David D Rubis	UARA	
Robert Zielinski	Himself	
DONALD J. SHEA	AFSCME Retirees	
Dorothy Krance	APEA/AFSCME Retirees	
Dave Horwitz	AFSCME	
Franklin Marshall	ARTA	
ED WREN	FHP	

7. Juvenile Corrections employees must be properly covered by their current retirement system when the Department of Corrections splits in 1990.

8. Turn accumulated unused sick leave into retirement service credit.

9. Employee contribution to Retirement System must be at a fixed fair level.

Representative Wessel questioned Ms. Krause's rationale for wanting to reduce normal retirement to 85. Ms. Krause responded it would give those people who have put in the time the benefit of retiring and give employers the opportunity to replace higher pay level employees with people at a lower pay scale. Mrs. Wessel pointed out that employees want to work longer these days.

Speaker Hull adjourned the meeting at 12:00 noon.

Respectfully submitted,

Rosetta B. Cutty

Rosetta B. Cutty
Committee Secretary

Attachment C

Study committee minutes
of
December 11, 1989

ATTACHMENT C

Rec'd 12/20/

Minutes of the

LEGISLATIVE COUNCIL STUDY COMMITTEE
TO EVALUATE THE STATE RETIREMENT SYSTEM

December 11, 1989
Senate Hearing Room 2

The meeting of the Legislative Council Study Committee to evaluate the State Retirement System was called to order at 9:45 a.m. by Co-chairman Todd.

Members Present

Senator Osborn	Representative Cajero
Senator Hardt	Representative Evans
Co-chairman Todd	Representative Gerard
	Representative Wessel
	Co-chairman Hull

William Adler
Darrell Guy
Alan Maguire
Richard Smith

Members Absent

Senator Hill
Senator Mawhinney
Lowell Sutton

Others Present

(See attached sign-in sheet)

The following corrections were made to the minutes for the meeting of September 18, 1989:

Page 5, the fourth paragraph, line 2, strike "not"
Page 6, in the paragraph numbered "5", strike "85" and insert "80"

Speaker Hull made a motion that the minutes of September 18, 1989 be approved as corrected. Representative Wessel seconded the motion. The motion carried.

Edwin C. Gallison, Director, Arizona State Retirement System, gave the legislative history and background of the retiree medical insurance program. Mr. Gallison stated that in 1988, SB 1235 was introduced as a "$35 across the board participation" in group health insurance plans, with a benefit to be provided from the retirement fund for retirees with ten or more creditable years of service in the plan. Also introduced in the House of Representatives was a companion bill to SB 1235. Mr. Gallison explained that during this time, the Department of Administration (DOA) was receiving bids for group insurance plans which allowed retired State employees to participate at their own cost, however, DOA found they were experiencing drastic rate increases, especially from the indemnity carriers. Mr. Gallison gave the Committee examples of the rate increases. In regard to these increases, Mr. Gallison further explained the ramifications for the retirees. As a result, SB 1235 was amended and passed the Legislature containing the provisions that a single under 65 benefit would be $95 a month and a single benefit would be $65 a month.

Mr. Gallison further explained that with the passage of SB 1235 (Laws 1988, Chapter 277), it was understood they would be looking at that "family of insurance carriers" that the State had contracted with to also provide insurance for other retired members of ASRS. Mr. Gallison said in addition to the passage of SB 1235, HB 2143 was introduced that provided assistance for financing premiums for dependents. Mr. Gallison gave the figures for the companion benefits and stated that the benefits were designed to "hold harmless" the retirees from the rapidly increasing health insurance premiums. After the passage of HB 2143 (Laws 1988, Chapter 307), DOA assumed they would contact those carriers and there would be an open enrollment period with an effective date of January 1989. Mr. Gallison informed the Committee that the carriers responded to DOA with "no way." Mr. Gallison stressed that since DOA was mandated by legislation to provide a plan, the premium structure had to be redesigned and a bidding process put in place to select a carrier. Mr. Gallison testified that finally a carrier was selected by mid-October, which left very little time to provide information on open enrollment to the retirees.

Mr. Gallison stated that as of November 19, out of nearly 35,000 retired members and their beneficiaries, there are 25,800 that are eligible for the health insurance benefits. Mr. Gallison pointed out that in addition to the DOA plan, the ASRS will pay the benefits if a member is eligible to participate in a former employer's group plan. Mr. Gallison informed the Committee there are 4,078 members that are participating and that are also eligible for other plans and 10,300 participating through DOA. Mr. Gallison noted that these are not all FHP participants, but also those that are retired State employees and continue to participate in the other plans in which they are eligible. Mr. Gallison concluded that in total, the ASRS is paying a benefit for 14,380 retirees out of 25,802 eligible retirees. Mr. Gallison emphasized that this does not include any activity from the open enrollment period they are experiencing right now.

Mr. Gallison estimated there are 67 per cent of those eligible receiving benefits from the legislation and roughly 6,000 that are in the category with five to nine years of service and feel they have vested rights after five years of service. Mr. Gallison stated the cost of prorating the benefit for the five to nine year category would be relatively low. Mr. Gallison informed the Committee that this leaves only 500 retirees that are not eligible for some assistance in their health benefits. Mr. Gallison emphasized that the plan enacted by Arizona is the envy of other States.

Mr. Gallison further informed the Committee that the cost actuarially to fund the plan for this year was less than four-tenths of one per cent for both the employee and employer and for next year it will be less than three-tenths of one per cent. Mr. Gallison concluded that ASRS is presently paying almost $1.5 million per month for those participating in other employer plans and almost $1 million per month for those participating through DOA.

In response to Senator Todd's questions, Mr. Gallison explained that ASRS is basically both a payroll service/funding agent. Mr. Gallison stated that for those participating in other plans, the ASRS pay those employers the appropriate amounts toward their participants' medical costs. For participants covered through DOA, the ASRS withholds the difference from retirement checks in addition to paying the amount that is due. Mr. Gallison emphasized that ASRS is not involved in the administration of the insurance contract.

Speaker Hull asked if a check was simply issued to a retiree, would that money be taxed. Mr. Gallison answered that any time there is a cash benefit, it would affect a person's income tax.

Representative Cajero questioned Mr. Gallison if the retirees were to receive a check, would they be free to pick their own carrier. Mr. Gallison answered that the representatives from FHP would have to answer that, but it was his opinion that this would dilute the entire underwriting process.

Discussion ensued regarding the prorating of benefits for the approximately 6,000 retirees who are vested with five to nine years of service. Mr. Gallison stated that the cost would be six one-hundredths of one per cent, for a total of nine one-hundredths of one per cent.

Regarding the 4,000 members that Mr. Gallison testified were being paid through their former employers, Mr. Adler asked if that was a trend that appeared to be decreasing as far as employer participation and their payments are concerned. Mr. Gallison answered that the numbers have been increasing as new retirees enter the eligibility field, but he sees the trend reversing because those employers are becoming more reluctant to cover retirees.

Cathy McGonigle, Assistant Director, Personnel Division, Department of Administration, testified to the Committee that the role of DOA is to procure the insurance coverage and to administer it at affordable rates. Ms. McGonigle informed the Committee that the number of retirees has increased in the plan from 2,000 to approximately 15,000 State retirees and their dependents. Ms. McGonigle stated that this year the open enrollment process was easier, because of advance planning. Ms. McGonigle gave information on a consumer awareness committee that has been established to meet with FHP. In regard to retirees being provided the money or subsidy to enable them to chose their own insurance carrier, Ms. McGonigle stressed that from DOA's perspective the viability of the program needs to be considered.

In response to Senator Todd's questions, Ms. McGonigle stated that FHP did the majority of the work on the open enrollment publicity program, but it was a collaborative effort with DOA and ASRS.

Bruce Bodaken, Regional Vice President, FHP, Inc., reviewed the background of FHP and their involvement with the retiree program. Mr. Bodaken testified that FHP Health Care is one of the largest federally qualified health maintenance organizations in the United States and was founded in Long Beach, California in 1961 and now has over 500,000 members. Mr. Bodaken informed the Committee that in 1982 Medicare selected FHP to be the first HMO in California to offer an alternative to traditional Medicare through a Medicare risk contract with the Federal government - called the FHP Senior Plan. Mr. Bodaken stated that FHP came to Arizona in 1985, and now Arizona has a membership of nearly 60,000 members. As a result of Arizona's most recent open enrollment, there is a currently a retiree membership of approximately 14,000.

Mr. Bodaken stated that in 1988 FHP responded to the request for proposals issued by the State for the retiree program. Mr. Bodaken outlined the reasons that FHP was chosen by the State for the program and distributed to the Committee information on the options that are available to the retirees (Attachment A). Mr. Bodaken informed the Committee that FHP issued a newsletter to all retirees to notify them of the open enrollment period and met with thousands of retirees throughout the state and enrolled over 8,000 retirees.

Mr. Bodaken related the problems that were encountered in 1988 with having only three weeks to conduct open enrollment for the retirees. Mr. Bodaken stated that at the request of DOA, the enrollment period was extended for two weeks to further accommodate the retirees. Mr. Bodaken emphasized that FHP and the State did everything they could within the time frames allowed to assure the retirees that there was an FHP option which allowed them to stay with their previous physician, i.e., the indemnity option, but still there was confusion. Mr. Bodaken informed the Committee that FHP has maintained a close working relationship with DOA and ASRS and their hard work has paid off. Mr. Bodaken said that out of a membership base of 14,000 members, only five retirees have "dropped" from the program.

Mr. Bodaken noted that the rate increase that FHP offered for the retiree program, effective January 1, 1989 was only 11 per cent and that is well below other insurers. Mr. Bodaken pointed out to the Committee that FHP was the only company willing to bid on both the under age 65 early retirees as well as the over 65 population and without this program, many retirees would have a difficult time finding insurance at a reasonable rate. Mr. Bodaken concluded that FHP was committed to the State of Arizona retiree program and stressed the importance of continued cooperation between FHP, ASRS, DOA and the Legislature.

Discussion ensued between Senator Osborn and Mr. Bodaken regarding underwriting insurance for large groups. Senator Osborn commented that he had the impression from Mr. Bodaken's testimony that the larger the group for underwriting, the lower the rates would be. Mr. Bodaken explained that their largest group is the Medicare risk group, but FHP receives reimbursement for this program from the Federal government, and although Arizona's retiree program was their largest account in Arizona, at this time there was not enough experience with this account to give an accurate answer to Senator Osborn's questions.

In response to questions from Representative Cajero, Mr. Bodaken answered that all hospitals in Pima County will accept FHP reimbursement for the indemnity option, but on the HMO plan there is a provider list for doctors and hospitals.

Representative Gerard stated that she had the impression from her constituents that the HMO was the only option available. Mr. Bodaken replied that the HMO was an easier process, with less paper work to complete.

Mr. Adler asked Mr. Bodaken what the effect would be should an option be allowed for members of the ASRS to opt to have payments made directly or indirectly through increases in compensation so they can insure themselves with their own carrier. Mr. Bodaken expressed great concern and stated that each category, over 65 and under 65, would have their own difficulties in obtaining coverage, with emphasis on the high cost and eligibility problems that would be encountered.

Mr. Adler asked Mr. Bodaken to explain the concept of "adverse selection." Mr. Bodaken stated that any time you underwrite an insurance product, you "get the good with the bad" and usually with a large enough account there should be reasonable rate increases, but if there is a smaller population that is in a high risk category, it is called "adverse selection." Mr. Bodaken stated that if a number of retirees opted out of the program, with the possibility that those retirees were the healthiest, that would leave the highest risk retirees in the account and this would have an impact on the rates or perhaps the insurer's ability to make the program work.

Representative Wessel asked Mr. Bodaken why the five members out of 14,000 left the program. Mr. Bodaken answered that two of the five had alternative coverage, and he would have to obtain the remaining information for her at a later time.

Speaker Hull explained for those present that she would be making a motion for the Committee to go into a session to discuss the hiring of an actuary. Speaker Hull stated that the retirement bill allowed for an actuarial study to be conducted and as the retirement system is extremely complicated to understand, the Committee felt they could use professional help in evaluating the system. Speaker Hull added that public testimony would be heard by the Committee after this session was completed.

Speaker Hull made a motion that pursuant to section 38-431.02, subsection D, A.R.S., an actual emergency exists and that a meeting be held immediately for the purpose of considering and making a recommendation regarding the hiring of a consultant for the Legislative Council Study Committee to Evaluate the State Retirement System. Representative Wessel seconded the motion.

Senator Todd informed those present that the Committee members were the only ones that were allowed to ask questions of the Staff and participate in the discussion as a result of Speaker Hull's motion.

Speaker Hull added that the reason this was taking place so quickly was because the study would be conducted through Legislative Council and the Legislative Council meeting was scheduled for tomorrow.

The motion carried.

Lisa Hardy, House Research Analyst, gave a brief explanation of the procedures that took place to locate a actuarial firm to conduct the study of the State retirement system. Ms. Hardy stated that Speaker Hull and Senator Todd met with several actuaries that were recommended and decided on the firm of Kaufmann & Goble. Ms. Hardy reviewed for the Committee the firm's qualifications.

Ms. Hardy briefed the Committee on the proposal received from Kaufmann & Goble and stated that it corresponded to the items that are set forth in SB 1129 (Laws 1988, Chapter 310), except for items 2, 10 and 11.

Senator Todd said that one of the goals of the study was to compare Arizona's retirement system to other systems and Kaufmann & Goble, among other qualifications, have a broad background in that area.

Mr. Adler pointed out that since the Committee was scheduled for sunset at the end of this month and given the amount of money involved for the study, should the Committee's actions be contingent on the Committee's extension? Senator Todd answered that extending the Committee by legislation was the plan, but if the legislation did not survive, the two respective standing committees that deal in retirement could benefit from the study. Senator Todd added that the Speaker of the House of Representatives and Senate President could also name a Committee.

In response to questions from Senator Hardt, Speaker Hull stated that two actuary firms were considered and Kaufmann & Goble had the most impressive credentials with a willingness to work with legislative staff and the firm would be able to have information prepared for the Committee by February.

Ms. Hardy informed the Committee that the total cost of the study represented a 35% reduction from the original proposal from Kaufmann & Goble, which was originally $87,325 and now is a minimum of $57,820, with a maximum of $64,275.

In response to questions from Representative Cajero, Speaker Hull stated that th legislation states that any studies were to be conducted through Legislative Council and financed by the retirement system. Speaker Hull added that some of the concerns of retirees will be addressed by this study and listed 1) the COLA issue in comparison with other states 2) the early retirement issue and 3) whether the present funding adequately ensures that there is a sound actuarial basis. Speaker Hull stated that a suggestion has been made to attach an actuarial statement to legislation if it relates to retirement.

Speaker Hull made a motion that the Study Committee to Evaluate the State Retirement System recommend to Legislative Council that the Committee contract with Kaufmann & Goble to perform the actuarial work. Representative Wessel seconded the motion.

Speaker Hull stated that she had been informed that a cap needed to be established for the study and included in her motion.

Speaker Hull restated her motion that the Study Committee to Evaluate the State Retirement System recommend to Legislative Council that the Committee contract with Kaufmann & Goble to perform the actuarial work and that a cap be set at $57,820. The motion carried.

Senator Todd stated that the Committee would now return to the regular meeting and public testimony would be heard.

Dr. David Smith, Chairman, Coalition of Active & Retirement Members (ASRS) Care, testified that his organization supported the current benefit for retirees and supported expansion to include retirees with five to nine years of service on a reduced benefit basis.

Marie Galloway, Assistant Finance Director, Payroll Department, Tucson Unified School District, informed the Committee of the problems her department encounters with the program. Ms. Galloway stated that there were communication problems and explained the billing problems the payroll department had to handle.

Senator Todd informed Ms. Galloway that this was significant information that should be discussed with DOA or FHP.

Dorothy Krause, President APEA/AFSCME Retiree Chapter, testified to the Committee that she is in favor of providing benefits on a sliding scale to those with five to ten years of creditable service.

Mrs. G. Leon, a retired educator, distributed to the Committee copies of a **Health Insurance Summary Report** (Attachment B). Ms. Leon stated that she was a member of FHP. Mrs. Leon stated confusion over the operation of the health insurance premium program through the retirement system.

At the request of Senator Todd, **Hattie Blanco, Key Account Executive, FHP,** answered Mrs. Leon's questions. Ms. Blanco stated that FHP markets a product called a Senior Plan. Ms. Blanco explained that FHP enhances the program from Medicare. Ms. Blanco said that with the Senior Plan, FHP is paid directly by the Federal government and is only available in Maricopa and Pima Counties.

Abraham Baum, a State retiree, informed the Committee that he was a State retiree with seven years creditable service and he felt that the State program was unfair to the retirees with five to nine years of creditable service. Mr. Baum emphasized that in regard to funding assistance, all retirees should be treated fairly.

Mary C. Bishop, representing herself, asked the Committee for information on an employee who retires when open enrollment is not being held. Mrs. Bishop was informed that when an employee retires it automatically makes that employee eligible for the retirement program.

Professor Leonard Kazmier, College of Business, Arizona State University, distributed to the Committee a **Position Paper** (Attachment C). Professor Kazmier testified on behalf of State employees who were involuntarily transferred from the old retirement system to the new system on July 1, 1981. Professor Kazmier informed the Committee that ASRS currently is calculating old-system benefits based on the reduced account balances, and thereby was depriving the transferred employees of the legislative commitment that there would be no reduction in benefits resulting from the mandated transfer. Professor Kazmier suggested a revised procedure for calculating the benefits under the old system would fulfill the commitment from HB 2453 (1980).

Representative Cajero asked if the members from the old system received one more check per year than the new system retirees. Professor Kasmier stated that he did not know at this time. Senator Todd stated that the Committee would ask Mr. Gallison to answer that at a later time.

Representative Evans requested that the Committee and Staff look into the Department of Corrections (DOC) retirement system and the problems that were encountered when DOC shifted from the State retirement system to their own plan.

Senator Todd stated that the Committee would try to meet again before the end of this year to review rough drafts for legislation to be introduced in the next session.

The meeting adjourned at 11:50 a.m.

Respectfully submitted,

Charmion Billington

Charmion Billington, Secretary

(Attachments on file with original minutes)

MEETING OF COMMITTEE ON

STUDY COMM. OF STATE RETIREMENT

Hearing Room No. 1

DATE 12-11-89

TIME 9:30

NAME Please Print	REPRESENTING	BILL NO.
Ronald C Murphy	Westside Retired Teacher Assn. Am Legion	
Leonard Kazmier	Faculty Association - ASU	
[illegible] A. Dickey	Retired Teacher	
[illegible] H. [illegible]	Retired Secretary	
[illegible]	AKC	
Naomi [illegible]	Ariz. Ret. Teachers	
[illegible] Sock	Ariz Ret Teachers	
[illegible]	[illegible] Teachers	
Abraham Baum	Self	
Bill Cook	AZ State Retired Emp Assoc	
Gerald Jones	A.S.R.S Board	
Ed Wren	FHP	
Bruce Bodahen	FHP	
[illegible] Pomeroy	~~[illegible]~~ ARTA	
Flora A Gustoff	ARTA	
Moyne Jamison	ARTA - CARE - MCSSC	
Marjorie Setser	ARTA	
[illegible] Damon Simmons	ARTA	
Robert A Williams Jr	ARS	
Joe Allman	ASRA	
John Brand	ASREA	
[illegible] McClellan	APEA	
Cathy McGonigle	DOA	
Lynette Lindroth	DOA	
Leroy Dunbar	DOA	

Hearing Room No. 1

MEETING OF COMMITTEE ON

DATE 12-11-89

STATE RETIREMENT STUDY

TIME 9:30

NAME Please Print	REPRESENTING	BILL NO.
Grace M Ryan	ARTA	
Edward P. Murray	PCRTA 5019 E. Cecelia St. Tucson (85711)	
Marie C. Galloway	TUSD	
Bill Soetbeer	Self	
DR David Smith	CARE	
DR Robert Letson	"	
Evelyn Johnson	ARTA	
Deloris McCoy	W.S. Retired Teachers	
Elizabeth M Harbour	West Side " "	
[illegible]	" "	
[illegible] Clements	PRTA	
Ruby [illegible]	ARTA - PRTA	
Virginia [illegible]	ARTA - AREA	
Edith Christy	SLC HRTA	
[illegible]	APEA / GF [illegible]	
[illegible] Bolme	LACT	
DONALD J. SHEA	CARE	
Gary C. Bishop	AREA	
Ben Jordan	ARTA	
Naomi Jordan	ARTA	
Dave Horowitz	AFSCME	
Franklin Maxwell	[illegible]	
TOM SHAFFER	AEA	

Attachment D

Study committee minutes
of
January 3, 1990

ATTACHMENT D

CC's Office
rec'd 1/5/90

Minutes of

LEGISLATIVE COUNCIL STUDY COMMITTEE
TO EVALUATE THE STATE RETIREMENT SYSTEM

January 3, 1990
Senate Hearing Room 2

Senator Todd, Co-chairman, called the meeting to order at 9:40 a.m.

Members Present

Senator A.V. "Bill" Hardt
Senator Jeff Hill
Senator Jones Osborn
Senator Doug Todd, Co-chairman

Representative Carmen Cajero
Representative Henry Evans
Representative Susan Gerard
Representative Nancy Wessel
Speaker Jane Dee Hull, Co-chairman

William Adler
Darrell Guy
Alan Maguire
Richard Smith
Lowell Sutton

Members Absent

Senator John Mawhinney

Others Present

See attached sign-in sheets.

CHRISTOPHER SMITH, Legislative Research Analyst, explained the draft final report (copy filed with original minutes). He added any Committee recommendations resulting from today's meeting would be included in the final report.

Senator Osborn questioned section I.2. regarding the effect on the Retirement System of modifying or eliminating benefits. He stated he did not understand the "but" and asked if it was being added as one of the options. Christopher Smith explained the language was taken directly from S.B. 1129 and was the order the committee was charged with. He added there were discussions last year in the conference committee about perhaps eliminating the health insurance premium subsidy, however he explained you cannot take away a benefit without consent. He concluded this is a discussion of replacing those benefits with equivalent benefits.

Senator Todd explained the procedure to be followed by the Committee members would be to recommend the continuation of the committee and to prepare a bill for possible introduction.

Representative Evans stated two additional areas needed to be addressed: the 5 to 9 year retirees and the DOC transfer.

Representative Evans moved that staff be instructed to prepare legislation to include on a sliding scale the 5 to 9 year retirees for supplemental medical benefits.

Senator Todd reminded Committee members they were charged with responsibilities within the Arizona Retirement System and that the Department of Corrections (DOC) and others were outside the scope of this particular committee in its statutory charge. He added the Committee has acknowledged that problems exist, but it would be more appropriate for the DOC problem to be addressed in a piece of legislation separately and not a recommendation from this Committee.

Representative Wessel seconded Mr. Evans' motion.

Mr. Adler pointed out that the Committee members received a letter from a widow which might fall under this part of the bill regarding extension of benefits.

Representative Evans' motion passed by voice vote.

Speaker Hull explained that she and President Usdane had discussed reappointment of the Committee until the consultant's report is finished.

Speaker Hull stated they would have staff look at the letter from the widow. She also explained that the Davis/Michigan Hold Harmless Benefit Increase had been discussed and the consultants were looking at it and she thought it would be wise to consider a one-time three percent increase.

Speaker Hull moved that the Committee draft legislation to include the three percent hold harmless and make it retroactive to September 15, 1989.

Representative Gerard stated concern that the three percent would not allow retirees to break even and more research needed to be done in this area.

Senator Todd asked that consideration be given to what the hold harmless does to unfunded liability and added he would have no problem with the Committee recommending it be included in the proposed legislation for consideration.

Representative Gerard seconded Speaker Hull's motion.

Mr. Adler stated he had reviewed last year's actuarial report and the three percent adjustment cost approximately $80 million, at a difference of about .41% on the rate.

Senator Todd stated the average overall cost of living is about 2 1/4% for an average retiree which does not take into consideration other sources of retirement income.

Representative Evans emphasized that the Committee should be very careful when adjusting some of the retiree benefits because of the possibility of people losing other state benefits because of the increase in income and suggested that the Retirement Board take a look at those caps.

Senator Hull's motion passed by voice vote.

Representative Gerard asked if there was anything in the proposed report that addressed the issue of whether or not the Retirement Fund is overfunded. Senator Todd explained the consultant would be addressing that question in detail.

Christopher Smith explained that the Committee is charged with looking at the current benefit structure of the System and the consultants will be, without question, looking at that very carefully. He added there is no question the Fund is overfunded by actuarial definition, but rather given the actuarial status of the Fund, there are some who see the potential for increased benefits on one side and others see the potential for reducing the contribution.

Representative Gerard asked if the issues of valuation methods would be addressed. Mr. Smith stated there was no doubt in his mind those would be addressed.

Representative Evans stated he would like the actuary to look at the direct correlation between the growth of the Plan and the net return on the funds put in years ago, because the actuarial input today had nothing to do with the actuarial input years ago.

Senator Todd, in response to Mr. Guy, explained that the recommendations considered at this meeting are ones that will be in the final report of the Committee as statutorily composed and the recommendations would then be acted on by the legislative body. He added the Committee today will finalize the action of the Committee and its final report, and subject to the action of the President and Speaker, the Committee would continue in some form.

In response to Senator Hardt, Senator Todd explained the reason for this meeting is to recommend legislation from those areas we have looked at and need to be addressed.

LISA HARDY, Legislative Research Analyst, asked if the Committee wanted the proposed legislation as an attachment to the final report or merely noted. Senator Todd asked it be written as an attachment.

Senator Todd explained that the proposed legislation attached to the final report would be in rough draft form.

Speaker Hull noted that she was in possession of the letter Mrs. Dickey wrote and would give it to staff for review and possible consideration by the Committee.

ROBERT LETSON, representing CARE/VARA, stated CARE feels all employees should be granted the three percent, including those operating under the law of tax-exempt provisions. He said the State had passed a three percent tax equity which was supposedly to be paid by the State of Arizona, but is being paid by all of the employers and employees who are not going to receive any of the tax equity.

Speaker Hull stated her recommendation was to take care of employees retiring this year which would be a part of legislation this session. She added that is a court case and emphasized that the Legislature did not tax retirees, the federal courts changed the system.

JEAN MANDELL, wife of a retired teacher, stated she sent a letter to the members of the Committee and would like that letter considered.

Senator Todd thanked all the members of the Committee and stated they would be called upon again.

Speaker Hull thanked the Committee members and stated the Committee would be continued until they received the consultant's report.

The meeting adjourned at 10:20 a.m.

Respectfully submitted,

Rosetta B. Cutty

Rosetta B. Cutty
Committee Secretary

Hearing Room No. ______

MEETING OF COMMITTEE ON

DATE 1-5-[illegible]

STATE RETIREMENT SYSTEM

TIME [illegible]

NAME Please Print	REPRESENTING	BILL NO.
Marguerite Freeman	Teacher Retirement	
[illegible]	[illegible] Retirement	
Dave Horwitz	AFSCME	
Bill Cook	[illegible]	
Marvin E Mandell	State Retirement	
Gerald Jones	A.S.R.S	
[illegible]	[illegible]	
Tom Finerty	ASRS	
Ben Jordan	PRTA	
Naomi Jordan	PRTA	
[illegible]	[illegible]	
Abraham Baum	Self	
Robert Morehouse	AARP.	
Naomi Morehouse	ARTA	
[illegible] Bravo	ASREA	
[illegible]	ARTA	
Edith Christy	AARP SLC & ARTA	
Franklin Maxwell	ARTA	
Robert [illegible]	CARE / UARA	
[illegible]	CARE	
Ed Louttit	UARA	
Ray Klein	UARA	
Virginia R Visclosky	AREA-ARTA	
[illegible]	AREA / AFSCME Retirees	
[illegible]	Ariz. Federation of Teachers	

Hearing Room No. ______

MEETING OF COMMITTEE ON

STATE RETIREMENT SYSTEM

DATE [illegible]

TIME [illegible]

NAME Please Print	REPRESENTING	BILL NO.
GENE McCLELLAN	APEA / CARE	
GREG RYAN	AFTA	
[illegible]	[illegible] / FOP	
Donald Shea	CARE / AFSCME	
[illegible]	[illegible]	
ROBERT KLINGLER	CITY OF SCOTTSDALE	
[illegible]	[illegible]	

Attachment E

Study committee minutes
of
December 5, 1990

MINUTES OF MEETING
LEGISLATIVE COUNCIL STUDY COMMITTEE
TO EVALUATE THE STATE RETIREMENT SYSTEM
December 5, 1990

Speaker Hull, Cochair, called the meeting to order at 1:45 p.m. in Hearing Room 2 of the House of Representatives.

Members present :	Members absent:
Senator Hill	Senator Mawhinney
Representative Gerard	Senator Hardt
Representative Evans	Representative Wessel
Senator Todd	Representative Cajero
Speaker Hull	Senator Osborn

Mr. Sutton
Mr. Maguire
Mr. Smith
Mr. Guy
Mr. Adler

Speaker Hull gave opening remarks and a brief background of the Legislative Council Study Committee to Evaluate the State Retirement System which was provided for by Laws 1989, Chapter 310 to be comprised of 15 members. She stated the committee held three public meetings, i.e., September 18, 1989, December 11, 1989, January 3, 1990 and this meeting held today, December 5, 1990. She sincerely thanked the many people who diligently worked on this committee and assisted the members in gathering badly needed information. The net results of this meeting would not have been made possible without the assistance of many, along with their suggestions and evaluations.

The Speaker then briefly discussed the agenda by stating the first presentation of the draft report will be given by Sidney Kaufmann of Kaufmann and Goble Associates and Dr. Corydon Hurtado of Cyberserv International Co. The Speaker announced there would be an insert to the agenda. Since the agenda had already been printed, in order to legally add to the agenda, I will read the following statement which will appear in the minutes of this meeting: "Pursuant to A.R.S. 38-431.02, subsection H, Mr. Carter's comments will be expanded to include a response to the consultants' report, in general, rather than be restricted to comments on the Postretirement Benefit Enhancement concept." She stated that Mr. Carter had looked at the report and the committee would like his comments. She asked for objections. There being none, this item is added to the agenda.

The Speaker continued addressing the agenda. After presentations to the committee there will be public comments, and then there will be consideration or adoption of recommendations contained in the consultants' final draft report. At that time, she stated she would like for the committee to go through these one by one, accept it, amend it, and accept it as amended, or defeat it. The final motion will be an adoption of the study committee's report.

The Speaker then recognized Mr. Sidney Kaufmann and Dr. Hurtado with Kaufmann and Goble Associates and Cyberserv International, Co. respectively.

I'm Sydney Kaufmann and Dr. Corydon Hurtado is at the overhead projector. Dr. Hurtado said what he was going to attempt today was to place their study into perspective as authorized by SB 1129. There were a number of items requested in that legislation but we were retained only to address certain of those items: 1, 4, 7 and 9. He stated they looked at a variety of previous studies and data and would not go into detail on all items as it is outlined in their report. He continued to outline where all of their material and computerized data was obtained and how they incorporated it into their findings.

Dr. Hurtado continued at length to review the overhead projections on the screen, a copy of which is on file.

Overhead #1 consisted of the cover sheet; #2 related to Study Authority and Data Collecting Process; #3 - The Study's Overriding Issues; #4 - Recommendations Overview; #5 - The Strategic Objectives; #6 - Strategic Objectives, continued. Some questions were asked throughout the presentation, and responded to by Dr. Hurtado - including overfunding in a few other states, and some review of their programs. He stated that most of the questions asked are answered in the appendix report. He encouraged members of the committee to look carefully at all 35 of their recommendations, which contain only 4 Postretirement Benefit Enhancement Dedicated Trust Fund recommendations. There are a great number of very important issues addressed in the 31 recommendations and it is hoped the attendees will give some consideration to them and not focus their attention on Postretirement Benefit Enhancement alone. Several recommendations have been made to include in state statutes many very important things:

Definitions - intent of the retirement system - the trust fund nature of the retirement system - primary funding objectives -to provide a protective mechanism to the Postretirement Benefit Enhancement Dedicated Trust Fund itself - and to provide an ongoing mechanism for providing a better dialogue between the legislature and the retirement board itself.

The other three strategic objectives were: 1. To bring about a greater awareness among employees, employers and legislators of the excellence of the retirement system and its outstanding benefits as compared to other states. 2. To foster in the overall administration of the retirement system consideration of concepts of moral obligations to the members - equity in the way in which postretirement benefits are awarded and the short and long range affordability to the members, employers and taxpayers of all the retirement plan and benefit enhancements. 3. Market demand and evaluating the need for benefit plan enhancements and the concept of employing alternative forms of employee benefit programs to reduce the ultimate taxpayer burden.

Some discussion ensued with reference to the various figures and statistics that had been given and Mr. Kaufmann clearly stated to the committee that we do not have final solutions for the committee, we only have given you our recommendations and a legitimate starting point for initiating a program and once and for all putting to bed the issue of how much money is available from the performance of the system to the high cost of living benefits. $400 million in a 105% ratio is not the final solution. It was the one we felt comfortable with in making our recommendations to you. We don't want to imply that this is the only way of addressing this issue.

Mr. Adler inquired as to what will happen that will no longer require $400 million of overfunding to be available for the fund. And, what effect will transferring $400 million have on the contribution rate, because that money will no longer be available? Dr. Hurtado responded by saying the $400 million of overfunding will have the impact of removing $400 million from the resources of the retirement system in terms of providing for the ongoing funding of the benefits that are mandated by law. There is a question that once that $400 million is specifically earmarked for retiree benefits it will not be available for any other purpose other than postretirement benefit enhancements.

Mr. Adler stated that in a recent Wyatt report it indicates that a 5 year history of the system did not realize overfunding until 1987. Prior to that there was an underfunding and there was no relation to assets. My question is, for what reason in your estimation have the actuaries built in an overfunding situation over the last 3 years and why don't we need it anymore to the extent we can transfer the money into a separate fund?

The Speaker stated this is a legislative study and in the end the decisions will be made by the legislature as to whether they want to retain overfunding or not. This is a policy decision and we need the input of this committee but there are approximately 85 more members of the legislature who have their opinions.

Mr. Kaufmann stated we are paying $300 million a year as of June 30, 1989 in retirement benefits. What we tried to do was to make different scenarios available to give you an idea as to how long we think, within an acceptable range, we might run that postretirement benefit fund under different scenarios. Mr. Kaufmann further stated that he would caution everyone that in looking at the exhibits that give rise to the summary results that you realize them as not only absolutes but more as indications of approximately how this fund would work. Certainly it will change based on the underlying demographics of the system itself, the rate of new members coming into the system and who subsequently retire, but we feel this is a legitimate exercise that will enable you, the audience, and the study group to realize the various impacts of running down a PRBE at different rates. I can't suggest to you the right approach. I can suggest to you that my absurd example of 133% COLA in the first year is not the right approach.

Mr. Evans stated that he had seen a table revealing 29 other states that have a PBRE, or perhaps it was 29%. Mr. Kaufmann stated his belief that 29 other states do not have a PRBE. California, however, operates similarly to our plan. In most states, if they have a COLA, it is most likely to be automatic. Discussion continued, mostly reiterating previous points made. Statistics were again reviewed.

Senator Todd was recognized. He asked Dr. Hurtado to comment on the politics and other aspects of dealing with this matter of ownership of the overfunded dollars. I believe you attributed this to retiree contributions. Dr. Hurtado stated he did not have the statistics to be specific, however, because of salaries going up dramatically it could be that maybe they didn't contribute as much as the current active members. Discussion continued. It was suggested that the actuaries take an active part in this area. Figures were produced based on the actuarial assumptions. Mr. Sutton stated that the Public Safety retirement actuaries generate this type of information every 5 years, based on length of service, amount of contributions, etc. Mr. Kaufmann stated that the Wyatt Company has published the numbers that relate to the portion of the assets that reflect retiree contributions, liabilities, employee-employer contributions, roughly 40-30-30%.

Speaker Hull inquired how many states' retirement funds are in serious trouble besides the state of Massachusetts, how many states' retirement funds are now being totally funded by state contributions because there is no money to pay out benefits and of those states how many of those states have COLAS. Dr. Hurtado stated this information is contained in Appendix 2 and he will collate the information for her.

Mr. Kaufmann was recognized. He stated he is trying to get some kind of comparison between the cost of getting the PRBE dedicated trust fund started and the cost for a more traditional permanent automatic type of COLA. He referred the members to Figure 4 on the 4th page following page 31, to an overhead which showed data creating this draft and information derived from the Wyatt study report projecting the cost for the 3.5% capped COLA being provided every 2 or 3 years projected through the year 2013. He continued to discuss these numbers and figures.

The Speaker asked Mr. Kaufmann if he would once again go over some of the findings and legislative recommendations and then have Mr. Carter speak. She specifically wanted him to review the purpose behind the fund, which is not legislatively addressed. Mr. Kaufmann said one of the things they have attempted to do with the recommendations in Figures 1, 3 and 4 is to provide a frame of reference within which the retirement system is administered and in which the benefit enhancements are awarded. Figure 1 statements put into focus really what is the purpose of the retirement system - what it is supposed to achieve. Figure 2 focuses attention on the primary funding objectives of the retirement system and Figure 3 defines the retirement system properly as a trust fund, and incorporates the definition into state statutes. Dr. Hurtado added additional comments defining the three items more explicitly. It is felt that state employees should be encouraged by the retirement system to complete a full 30-year service career and discourage early retirement and to encourage extended employment. We believe the fiscal liability of the retirement fund in the long run is attendant and closely aligned to career retirement. He then discussed years of service compared to how much retirement compensation is received, etc. Many concepts of this subject were discussed, i.e., social security, etc. He continued discussing Figures 2 and 3 at length.

Mr. Kaufmann stated that what is contained in the above referenced subjects is not earmarked toward one constituency or another. It is viewed from the standpoint of what overall will provide something reasonable to active employees measured against retired employees, understanding that in any retirement system there is no equity. Nothing is fair in a retirement system.

The Speaker then stated that the committee will go over all of the recommendations that have been discussed. Some are simple and understandable, others are controversial. Later on during the meeting each item will be gone over thoroughly again and if there is agreement they will be accepted. If not, a vote will be taken and any disagreements will be entered.

The Speaker then recognized Mr. Carter of the Wyatt Company who gave two presentations - one regarding the enhanced benefits and one on the whole consultants' report. The Speaker stated that for purposes of legality in rules, we do have a quorum present therefore this committee can vote on the proposed recommendations.

Mr. Carter addressed the committee and stated he welcomed the opportunity to return to Arizona - he loves our state. Concerning the PRBE concepts, he referred to the report that was presented to the ASRS Board on November 16th. The PRBE concept is a funding methodology to provide future nonguaranteed cost of living adjustments. Reference nonguaranteed, from a member's viewpoint, a permanent guaranteed COLA is definitely the preferred approach and this provides nonguaranteed COLAS and there is a funding impact on the ASRS. In essence, the program would transfer, actuarial gains would transfer investment gains from the main plan to the PRBE account whenever this 105% ratio is exceeded. This means the regular contribution rate to the ASRS will not decrease as it has in the past due to favorable experience. Therefore the PRBE process is not a free ride and is not a no cost item. He stated that the ability to grant future benefit improvements in the ASRS will be impaired by the transfer mechanism since those gains have been transferred out of the main account. The full cost of that change will have to be absorbed through changes in the contribution rate.

Mr. Carter said they did do some calculations as to what impact this initial $400 million transfer would cause under the current funding provisions, the statutory provisions of the ASRS. The contribution rate would be about 1% higher after the transfer of the $400 million. It would be about a 25-28% increase in the contribution rate. If this committee approves the PRBE concept and legislation is drafted, there are several items that we believe need to be clarified in the statutes. He stated that the definition of the actuarial value funding ratio (105%) criteria, needs to be defined by statute. If the 70% concept is included, then gross income needs to be tied down. Does gross income mean interest in dividends only or does it include realized gains? On the fixed income side, what about the accrual of discount and the amortization of premium in the bond purchase price? These need to be clarified so there is no misunderstanding.

Mr. Evans inquired of Mr. Carter about the portfolio transferring the $400 million. If, for some reason, those stocks or whatever jump up to $500 million we will have to determine what is going to be distributed - the actual gross income and not the increase in that particular portfolio, is that correct?

Mr. Carter responded by saying "Yes, this is my point." The statutes need to be clarified and clearly indicate what is meant by gross income. Does that include realized gains, unrealized gains and unrealized losses? If legislation is drafted, those types of issues will need to be addressed.

Senator Todd said that should a system similar to the PRBE follow our actions here, some definitions of what needs to be included and excluded in the computations certainly should be part of this statute.

Some discussion continued. Mr. Carter referred to the projections in Appendix 10. The fund would not be depleted in 23 years and the annual payout would exceed 70% of the income of that fund. Mr. Carter continued with statistics from the report. Mr. Carter stated that a question arose as they read the report. If the intent is that the investment be primarily fixed income in nature, that system employees would be folded into the PRBE account, then the Legislative Council should be encouraged to look at the legal constraints involved as the system retirees do have certain guarantees.

Senator Todd advised Mr. Carter this is the subject of considerable discussion right now between myself, staff, attorney general's office, etc.

Mr. Carter stated that they would encourage only one trust fund with separate accounting. Mr. Kaufmann and Dr. Hurtado concurred with this recommendation.

Senator Todd referred to a statement made by Mr. Carter of the future benefit improvement. Assuming that something like this is going to come about, you said "Future benefit improvements in the ASRS may become almost impossible due to interaction of PRBE funding mechanism, etc." He asked for the reasoning behind the statement. Some discussion continued between Senator Todd and Mr. Carter. Some examples were discussed, i.e. health insurance premium supplement, implemented by the legislature two sessions ago. This supplement extended that availability to people who have retired with 5-9 years of service.

Mr. Adler inquired of Mr. Carter about a study made concerning the possibility that within the next 20 or so years at the present funding level that the contribution level would zero out. Mr. Carter stated there was an asset liability study performed in 1989 and that study did in fact show there was a probability that continued investment gains could be generated to such an extent that contributions to the system could be eliminated. There was also a probability this would not happen. Mr. Adler then said the 105% would virtually eliminate any probability or possibility that could ever happen. Mr. Carter said it is a fact that if the

105% transfer mechanism is implemented there would always be a contribution rate applicable for the ASRS.

Mr. Carter continued by referring to Recommendation #4, Section 1, Page 1, and concurring with this recommendation. Other recommendations may be found in the report handed out prior to the meeting by the Wyatt Company dated November 29, 1990. There needs to be a greater awareness of the ASRS.

Mr. Carter further stated that the Wyatt Company would concur on Section 2 of the report, Recommendation #6, that the ASRS should have greater flexibility over its annual budget determination and expenditures.

Representative Evans was recognized. He stated that in Appendix 6-4 it shows that Arizona is running 5th in the percentage of assets and 1st in benefits and he felt that this reflects that Arizona's programs are working well. Mr. Carter stated that the Director of the ASRS currently sits on the Executive Committee of one of the national organizations, so the ASRS does participate in ongoing programs. If the intent of the recommendation is to encourage continued participation, that would certainly be appropriate.

Mr. Carter then referred to early retirement incentives being eliminated, section 4 of the report. The authors have taken the position that they should be eliminated. Our comment would be, fully understanding the significance of what that would involve, that it is contrary to the general trends within the benefit industry. Oftentimes it is in the best interests of the public employer to encourage some early retirement and that is the purpose of the early retirement subsidies and windows. True, early retirement adds something to the cost. A portion of the 3.82% of pay that is being contributed into this system is to pay for the subsidized early retirement. Using the 105% criteria for the actual value funding ratio again we would hope that that term be clearly defined in statute so that whatever triggering mechanism is developed, there can be no misconception as to when it is to be applied and not applied. In connection with the PRBE concept we would suggest that the 105% level become a maximum level rather than a minimum. Section 5 statutorily requires an experience study every 4 years. We would concur with the suggestion that actuarial assumptions should be based on an experience study. If you have a statute provision we might suggest a 5 year period rather than 4 year period.

Mr. Carter referred to Recommendation #6 which requires an independent actuarial review any time a change in assumptions results in an increase in the contribution rate of more than plus or minus 30% or a change in the actuarial accrued liability more than plus or minus 20%. He felt it would be a conflict of interest for him to comment on whether or not there should be an independent actuarial review. He did say, however, if such a provision is implemented I think there should be exceptions to the plus or minus 30% rule.

Mr. Evans inquired of Mr. Carter if lowering the contribution rate would serve as a statement of intent. Mr. Carter stated he would leave that to the determination of attorneys.

Mr. Adler inquired of Mr. Carter whether his concern here in having it defined as a trust fund has anything to do with a potential conflict with the IRS. Mr. Carter replied in the affirmative and again stated nowhere in the statutes is the trust fund defined. This plan is qualified under Section 401.A of the Internal Revenue Code and this qualifies a plan assuming that there is a trust and that it is qualified under Section 501 of the Internal Revenue Code.

Mr. Guy inquired of Mr. Carter if he would address the Investment Advisory Council, about lengthening of the terms, increasing experience, knowledge of incumbency, etc. Mr. Carter responded by saying I am an actuary and employee benefit consultant. I am not an asset services consultant and therefore this is not in my area to comment on investment related items. Mr. Guy further inquired of Mr. Carter whether there is any reason why a retirement system would not want to be funded 100%. Mr. Carter said most retirement plans have that as a goal - to be fully funded.

In the private sector, the IRS and Congress regulate the contribution patterns in private sector plans and the concept of that regulation defining minimum contributions requirements for private sector retirement plans to remain qualified is to reach a fully funded status. Mr. Guy further inquired if there are any estimates of what the cost would be if we do take all of the retirees and increase them to 2% per year service. Mr. Carter stated they had not done those calculations. The Speaker stated she believed that Mr. Kaufmann has done that and will give them to Mr. Guy.

This concluded Mr. Carter's presentation

The Speaker recognized Richard Zoller who stated he was appearing only as a taxpayer. He stated he was an executive in investments for a firm for over 20 years and is now a member of the Investment Advisory Council of the ASRS. He felt that one of the most important things the study pointed out from his perspective, and from the committee's perspective, in its recommendations for legislation is Figure 1, particularly Item B. The primary purpose of the compensation plan is to provide a total package. If you wish to provide on a competitive basis then the consultants pointed out that this system does provide a very favorable retirement package already. If you start with the assumption that the retirement system is part of the compensation package, then that casts a question as to whether or not there should be any cost of living increases. If the study could be faulted study in any place, it would be where they pointed out the total retirement income but they failed to actually include in the calculations social security, and we know that social security has COLA.

The Chair then recognized Mr. Raymond Klein from Tucson. He stated he was representing himself and is a member of the University of Arizona Retirees' Association. We believe that it is essential that the trust fund nature of the ASRS funds be put into statute. We recommend a one time adjustment for retirees who retired with a benefit calculation factor below 2% which is in the report. We strongly support eliminating early retirement windows, therefore we disagree with the Wyatt Company. We agree fully that they create all kinds of inequities. The proposal in this report does not guarantee any PRBE's and we would like a guarantee. The funding mechanism for the PRBE is inadequate as shown by projections in Appendix 10.

Senator Todd recognized Mr. Ed Louttit, representing the University of Arizona Retirees' Association as Chairman of their Legislative Action Committee. He stated that a letter had been written to legislators on this committee which should be received in approximately one week, which will outline the association's goals (legislative) for 1991. We would like to provide for a one time adjustment plan for retirees who retire prior to the 1983 window or in 1984 to bring their pensions up to that which they would receive had their benefits been calculated at 2% per year of service. Cost of this should be borne by the ASRS assets. The association would like to see an extension (not addressed in the study) to future retirees a 3% tax equity provision to cover all service credits earned prior to either January 1, 1989 or September 15, 1990 and index the $2500 exclusion deduction from income to the COLA index. We need an indexing of the exclusion deduction in an effort to offset the effects of inflation.

Senator Todd recognized Mr. Robert Letson, a member of the University of Arizona Retirees' Association who commended the legislature on setting up the study and appreciated having an opportunity to meet with Dr. Hurtado to express our concerns. He said he used to teach statistics for undergraduate students going into education and ranking is one of the very basic statistics often used. There are two ways of ranking and one incorrect way of ranking. This study uses the correct way. He then continued explaining at length the "ranking" system and the advantages and/or disadvantages thereto by quoting several examples and many statistics.

The Chair recognized Mayne Jamison, representing the Research Study Committee of the Phoenix Retired Teachers' Association. The association has recently written a letter to each of you stating its position. If there is an overfunded amount it's because our older retirees have been denied ability of their purchasing power. Over time we have never received a COLA. The association opposes retirement incentives because they create unfair retirement benefits and dilute the system's funding. The inevitable result of not having a COLA translates into what would be a salary cut and incomes have constantly eroded and should be corrected.

Senator Todd recognized Donald J. Shea, Chairman of the Coalition of Active and Retired Employees of the ASRS, CARE. CARE has always regarded the fund as a trust fund and thinks the report supports our position on this. We feel that a COLA that is not based on ad hoc increases by the legislature is a necessity. The report also mentions the issue of equity for those people who retired years ago under formulas much less favorable than exist at present. We believe this should be addressed as well.

Senator Todd recognized Patricia Healy, state legislative chairman for the Catholic Daughters of the Americas. About 15 years ago she happened to be here as a legislative observer for the League of Women Voters and remembers discussions about the retirees, and at that point in time some of them were getting 50% per month. Her understanding is that such an aberration has been corrected. At that time many years ago people were contributing 7%, the employee contributed 7% (before social security was that high) and the employer contributed 7%. That is possibly how this great overfunded condition came about. Employers still contribute 7% of taxpayers' money. She objected: When you pay compensation and you have expensed it out in your budget it's not your property anymore. It's not the legislature's property and it truly belongs in this trust fund. You don't count the social security and the contribution rate is not 7% any more. Retirees now put in their money at 7% and she feels the committee needs to be aware of that. She thanked the committee and said the Catholic Daughters have a lot of retired teachers and a lot of retired civil servants. The ASRS fund certainly is not overfunded.

The Speaker expressed her appreciation to the speakers for their input. She stated what we have is a list of recommendations and they have been distributed to members of the committee. She expressed appreciation to Mr. Kaufmann, Dr. Hurtado and Mr. Carter for the work they have done and the information they have brought to us.

The Speaker then explained the procedure to be followed. Each recommendation will be handled separately as many are very complex and complicated. If there is not an agreement, I believe we should move to have that particular recommendation referred for further study, as the legislature will continue their deliberations on the many aspects of the report.

RECOMMENDATIONS:
ITEM 1:

Recommendation #1. Senator Todd moved that we accept recommendation #1 with some amendments to include recommendations suggested on Page 8 of Michael Carter's comments: Mr. Evans seconded the motion, and expressed a desire to incorporate some of Mr. Carter's comments in the recommendation. Mr. Maguire stated he had some problems with this particular recommendation. The Speaker suggested he present a written minority report to the committee. On voice vote the motion to adopt recommendation #1 as amended by the inclusion of Mr. Carter's comments carried.

Recommendation #2. Mr. Evans moved that recommendation #2 be adopted as written. Senator Todd seconded the motion. After some discussion, Mr. Evans amended his original motion by including Figure 3 of the final report. Motion carried. It was also suggested that staff consult with legal counsel with reference to this particular recommendation.

Recommendation #3. Mr. Evans moved that recommendation #3 be adopted. Senator Todd seconded the motion. It should be noted that the reference to Figure 1 is as amended pursuant to Mr. Carter's comments. After further discussion, the motion carried.

Recommendation #4. Senator Todd moved that recommendation #4 be adopted as is. Mr. Sutton seconded the motion. Motion carried.

Recommendation #5. Senator Todd moved that recommendation #5 not be adopted. Mr. Sutton seconded the motion. After considerable discussion, the motion that recommendation #5 not be adopted carried.

Recommendation #6. Senator Todd moved that recommendation #6 be adopted. Discussion followed with reference that this recommendation should be related to "retirement" only and exclude any other annuities, i.e., social security, tax shelter annuities, etc. The committee therefore agreed to insert the word "retirement" before benefits. Mr. Adler then seconded the motion. The motion to adopt #6 carried. The consultants noted that their final report would include the word "retirement" under this recommendation so the study committee could adopt the recommendation without amendment.

Recommendation #7. Senator Todd moved that recommendation #7 be adopted. The motion was seconded by Mr. Evans. Motion carried.

ITEM 4:

Recommendation #1. Senator Todd moved that recommendation #1 be adopted. Mr. Evans seconded the motion. Motion carried.

Recommendation #2. Senator Todd moved that recommendation #2 be adopted. Mrs. Gerard seconded the motion. Motion carried.

Recommendation #3. Senator Todd moved that recommendation #3 be adopted as is. Mr. Evans seconded the motion. Motion carried.

Recommendation #4. Senator Todd moved that recommendation #4 be adopted. Mrs. Gerard seconded the motion. Mr. Adler inquired if this item relates to the manner in which the board is established or is this merely for the purpose of adding representation from the legislature, without any voting privileges. The Speaker stated that according to an Attorney General's opinion legislators cannot vote as members of the Retirement Board. They serve as ex-officio members only. Mrs. Gerard stated that retirement issues will be assigned to the Government Operations Committee, which she will chair, and she felt that it is important to have a legislative person serve on the Board who is knowledgeable on retirement issues. Motion carried.

Recommendation #5. Mr. Evans moved that we adopt recommendation #5 as is. Mrs. Gerard seconded the motion. Motion carried.

Recommendation #6. Senator Todd expressed some concern with reference to this recommendation. Mr. Adler suggested that this recommendation be assigned to a study committee for further study. Mr. Adler then moved that recommendation #6 be accepted for further study. Mr. Evans seconded the motion. The Speaker stated she felt the subcommittee to be assigned should come from the Government Operations Committee. On voice vote, the motion carried.

Recommendation #7. Mr. Evans moved that we adopt recommendation #7 as is. Senator Todd seconded the motion. Mr. Adler felt that the motion should be amended to include "advisory board members of the board." Mr. Evans amended his motion and the motion carried.

Recommendation #8. Mr. Adler moved that recommendation #8 be adopted as is. Mr. Evans seconded the motion. Mr. Maguire expressed opposition to the fact that the subject here is the composition and effectiveness of the ASRS Board. A lengthy discussion ensued. Dr. Hurtado stated that their study did included an exhibit which describes the make-up of other retirement systems which they had surveyed. He further stated that in speaking with member groups they did not indicate that they were not fairly represented. After considerable discussion relating to many items, the motion to adopt recommendation #8 as is passed.

Additional recommendations pertaining to Item #4:

1. Several of the study committee members noted they had received letters and calls from persons dissatisfied with recent activities of the ASRS Board. The committe directed staff to look further at how various states' retirement systems are administered.

2. The study committee also agreed that qualifications for the ASRS's director need to be prescribed in statute.

ITEM 5:

Recommendation #1. Senator Todd moved that we adopt this recommendation as amended because of the fact Figure 1 had been amended and changed. Mr. Evans seconded the motion. Mr. Guy stated that perhaps he had misunderstood, as he was of the impression that all of the recommendations under Item 5 would be referred for further study. Some discussion ensued and after further consideration Senator Todd withdrew the original motion and moved that recommendation #1 be accepted for further study.

Recommendation #2. Senator Todd moved that recommendation #2 be accepted contingent on further study. Mr. Evans seconded the motion. Some discussion was held with reference to increasing the 1.2 and 1.5 rates to bring current retirees up. A paper on the monthly cost of this will be presented. Senator Todd's motion to accept for further study carried on recommendations 2, 3, 5, 6 and 7.

Recommendation #4 was accepted for further study as to cost implications only and was adopted but amended to delete the words "to using part of the initial funding capacity of the Postretirement Benefit Enhancement Dedicated Trust Fund."

ITEM 6:

Mr. Evans moved that recommendations #1 and #2 be adopted as is for further study. Mrs. Gerard seconded the motion and stated she would not ever vote again for another window. Mrs. Hull suggested that the words "statutorily prohibited" be deleted and insert the word "discouraged". In discussion, Mr. Adler suggested that possibly the committee should discuss removing the education sector out of the retirement system. The motion to adopt recommendation #1 as amended and recommendation #2 as is carried.

ITEM 7:

Recommendation #1: Senator Todd moved to accept recommendation #1 and that it be amended to incorporate Mr. Carter's comments on Page 8, Figure 2. Mrs. Gerard seconded the motion. After some discussion the committee adopted recommendation #1 as amended to incorporate Mr. Carter's comments concerning this recommendation. Motion carried. (Note: The committee adopted the minimum/maximum funding level concept in general, but felt that further study was needed to determine what that funding level should be.)

The Speaker by-passed recommendation #2 and discussed recommendation #3. Senator Todd moved that the committee do not accept recommendation #3. Mr. Evans seconded the motion. Mrs. Gerard inquired as to the background of this recommendation. Mr. Kaufmann stated this was suggested so as to protect the integrity of the retirement fund. He further stated that the constitution provides that the contribution rate will be determined by the actuary on an annual basis, and they are recommending this mechanism whereby this portion of law can not be overridden. Mr. Maguire stated he would support the motion. The motion to not adopt recommendation #3 carried.

The Speaker then addressed recommendation #2. Senator Todd moved that recommendation #2 be accepted with certain amendments. Mrs. Gerard seconded the motion. In discussion, Mr. Guy referred back to the report where this had been discussed and stated he must oppose the motion unless there is something in there that allows for increased benefits. Senator Todd suggested the word "minimum" be deleted and the word "target" be inserted. The motion to adopt recommendation #2 as amended by inserting the word "target", striking the words "of 1.05" and target funding level to be determined after further study, carried.

Recommendation #4. The Speaker stated she felt this recommendation addressed Mr. Guy's suggestion. Mr. Guy then moved that recommendation #4 be accepted for further study. Mr. Evans seconded the motion. Motion carried.

Recommendation #5. Mr. Sutton moved that recommendation #5 be amended to require that a study be done every 5 years instead of every 4 years. Senator Todd seconded the motion. Motion carried.

Recommendation #6. Mr. Adler moved that recommendation #6 be accepted for further study. Mr. Evans seconded the motion. Motion carried.

Recommendation #7. The Speaker stated that she felt this recommendation likewise would require more study by the Government Operations Committee. Mr. Adler moved that recommendation #7 be accepted for further study. Mr. Evans seconded the motion. Motion carried.

Recommendation #8. Senator Todd moved that recommendation #8 be adopted. Mr. Evans seconded the motion. Motion carried.

Recommendation #9. Senator Todd moved that recommendation #9 be adopted. Mr. Evans seconded the motion. Motion carried.

ITEM 9:

Recommendation #1. This recommendation relates to increasing the limit on foreign investments to 25%. The Speaker stated she felt that this had been discussed by either this committee or another committee, who suggested the 25% needs to be increased. Dr. Hurtado stated they did not feel that the 25% should be exceeded. Mr. Guy moved to accept recommendation #1 and insert the words "up to" before the figure 25%. Mr. Evans seconded the motion. Motion carried.

Recommendation #2. Senator Todd moved that recommmendation #2 be adopted as is. Mr. Evans seconded the motion. Motion carried.

Mr. Adler asked whether or not the legislature should have an actuary to back up the ASRS actuary. Mr. Kaufmann responded by saying it never hurts to have two opinions. Several closing remarks were made by the committee members.

Senator Todd then moved to accept the final report to evaluate the ASRS as it was distributed, along with the amendments and minority reports thereto. Mr. Evans seconded the motion. Motion carried.

At 6:30 p.m. Mr. Evans moved that the meeting be adjourned. Senator Todd seconded the motion. Motion carried.

<u>Attachment F</u>

Final Report
on the
Study of the Arizona State Retirement System
prepared by
Kaufmann and Goble Associates
in association with
Cyberserv International

FINAL REPORT ON THE STUDY OF THE ARIZONA STATE RETIREMENT SYSTEM

Prepared for

STATE OF ARIZONA
LEGISLATIVE COUNCIL STUDY COMMITTEE
on the
ARIZONA STATE RETIREMENT SYSTEM

Prepared By

KAUFMANN AND GOBLE ASSOCIATES

in association with

CYBERSERV INTERNATIONAL CO.

April 1990

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ACTUARIES AND CONSULTANTS

April 30, 1990

Representative Jane Dee Hull
Co-chairman
and
Senator Doug Todd
Co-chairman

Legislative Council Study Committee
on the Arizona State Retirement System
Capitol Building, House Wing
Phoenix, AZ 85007

Dear Representative Hull and Senator Todd:

Transmittal Information

Kaufmann and Goble Associates, in association with Cyberserv International Co., is pleased to present this ***Final Report on the Study of the Arizona State Retirement System.*** Our work was conducted in conjunction with the work of the Legislative Council Study Committee as set forth in Items 1, 4, 5, 6, 7 and 9 of Senate Bill 1129. Our ***Final Report***:

- Describes our *Data Collection, Interviewing, and Data Analysis Processes.*
- Presents comprehensive *Displays, Exhibits* and *Summaries* of the data we collected.
- Presents a review and discussion of the *Findings* associated with each *Recommendation.*

Management Summary

Simply stated, we have made a number of important recommendations. **These recommendations are intended to achieve the following strategic objectives:**

- To incorporate into State Statutes, a definition of the *Primary Intent* of the Arizona State Retirement System.

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- To incorporate into State Statutes, a definition of the *Trust Fund Nature* of the Arizona State Retirement System.
- To incorporate into State Statutes, a definition of the *Primary Funding Objectives* of the Arizona State Retirement System.
- To incorporate into State Statutes, a *Protective Mechanism* that will provide for the maximum feasible security for the Arizona State Retirement System's assets; and to shield the assets from both wide swings in the investment marketplace, and from capricious reductions in the statutorily required and actuarily determined contribution rate.
- To incorporate into State Statutes, the *Post-Retirement Benefit Enhancement Trust Fund* concept to provide a self-perpetuating and self-funding mechanism to provide reasonable and affordable post-retirement benefit enhancements without the requirements of continually increasing contribution rates and placing the burden of payment of current unfunded benefit enhancements upon future employees.
- To incorporate into State Statutes, an *On-going Mechanism* that will provide for sufficient dialogue between the Legislature and the members of the Retirement Board; and that will provide for a better and continuing understanding of the *intricacies of the Legislative process* and the *complexities of the administration of the Retirement Statutes.*
- To bring about a *greater awareness* among employees, retirees, employers and Legislators...of the *excellence of the Arizona State Retirement System* and its *outstanding retirement benefits* as compared to other public pension plans and the private sector.
- To foster, in the administration and legislation of the Arizona State Retirement System, *consideration of the concepts* of *Moral Obligation* to the members, *Equity* in awarding of Post-Retirement Benefit Enhancements, and the short- and long-range *affordability* to members and employers of all retirement plan and benefits enhancements.
- To foster, in the administration and legislation of the Arizona State Retirement System, *consideration of the concept* of market demand in evaluating the need for benefit plan enhancements, and *consideration of the concept* of employing alternative forms of employee benefit programs which would reduce the ultimate burden to the taxpayer.

We prepared a "rank scoring" analysis of the Arizona State Retirement System's overall retirement benefits, as compared to those of 68 other public employees retirement systems. **The Arizona State Retirement System ranks number 1.**

We derived this composite ranking by using a "rank scoring" technique. We ranked each surveyed retirement system's various retirement benefits factors in relation to those of all the other surveyed retirement systems.

The retirement benefits factors we "rank scored" for this analysis are:

- Member contribution rate.
- Employer contribution rate.
- Integration with Social Security.
- An automatic COLA.
- The retirement formula percentage multiplier.
- Benefit amount at 30 years of service with a salary in the final year of $15,000, with the final average salary being actuarily graded up to that amount.
- Benefit amount at 30 years of service with a salary in the final year of $30,000, with the final average salary being actuarily graded up to that amount.

Conclusion

It should be recognized that, no matter how substantial or how adequate a public employees retirement system's benefits, employees and retirees will always seek even greater benefits. This is an inevitable phenomenon. In its evaluation of future requests for post-retirement benefit enhancements, the Legislature should contemplate the recommended statutory statements of the *Primary Intent* and the *Trust Fund Nature* of the Arizona State Retirement System. **Then, grant the requests when appropriate, but have the courage to say "no", when the requests are too costly or unwarranted.**

* *

We will be pleased to answer any questions which may arise regarding the contents of this Report.

Sincerely yours,

KAUFMANN AND GOBLE ASSOCIATES

Sidney T. Kaufmann

Sidney T. Kaufmann, F.S.A.
President

CYBERSERV INTERNATIONAL CO.

Corydon D. Hurtado, Ph.D.
President

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SECTION 1. ITEM 1: EXAMINE THE CURRENT BENEFIT STRUCTURE OF THE SYSTEM AND COMPARE IT TO THOSE BENEFITS PROVIDED BY OTHER STATE RETIREMENT SYSTEMS AND PRIVATE PENSION SYSTEMS

1.1 Recommendations

1. The Arizona State Retirement System *Statement of Primary Intent* presented in Figure 1 should be incorporated into State Statutes.

2. The definition of the *Trust Fund Nature of the Arizona State Retirement System* presented in Figure 3 should be incorporated into State Statutes.

3. Future enhancements to the Arizona State Retirement System's basic benefit plan and structure should be consistent with the statutory *Statement of Primary Intent* (reference Figure 1).

4. Amend the Arizona State Retirement System's present joint and survivor annuity option to eliminate the option to revoke the election under certain circumstances, and replace this feature with a one-time election at retirement to take a actuarially reduced benefit in favor of a "pop-up" option to provide for the circumstance of the survivor annuitant dying before the beneficiary.

5. Major benefit enhancements should not be made to the Arizona State Retirement System's present benefit plan and structure.

6. The Arizona State retirement System should regularly and frequently inform active members about the availability of the supplemental, optional employee paid retirement benefits programs available through their employers.

7. The Retirement Board should institute an aggressive public information/relations program designed to bring about a greater awareness among employees, retirees, employers and Legislators...of the excellence of the Arizona State Retirement System and its outstanding retirement benefits as compared to other public pension plans and the private sector.

1.2 Findings

We prepared a "rank scoring" analysis of the Arizona State Retirement System's overall retirement benefits, as compared to those of 68 other public employees retirement systems (reference Appendix 4, pages 4-2 and 4-3). **The Arizona State Retirement System ranks number 1 in overall retirement benefits.**

We derived this composite ranking by using a "rank scoring" technique. We ranked each surveyed retirement system's various retirement benefits factors in relation to all the other surveyed retirement systems.

The retirement benefits factors we "rank scored" for this analysis are:

- Member contribution rate.
- Employer contribution rate.
- Integration with Social Security.
- An automatic COLA.
- The retirement formula percentage multiplier.
- Benefit amount at 30 years of service with a salary in the final year of $15,000, with the final average salary being actuarially graded up to that amount.
- Benefit amount at 30 years of service with a salary in the final year of $30,000, with the final average salary being actuarially graded up to that amount.

The retirement benefit amount provided by the Arizona State Retirement System equals or exceeds about 73% of the surveyed public employees retirement systems, and compares favorably with another 20%. Details of this survey are presented in Appendix 2. The benefit amounts ranking data is presented in Appendix 4, pages 4-4 and 4-5.

The Arizona State Retirement System's employer contribution rate is less than about 95% of the surveyed public employees retirement systems, and is more than only two of the surveyed retirement systems. The Arizona State Retirement System's member contribution rate is less than about 73% of the surveyed public employees retirement systems. This analysis is found in Appendix 4, pages 4-6 and 4-7.

The Arizona State Retirement System's retirement formula percentage multiplier equals or exceeds about 77% of the surveyed public employees retirement systems. Further this percentage multiplier is about 11% more than the overall average for the surveyed retirement systems, but is about

25% less than the maximum percentage multiplier. This analysis is found in Appendix 4, page 4-8.

In order to examine the "cost/benefit" of the retirement benefit amount provided by the Arizona State Retirement System, we calculated the dollars per member and employer contribution rate for the surveyed public employees retirement systems. This "cost/benefit" calculation provides a measure of the value of the retirement benefit in terms of its cost to the members and employers. **The Arizona State Retirement System's dollars per member contribution rate exceeds about 80% of the surveyed retirement systems; and the dollars per employer contribution rate exceeds about 97% of the surveyed retirement systems.** This analysis is found in Appendix 4, pages 4-9 and 4-10.

In addition to the number one ranking of overall retirement benefits, an analysis of salary averages indicates that the Arizona State Retirement System's Active Member salaries are generally comparable to, and somewhat greater than, the salaries of other Arizona public and private employees' wages. This analysis is presented in the following Table 1 which summarizes data presented in Appendix 2, page 2-12:

TABLE 1: SUMMARY OF AVERAGE SALARY DATA

SALARY POPULATION DATA	AVERAGE SALARY
Private Employers [1]	$ 26,892
Public Employers [1]	26,448
ASRS Active Members' Salary in 1989 [4]	24,057
State of Arizona-State Agencies [1]	23,544
Arizona Industry, State & Local Government [2]	22,022
Arizona Industry (without government) [2]	21,946
Retail and Wholesale Trade [3]	14,239
Overall Average Annual Salary	$ 22,735

Footnotes:
1. Arizona Joint Governmental Salary and Benefits Survey 1989.
2. Valley National Bank-Statistical Review 1989
3. Arizona Department of Economic Security-Annual Planning Information 1989-1990
4. The Wyatt Company's 1989 Actuarial Valuation Report

On average, annual retirement benefit amount (i.e., $13,260) for new Arizona State Retirement System retirees in 1989 were approximately 58% of the *Overall Average Annual Salary* reflected in Table 1. Further, these average benefit amounts are approximately 1.7 times more than the United States poverty level for a family of two, and are approximately 2.3 times more than the poverty level for a family of one (reference Appendix 2, page 2-12).

Because the responses to the Private Pension Systems Survey did not yield sufficient results from which to form statistically reliable conclusions, we did not employ this data in our analysis. However, it is interesting to note that none of the five who responded provide any form of COLA, which is broadly representative of this aspect of the majority of private sector pension plans.

We believe that incorporating the Arizona State Retirement System *Statement of Primary Intent* presented in Figure 1, and the definition of the *Trust Fund Nature of the Arizona State Retirement System* presented in Figure 3 into State Statutes will provide the essential structure from which future employee benefit plan enhancement decisions can be properly made.

Based upon our findings and our analyses, we believe that major benefit enhancements do not need to be made to the Arizona State Retirement System's present benefit plan and structure. However, we do believe that the Arizona State retirement System should regularly and frequently inform active members about the availability of the supplemental, optional employee paid benefits programs available through their employers. Employees should be encouraged to enhance their overall retirement program through these and other types of supplemental retirement options.

We believe employees, retirees, employers and Legislators need to have a greater awareness of the excellence of the Arizona State Retirement System and its outstanding retirement benefits as compared to other public pension plans and the private sector. In our experience, when these facts become known, the employee and employer advocacy groups will place less pressure upon the Legislature and the Retirement Board to increase benefits when such increases are not truly needed or justifiable. **It should be noted that the 1990 legislature passed HB 2632 which requires the Arizona State Retirement System to establish an outreach educational program.** This should provide an appropriate mechanism for providing the recommended communication about the availability of optional, employer provided retirement benefit programs.

Implementation of any of these recommendations should take the issue of impairment of contract into consideration. This is particularly the case with any statutory changes made to the joint and survivor annuity option.

SECTION 2. ITEM 4: EXAMINE THE COMPOSITION, FUNCTION AND EFFECTIVENESS OF THE ARIZONA STATE RETIREMENT SYSTEM BOARD AND THE INVESTMENT ADVISORY COUNCIL

2.1 Recommendations

1. A statutory limit should be placed upon the amount of time allowed for filling a vacancy on both the Retirement System Board and the Investment Advisory Council.

2. Consideration should be given to increasing the term of the Investment Advisory Council members to three, three-year terms.

3. The statutory experience qualifications for the members of the Investment Advisory Council should be increased so that all members are required to have at least ten years' experience as professionals in the investment management field.

4. Consideration should be given to providing representation on the Retirement Board that would bring Legislative perspectives to the overall administration of the Arizona State Retirement System (e.g., this Legislative perspective might be provided by designating the chairman of the House Government Operations Committee, and the chairman of the Senate Finance Committee, and their successor committees' chairmen, as advisory members).

5. Consideration should be given to establishing a permanent, on-going Public Employees Retirement System Sub-committee to oversee all Arizona public employees retirement systems, which could function as part of both the House Government Operations Committee, and the Senate Finance Committee, and their successor committees.

6. In keeping with the definition of the *Trust Fund Nature of the Arizona State Retirement System* as presented in Figure 3, the Arizona State Retirement System should have greater flexibility over its annual budget determination and expenditures (e.g., exemption from the traditional budgetary review and approval, and procurement authorities similar to that of the Arizona Public Safety Personnel Retirement System; or optionally allowing full discretionary expenditure up to some limitation such as a fractional percentage of total market value of assets).

7. The Retirement Board should institute a formal, on-going professional development and education program for all members of the Retirement Board, particularly in subjects on public employees retirement systems administration, benefit planning and design, actuarial valuation theory, investment management theory, the Arizona Legislative process, and other appropriate subjects; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.

8. The Retirement Board, and the Director of the Arizona State Retirement System, should institute a formal, on-going program for active participation by all Retirement Board members and the Director in the various professional and trade organizations which are relevant to the activities of a public employees retirement system; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.

2.2 Findings

No particular needs or problems were indicated with the makeup of the Investment Advisory Council. However, some mention was made of the possible desirability of increasing the investment management experience requirements for future Investment Advisory Council members, and lengthening their term of office. Consequently, we believe the term of the Investment Advisory Council members should be increased from the present three two-year terms to three, three-year terms. We also believe the statutory experience qualifications for the members of the Investment Advisory Council should be increased so that all members are required to have at least ten years' experience as professionals in the investment management field...and not just have "...experience in making investments."

The members of the Investment Advisory Council are non-paid, appointed volunteers who are usually retired or employed in other full-time occupations. **However, the present Chairman of the Investment Advisory Council is a retired person who, for the past year, has been performing the functions of a full-time executive secretary.** This Council member's term of office will soon end, and the functions being performed will most likely not be able to be performed by any other Council member. Consequently, we believe that a need exists for these functions to be formally included as part of the Arizona State Retirement System's Assistant Director for Investments position.

No major needs or problems were indicated with the overall functionality of the Retirement Board. During the interview process, the general opinion was that the Retirement Board was performing in an acceptable manner. Further, the overall performance of the Director of the Arizona State Retirement System was rated highly. **However, it would be desirable to incorporate into State statutes, a Statement of Minimum Professional Qualifications for the Director's position.**

We did observe, however, that there is no on-going professional development and education program for the members of the Retirement Board. We believe it is important that all members of the Retirement Board have an understanding of the state-of-the-art in the field of public employees retirement systems administration...particularly in the subjects on public employees retirement systems administration, benefit planning and design, actuarial valuation theory, investment management theory, the Arizona Legislative process, and other appropriate subjects. It is also important for the Retirement Board, and the Director of the Arizona State Retirement System, to actively participate in the various professional and trade organizations which are relevant to the activities of a public employees retirement system.

Generally, communications between the Legislature and the Retirement Board have not been as effective as necessary given the complexities of the Arizona State Retirement System's Retirement Plan and overall functions. One excellent way to mitigate this problem would be to provide the suggested Legislative representation on the Retirement Board. **It should be noted that increasing the size of the Retirement Board to nine members would not create a retirement board that deviates at all from the average size of the retirement boards of the surveyed state employees retirement systems (reference Appendix 7).** Another way to improve communications and understanding would be to establish less formal, but on-going, orientation programs for selected key Legislators and their staff in the "workings" of the Arizona State Retirement System.

One key advantage of Legislative representation on the Retirement Board is its contribution toward providing an *on-going mechanism* that will provide for sufficient dialogue between the Legislature and the members of the Retirement Board; and that will provide for a better and continuing understanding of the *intricacies of the Legislative process* and the *complexities of the administration of the Retirement Statutes.*

The Arizona State Retirement System's Retirement Board roles and responsibilities are typical of the retirement boards for the majority of other public employees retirement systems. However, there are other approaches in use such as that of the Washington Department of Retirement Systems.

In Washington, all retirement boards have been abolished. The Director of the Department is appointed by the Governor, serves on the Governor's cabinet...and has complete responsibility for all administrative and policy setting activities. The Arizona State Legislature may want to examine this and other types of retirement board approaches when considering our other recommendations.

We believe it is necessary to establish a permanent, on-going Public Employees Retirement System Sub-committee function (i.e., as part of both the House Government Operations Committee, and the Senate Finance Committee, and their successor committees). This Sub-committee function would oversee all Arizona public employees retirement systems. This will also provide for a better and continuing understanding of the complexities of the administration of the Retirement Statutes, and help to maintain a continuity of understanding within the Legislature.

A recent, extended vacancy on the Retirement Board did cause some operational and voting difficulties. This was particularly problematic because of the length of time this position went unfilled.

We analyzed the administrative costs of the surveyed public employees retirement systems from several perspectives. This analysis is found in Appendix 6. We found that the Arizona State Retirement System's administrative cost per member is less than about 75% of the surveyed retirement systems (reference Appendix 6, page 6-2).

Also, it should be noted that the Arizona State Retirement System's budget per staff position is less than about 70% of the surveyed public employees retirement systems (reference Appendix 6, page 6-3). In our opinion, this is not necessarily a favorable finding but, instead, can be viewed as a confirmation of the Retirement Board's stated needs to increase its budget to meet the unmet demands being placed upon the Arizona State Retirement System for improved member services and modernized computer systems.

Another possible confirming indicator of the above noted need for the Retirement Board to increase its budget can be found in our analysis of the administrative costs as a percent of the surveyed retirement systems' total market value of assets (reference Appendix 6, page 6-4). The Arizona State Retirement System's administrative cost as a percent of market value of assets is less than about 88% of the surveyed retirement systems.

The issue of budgetary process exemption and control by the retirement system is a classical issue confronted by all public employees retirement systems. As in the case of the Arizona Public Safety Personnel Retirement

System and some other public retirement systems, this issue has been effectively and successfully resolved. Traditional budgetary restrictions over a trust fund oriented function inappropriately constricts the fiduciary role of the trustees. This, in turn, generally results in less than optimum performance and, in the case of a public employees retirement system, can impact its capacity to meet its full responsibility to its beneficiaries.

Consequently, we believe the Arizona State Retirement System should have greater flexibility over its annual budget determination and expenditures. There are a number of alternative ways this flexibility could be provided. For example, an exemption from the traditional budgetary review and approval, and procurement authorities similar to that of the Arizona Public Safety Personnel Retirement System could be provided. Another way would be to allow full discretionary expenditure up to some limitation such as a fractional percentage of total market value of assets.

SECTION 3. ITEM 5: EXAMINE THE POLICIES REGARDING POST-RETIREMENT BENEFIT INCREASES FOR RETIRED PERSONS

3.1 Recommendations

1. Future Post-Retirement Benefit Enhancements should be granted only if they are consistent with the statutory Arizona State Retirement System *Statement of Primary Intent* (reference Figure 1).

2. The *Post-Retirement Benefit Enhancement Dedicated Trust Fund* concept described in Appendix 9 should be statutorily implemented, with the first annual distribution being made on July first of the first full year following enactment.

3. Statutorily require that future Post-Retirement Benefit Enhancements be granted only if they can be funded via the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* (reference Appendix 9); and that Post-Retirement Benefit Enhancements can not be funded from increases in the contribution rate or from the primary *Public Employees Retirement Trust Fund.*

4. Consideration should be given to using part of the initial funding capacity of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* to bring the old 1.2% and 1.5% formula retirees' benefits up to a benefit based upon the present 2.0% formula...if such calculation would result in a benefit which exceeds the present benefit.

5. Statutorily provide for future Post-Retirement Benefit Enhancements being granted only to those retirees who have reached age 65 and who have been retired for three or more years.

6. Statutorily prohibit future Post-Retirement Benefit Enhancements from being provided on an equal, across the board, lump sum dollar amount basis; and require that such Post-Retirement Benefit Enhancements be based upon a percentage of retirement benefit amount, or reflect years of service credit such as providing a fixed dollar amount per year of service.

7. Statutorily provide that future Post-Retirement Benefit Enhancements be granted only as a percentage of the retirement benefit, and not as a fixed dollar amount...and granted only within the funding availability constraints of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund.*

3.2 Findings

The preference for adding an automatic Cost of Living Adjustment (COLA) provision was the single highest priority item discussed among all employee groups and the Retirement Board. However, there was simultaneous recognition that implementation of such a provision using traditional funding mechanisms was more costly than most groups felt was realistically affordable. Further, under Arizona case law, implementation of a statutory, automatic COLA would establish a contractual liability that might be difficult to fulfill in future "lean" years and could place the funding integrity of the Arizona State Retirement System at great risk.

In our opinion, the fully retroactive 3% Cost of Living Adjustment (COLA) plan as outlined in the Wyatt Company's December 15, 1989 *"Arizona State Retirement System Alternatives for Actuarial Value of Assets and the Cost of an Automatic COLA"* is neither justifiable or affordable. It is also questionable if a COLA is required in terms of the need to enhance the *market demand* of the Arizona State Retirement System. As indicated in the above *"....Cost of an Automatic COLA"* Wyatt Company report, this COLA would increase the present employer and employee contribution rates to between 7.24% and 7.41%...and would have the immediate effect of creating an Unfunded Accrued Actuarial Liability of between $700 and $761 million. **In our opinion, this approximate 90% contribution rate increase, and the immediate elimination of the present "overfunding" position raises a major issue of affordability.**

This COLA affordability issue we raise does not mean that some form of what we refer to as a Post-Retirement Benefit Enhancement mechanism is unwarranted. We believe that the Arizona State Retirement System's outstanding retirement benefits, as compared to other public pension plans and the private sector, are not fully comprehended by the employers and employees. With this recognition placed into context, the concept of providing some affordable Post-Retirement Benefit Enhancement mechanism can be more readily understood.

The recommended *Post-Retirement Benefit Enhancement Dedicated Trust Fund* concept could provide a self-perpetuating and self-funding mechanism to provide reasonable and affordable Post-Retirement Benefit Enhancements without the requirements of continually increasing contribution rates and placing the burden of payment for current unfunded benefit enhancements upon future employees and employers (reference Appendix 9). In developing this concept, we did consider other optional approaches. We considered the establishment of a new retirement plan, containing a COLA feature, for all new employees that would generate the approximate equivalent retirement benefit of the present plan. We also considered employing the concept of using realized net income above the actuarially assumed investment return rate to fund Post-Retirement Benefit Enhancements. **These various alternatives were discarded because we believe our recommended *Post-Retirement Benefit Enhancement Dedicated Trust Fund* concept to be a substantially superior solution to the specific issues confronting the Arizona State Retirement System.**

The $400 million endowment for the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* would represents a nominal loss of income for the general Public Employees' Retirement Trust Fund. However, the effect upon the contribution rate would be to increase it by about only .6% (i.e., 6/10's of 1 %), assuming the same amortization schedule in the case of an negative unfunded liability as that used in amortizing a positive unfunded liability.

The current statutes are such that a negative unfunded liability causes a 45 year amortization period to be employed, rather than the normal, declining 13 year amortization schedule. **Consequently, we believe the statutes should be amended to provide for a single, rolling 15 year amortization period.**

Of course, implementing the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* **concept would mean that the general *Public Employees' Retirement Trust Fund* would no longer fund Post-Retirement Benefit Enhancements.** The effect should be to make more certain the financial position of retirees and to resolve the question of ad hoc Post-Retirement Benefit Enhancements...without continued Legislative intervention. By continually projecting the funding capacity of the fund, the issue of **affordability** can be addressed on an on-going basis and the amount of each Post-Retirement Benefit Enhancement can be adjusted accordingly.

A major advantage of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* is its robustness in the face of uncertain inflation and investment return. If inflation is high, interest will also tend to be high. But in any event, the awarding of Post-Retirement Benefit Enhancements are conditioned on, and limited by, return on investment of the *Trust Fund.* By adhering to the concept of the *Trust Fund,* the Legislature would not be creating retiree benefit payment obligations that might not be fulfilled in later years.

We believe that incorporating the Arizona State Retirement System *Statement of Primary Intent* presented in Figure 1, and the definition of the *Trust Fund Nature of the Arizona State Retirement System* presented in Figure 3, into State Statutes will provide the essential structure from which future Post-Retirement Benefit Enhancement decisions can be made. By following these foundation principles, the Legislature will have a baseline from which they can make better legislative decisions, and can respond more appropriately to the pressures placed upon them by the various employee and employer advocacy groups.

In our opinion, the administration and legislation associated with the Arizona State Retirement System, should give consideration to the concepts of *moral obligation* to the members and *equity* in awarding Post-Retirement Benefit Enhancements.

Consideration of these concepts would then give rise to discussion of the following types of conceptual issues:

- Should the 1.2% and 1.5% percentage multiplier factor retirees' retirement benefits be upgraded to the current 2%?
- Should any Post-Retirement Benefit Enhancement be awarded based primarily upon need, equity and/or service credit?
- Should Post-Retirement Benefit Enhancements be paid for by assessing present and future employees and employers through an increase in contribution rates?
- Should retirement benefits be fully, or partially, protected from "inflation" (e.g., wage, price, or some hybrid "inflation" index)?
- Does the Arizona State Retirement System have the same obligation to provide a fully protected retirement benefit to a member who retires with only ten years of service, as to a member who is a full career service employee with thirty years of service?
- Should the effect upon taxpayers be considered when evaluating various Post-Retirement Benefit Enhancements?

The question of the actual loss in purchasing power under the present ad-hoc COLA method was mentioned. Figure 5 presents an analysis of the effects upon two retirement benefits from the actual ad-hoc COLA amounts granted versus what would have been granted had there been an automatic 1/2 CPI COLA with a 3% cap. **It is quite interesting to note that the actual ad-hoc COLA process results in an increased retirement benefit that is about 21% to 34% more than what the automatic 3% COLA would have provided.** This finding certainly raises the question of the necessity for an automatic, across the board COLA. In our opinion, the immediate need in most cases is not significant. We believe the recommended *Post-Retirement Benefit Enhancement Dedicated Trust Fund* is a better intermediate and long-term solution; and it does not commit the State and other employers to a specific, contractually obligated COLA benefit that might be difficult to fund in later years.

About 49% of the surveyed state public employees retirement systems have an automatic COLA (reference Appendix 2, pages 2-3, 2-4 and 2-5). However, about 45% have an ad-hoc COLA and about 6% have some form of investment return related COLA. We do not have historic data, so we can not determine if the trend among other state retirement systems is toward, or away from, automatic COLAS. **However, we do not believe that the Arizona State Retirement System should base its retirement benefit planning decisions entirely upon the trends among other state retirement systems.** While these trends are important indicators of the overall employee benefits planning environment, they do not necessarily reflect the *Market Demand* conditions within the State of Arizona.

We have calculated the estimated cost to bring the old 1.2% and 1.5% formula retirees' benefits up to a benefit based upon the present 2.0% formula (reference Appendix 10 page 10-7). On average, the effect of this *Post-Retirement Benefit Enhancement* would be an increase in the overall average benefit amount for all retirees from $534 per month to $567 per month. **However, the estimated initial increase in the retiree payroll would be about $948,000 per month (i.e., an increase of about 3.8%).** We believe consideration should be given to using part of the initial funding capacity of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* to implement some, or all, of this estimated adjustment.

Figure 4 presents the projected retirement benefits payments as discussed in The Wyatt Company's *"Asset/Liability Modeling Study"* and as adjusted for deleting the automatic 3.5% COLA in two out of three years. The projected 9% annual growth rate for retirement benefits has been reduced by eliminating the estimated effect of the 3.5% COLA in two out of three of the projected future years (i.e., $(1.035)^2 \times (1.000)^1 = (1+i)^3$ thus $i=2.32\%$ less/year). **As reflected in Figure 4, the COLA's effect upon increasing the projected total retirement benefits payments is significant.** The total payments by the year 2013 with the COLA would be about $2.4 billion, but without the COLA the total payments in 2013 would be only $1.4 billion (i.e., 41% less). **The Figure 4 analysis highlights the substantial liability to which the State, other employers, and the taxpayers, would be exposed should a statutory, automatic COLA be implemented.**

We have developed four alternative projected estimates for how many years the *Post-Retirement Benefit Enhancement Dedicated Trust Fund's* initial $400 million principal contribution might last. These projections include the factoring in of our recommended 65 and 3 rule (i.e., a retiree must reach the age of 65 and have been retired for at least 3 years before receiving any Post-Retirement Benefit Enhancement). This 65 and 3 rule data is found in Appendix 10, pages 10-12 and 10-13. Using the recommended concept for distributing the income of the *Trust Fund*...using only the initial $400 million as the baseline principal (reference Appendix 10, pages 10-15 through 10-22), the following results could be realized:

- The $400 million would last until about the year 2028 if a 1% Post-Retirement Benefit Enhancement were provided.

  -OR-

- The $400 million would last until about the year 2007 if a 2% Post-Retirement Benefit Enhancement were provided.

  -OR-

- The $400 million would last until about the year 2001 if a 3% Post-Retirement Benefit Enhancement were provided.

  -OR-

- The $400 million would last until about the year 1999 if a 4% Post-Retirement Benefit Enhancement were provided.

Obviously, if a favorable investment return continues into the future, and the *Actuarial Value Funding Ratio* grows in excess of the recommended 1.05 minimum funding level, then the amount of income available for distribution would increase. It is clear from this analysis, that the issue of affordability which we raise, is of substantial importance when considering granting Post-Retirement Benefit Enhancements.

Should any future Post-Retirement Benefit Enhancement be provided as a fixed dollar amount, and not as a percentage of the retirement benefit, it should be granted on the basis of a retiree's years of service credit as a percentage of the *defined full service career of 30 years,* and it should not exceed 100% of said Post-Retirement Benefit Enhancement.

SECTION 4. ITEM 6: EXAMINE THE POLICIES REGARDING EARLY RETIREMENT INCENTIVES WITH A PARTICULAR EXAMINATION ON THE FEASIBILITY OF IMPLEMENTING A CORRESPONDING ACTUARIAL REDUCTION IN BENEFITS

4.1 Recommendations

1. Early retirement incentives, such as the recent 2.2% retirement incentive window, should be statutorily prohibited...unless it can be predetermined that the anticipated quantified savings will be greater than the incentives' costs to the Arizona State Retirement System and, ultimately, to the employers and employees.

2. The early retirement adjustment factors should be corrected to more closely reflect the actuarial equivalent benefit.

4.2 Findings

About 84% of the surveyed state public employees retirement systems do not have an early retirement incentive (reference Appendix 2, page 2-3). However, including the Arizona State Retirement System, about 87% allow early retirement with some form of retirement benefit reduction. We do not have historic data, so we can not determine if the trend among other state retirement systems is toward, or away from, providing early retirement incentives.

In our opinion, early retirement incentives are counter to the recommended Arizona State Retirement System *Statement of Primary Intent* as presented in Figure 1. Early retirement incentives are most often used in the private sector as a mechanism to reduce the work force and reduce salary costs. **With the possible exception of limited employee groups, an early retirement incentive in a governmental setting does not result in reductions in salary costs in excess of the cost to provide the early retirement incentive.** Further, since the early retirement incentive is not a pre-funded feature of the Arizona State Retirement System, the effect is to actuarially defer the cost to employers and employees through increases in the contribution rate.

The current early retirement factors subsidize early retirement at the expense of the Arizona State Retirement System, its active members and the participating employers. This raises issues of equity, personnel policy, and actuarial valuation. **The early benefits are worth more than normal retirement.** In as much as early retirement is equally available, the system can be said to be fair. However, since normal retirement is effectively penalized, the question arises whether policy is to encourage retention and continued employment or work force turnover. Of course, the availability of early retirement can be a positive recruiting factor.

Consequently, we believe the early retirement adjustment factors should be corrected to more closely reflect the actuarial equivalent benefit. **The following Table 2 compares Arizona State statutory reductions for early retirement, with early retirement factors which produce benefits actuarially equivalent to normal retirement:**

TABLE 2: COMPARISON OF EARLY RETIREMENT FACTORS

RETIREMENT AGE	8% INTEREST 1983 GROUP ANNUITY MORTALITY TABLE	STATUTORY REDUCTIONS
50	.236	.35
51	.258	.40
52	.282	.45
53	.308	.50
54	.337	.55
55	.370	.60
56	.3406	.65
57	.446	.70
58	.491	.75
59	.541	.80
60	.590	.85
61	.659	.88
62	.729	.91
63	.809	.94
64	.898	.97
65	1.00	1.00

Using Table 2, for example, a 64-year-old normally retiring at 65 may now retire at a 97% pension. **The factor which would truly provide benefits of the same present value is 89.8%.** These figures assume the 183 Group Annuity

Mortality Table and 8% interest. Higher mortality or higher interest would provide larger reductions. **It is important that actuarial valuations reflect realistic early retirement reduction factors since the present value of benefits depends heavily on when early retirement is exercised.** Calculation of required contribution rates, of course, will be influenced by early retirement.

The recommended Arizona State Retirement System *Statement of Primary Intent* as presented in Figure 1 also encourages extended employment. Because the present retirement formula does not limit the number of years of service, there is a built in form of extended employment motivation. What is needed is to eliminate early retirement incentives which negate the effect of this feature.

Implementation of any of these recommendations should take the issue of impairment of contract into consideration. This is particularly the case with any statutory changes made to the early retirement adjustment factors.

SECTION 5. ITEM 7: DETERMINE WHETHER THE PRESENT FUNDING OF THE ARIZONA STATE RETIREMENT SYSTEM ADEQUATELY ENSURES THAT ADVANCED FUNDING OF THE SYSTEM IS PROVIDED ON A SOUND ACTUARIAL BASIS

5.1 Recommendations

1. The Arizona State Retirement System *Primary Funding Objectives* presented in Figure 2 should be incorporated into State Statutes.

2. Statutorily establish the objective of maintaining the Arizona State Retirement System's *Actuarial Value Funding Ratio* at a **minimum** funding level of 1.05 to provide a reserve for contingencies and losses from unanticipated market and investment volatility.

3. The statutory, actuarially determined contribution rate should be constitutionally shielded from legislated reductions.

4. Statutorily provide that any actuarially determined overfunding in excess of the *Actuarial Value Funding Ratio's* 1.05 funding level be annually transferred from the primary Retirement Fund's assets into the *Post-Retirement Benefit Enhancement Dedicated Trust Fund.*

5. Statutorily require that the Retirement Board contract for an investigation of the mortality, disability, service and other experiences of the members and employers participating in the Arizona State Retirement System as of the year ended June 30, 1991; and that such experience investigation be conducted at least every four years thereafter; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.

6. Statutorily require that when the effect of a change in the actuarial assumptions used for the annual actuarial valuation of the Arizona State Retirement System causes the contribution rate to change by more than ± 30% of itself, that the Legislature, in cooperation with the Retirement Board, commission an independent actuarial review of the most recent experience study and actuarial valuation with the objective of validating the changes in the actuarial assumptions; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.

7. Statutorily require that when the effect of a change in the actuarial assumptions used for the annual actuarial valuation of the Arizona State Retirement System causes the actuarial accrued liability to change by more than ± 20% of itself, that the Legislature, in cooperation with the Retirement Board, commission an independent actuarial review of the most recent experience study and actuarial valuation with the objective of validating the changes in the actuarial assumptions; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.

8. Consider conducting an actuarial study to determine the feasibility and cost-effectiveness of either fully or partially experience rating the contribution rates of the employers participating in the Arizona State Retirement System; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.

9. Consider conducting an actuarial study to determine the feasibility and cost-effectiveness of 100% employer funding of the Arizona State Retirement System, with the initial cost to convert to this funding approach being paid via eliminating one, or more, of the next employee pay raises; and funds should be appropriated for this purpose to be paid from the Administration Account of the Arizona State Retirement System.

5.2 Findings

In general, we concluded that the present funding of the Arizona State Retirement System adequately ensures that advanced funding of the system is provided on a sound actuarial basis. However, this situation will be placed at material risk if the statutory, actuarially determined contribution rate continues to be legislatively reduced.

We believe it is of vital importance to constitutionally provide a *Protective Mechanism* that will provide for the maximum feasible security of the Arizona State Retirement System's assets; and to shield the assets from both wide swings in the investment marketplace, and from capricious reductions in the statutorily required and actuarially determined contribution rate.

The future cost for repayment of arbitrary reductions in the statutory, actuarially determined contribution rate will only defer a greater cost into future years. In other words, it will cost more in the long run than the short term reduction in contribution expenses. Such actions also impact the intermediate security and integrity of the funding status of the Retirement Fund. The liability for deferred contributions grows like compound interest. For example, at 8% interest, liability will double in 9 years. **That is, a $1 contribution deferred for 9 years would require a $2 current contribution.**

We identified 19 of the surveyed state retirement systems with an *Assets Market Value/Liability Funding Ratio* in excess of 1.0 (reference Appendix 5, page 5-2). However, it is interesting to note that this Ratio is greater than .9 for 26 of the surveyed state retirement systems.

In contrast, only 9 of the surveyed state retirement systems had a *Actuarial Value Funding Ratio* in excess of 1.0, while this Ratio is greater than .9 for 23 of the surveyed state retirement systems (reference Appendix 5, page 5-3).

The Arizona State Retirement System's *Assets Market Value/Liability Funding Ratio* ranked fifth among the surveyed state retirement systems, and their *Actuarial Value Funding Ratio* ranked fourth. Essentially, Arizona ranked higher than 90% of the surveyed state retirement systems who provided this data for both of these ratios (reference Appendix 5).

It is difficult to assess the appropriateness of the actuarial assumptions in the absence of an experience study. However, an examination of the investment return interest rate assumptions and the salary increase percentage rate assumptions of the surveyed state retirement systems indicates that the Arizona State Retirement System's rates are well within the average (reference Appendix 2, pages 2-7 and 2-8). **Also, the assumed rates used by the Arizona State Retirement System appear to be reasonable and reflect conservative, but sound and prudent, actuarial principles.**

When considering the Entry Age Normal (EAN) versus the Projected Unit Credit (PUC) actuarial valuation methodologies, from the layman's perspective, it is important to understand that the EAN method is designed to produce a constant, level contribution rate, whereas the PUC method can produce an ever slightly increasing contribution rate. **The PUC method will result in an initially lower contribution rate than the EAN method. So long as the population of the subject retirement system membership is ever increasing, the contribution rate under the PUC method will most likely not materially increase.** However, should the subject retirement system membership population age and decline, the contribution rate under the PUC method will eventually exceed the contribution rate determined under the EAN method.

It is difficult to compare the effects upon the overall funding of the Arizona State Retirement System which result from the change from the Entry Age

Normal to the Projected Unit Credit actuarial valuation method. However, as noted to us by the Wyatt Company, the contribution rate for 1990-91 (i.e., 3.82%) would have been "...no less than 5.49%.." had the Entry Age Normal actuarial valuation method been employed instead of the Projected Unit Credit method. **Further, the Wyatt Company noted that this 5.49% contribution rate was estimated based upon stretching the current 13 year funding period to 45 years.** Further, the Wyatt Company indicates "...that the actual Entry Age Normal contribution rate would be slightly above 5.49% since the impact of the contribution cutback for 1989/90 is likely to have a larger impact under EAN than under PUC."

It is also interesting to note that 75% of the surveyed state retirement systems who provided actuarial valuation method data employ the Entry Age Normal Method, and only 20% employ the Projected Unit Credit method. Five percent indicate the use of some other actuarial valuation method. This information is found in Appendix 2, page 2-7. We do not have historic data, so we can not determine if the trend among other state retirement systems is toward, or away from, the Projected Unit Credit method.

An inspection of the Mercer Meidinger *"Investment Performance Evaluation Report for Periods Ending September 30, 1989"* indicates that the total fund performance for the last ten years was "near the median of the universe, below the index, and ahead of the median Public Fund." However, this *Evaluation Report* notes that total fund performance during the last three years has not been as favorable as compared to the benchmark groups. **It should be noted that the overall investment income has been in excess of 11% and the overall ten-year investment income is close to 14% per annum.**

In our opinion, investments should not be made which yield below normal market returns, or which are made in the name of any other interest except that of the beneficiaries of the Arizona State Retirement System. The use of the investment trust for economic development may well be in keeping with its nature and purpose. Retirement trusts are encouraged by government as a source of savings for investment. Investment within Arizona generates income and tax revenues for the state and job security for Arizona employees. It is common for pension funds for the building trades to be invested in building projects. The funds help maintain the building market and generally receive a favorable rate of return. Regulations allow private pension plans to invest a percentage in venture capital funds. The effect is to produce a good rate of return and at the same time foster a dynamic business environment. **In general it would seem reasonable to allow for similar opportunities to the Arizona State Retirement System, provided similar limits are placed on the percentage that can be committed and the rate of return that will be received.**

Actuarial valuations must be viewed as estimates and projections whose ultimate reliability will vary depending upon the actual events of the future. **These valuations should not be viewed as absolute.**

As for the question of whether or not the Arizona State Retirement System is overfunded or not, the answer is that it is overfunded. Because, as we noted previously, actuarial valuations are estimates, the only question is *"how much is it overfunded."* Based upon the two most recent, different actuarial valuations the amount of the actuarially defined overfunding ranges from $323.2 million to $509.7 million (i.e., respectively per the *"Asset and Benefit Valuation of the Arizona State Retirement Plan"* prepared by Professors James R. Booth, Ph.D. and Richard L. Smith, Ph.D.; and the Wyatt Company's *"Actuarial Valuation as of June 30, 1989"*). **However, these two reports' projected overfunding based upon the market value of the Retirement System's assets ranges from $956.9 million to $1.133 billion.** The substantially lower projected actuarial overfunding reflects the conservative and prudent assumptions and methodology used in calculating the actuarial value of the Retirement System's assets.

Another important question related to the issue of overfunding is *"who owns the overfunding."* First, as provided for in the definition of the *Trust Fund Nature of the Arizona State Retirement System*, these assets are held in trust for the member employees (reference Figure 3). Second, it can be argued that the majority of the present overfunding is "owned" by the present retirees and long-time active members...all of whose contributions have materially contributed to the present overfunded condition. **If this concept is accepted, then our recommended approach for funding the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* concept can be more readily understood and accepted.** The concept that the assets of the Arizona State Retirement System and/or its overfunding are "owned" by the State or any contributing employers conflicts directly with the trust fund nature of the Arizona State Retirement System.

Mr. Rollin Pelton, Chairman of the Investment Advisory Council, has raised the issue of volatility. The concept of volatility is of substantial magnitude when considered in light of the issue of "overfunding." Using the market crash of October 19, 1987 as an example, Mr. Pelton wisely notes that the value of the Arizona State Retirement System's total fund declined by about 6% which equated to about $400 million. During this same period, the Dow Jones Industrial Average dropped by more than 30%.

The reason the Arizona State Retirement System's total fund declined only $400 million was because it was invested only about 38% in common stocks in October 1987. Mr. Pelton suggests that one standard deviation of risk, if experienced, could cost the Arizona State Retirement System as much as

$1.8 billion dollars in market value (i.e., a loss of about 25%). A decline in the value of the retirement System's assets in excess of 15% could be classified as catastrophic. **This concept of volatility is the most important reason why we believe that the Arizona State Retirement System's *Actuarial Value Funding Ratio* should be maintained at a minimum funding level of 1.05 to provide a reserve for contingencies and losses from unanticipated market and investment volatility.**

Perhaps the most intriguing information relating to the ensuring of advanced funding of the Arizona State Retirement System is found in the March 1989 *"Asset/Liability Modeling Study"* prepared by the Wyatt Company. **Page 63 of this Study states "...we project a 25% probability that portfolio D will bring ASRS to full funding (no contribution) in 2006."** The fact that a zero contribution rate even falls within the realm of statistical probability is astonishing. **If this condition is practically achievable, then it should become a major objective for the Legislature, the Retirement Board and the Investment Advisory Council to achieve.** This projection, however, would most likely not be achieved if this Report's recommended *Post-Retirement Benefit Enhancement Dedicated Trust Fund* concept is implemented.

Although we are recommending conducting an actuarial study to determine the feasibility and cost-effectiveness of either fully or partially experience rating the contribution rates of the employers participating in the Arizona State Retirement System...and an actuarial study to determine the feasibility and cost-effectiveness of 100% employer funding of the Arizona State Retirement System...we are not proponents of either of these funding approaches. **We are recommending that these studies be made in response to questions and issues which were mentioned during our Study work.**

SECTION 6. ITEM 9: EXAMINE THE PRESENT INVESTMENT GUIDELINES OF THE SYSTEM WITH A POLICY GOAL OF PROVIDING FOR ALLOWABLE INVESTMENTS IN ORDER TO PROVIDE TIMELY PAYMENT TO THE SYSTEM'S BENEFICIARIES IN THEIR RETIREMENT

6.1 Recommendations

1. Consideration should be given to increasing the limit on foreign investments to 25% of the Arizona State Retirement System's assets, instead of entirely removing this restriction.

2. Concurrent with the statutory implementation of this Report's recommendations, consideration should be given to complete recodification and simplification of the present retirement statutes.

6.2 Findings

Throughout the interview process, no one indicated any particularly major problems or concerns regarding the statutory investment guidelines. The only exception relates to the issue of the 10% limit on foreign investments.

After discussions with the members of the Retirement Board, and the Chairman and Vice-Chairman of the Investment Advisory Board, we believe that increasing the 10% foreign investment restriction to 25% would provide a reasonable and prudent solution to the constraints presently being felt. **Further, it is reasonable to expect that the investment policy of the Investment Advisory Council would most likely not result in foreign investments exceeding the recommended 25% threshold.**

During 1989, the Investment Advisory Council has reduced investment costs by approximately $4.5 million. This represents a reduction of about 30% in the total investment costs. These savings were realized from: 1) manager fee reductions; 2) reductions in custodial fees; and 3) reduced transaction costs resulting from anticipated lower portfolio turnover and lower trading costs.

The present retirement statutes have evolved over many years. These statutes have become lengthy and overly complex. We believe that the statutory implementation of this Report's recommendations will further complicate these statutes. Consequently, we believe now is the time to

SECTION 7: SUMMARY OF THE DATA COLLECTION AND ANALYSIS PROCESS

7.1 External Data Collection and Analysis

Data was used and/or collected from three primary sources which are external to the Arizona State Retirement System and the State of Arizona:

- Several previous studies and other data (reference Appendix 1).
- Our Public Employees Retirement System Data Collection Survey Process (reference Appendix 2).
- Our Private Pension Systems Survey Data Collection Survey Process (reference Appendix 3).

The Public Employees Retirement System Data Collection Survey produced outstanding results. The Data Collection Survey was sent to 69 state public employees retirement systems which were included in the analytical process. Completed responses were received from 48 of the 69 surveyed, although one response was received too late to be included in the analysis. This 70% return rate is an excellent response rate. **As a result, we obtained 100% of the benefits evaluation data we were seeking for 64 of the 69 surveyed state public employees retirement systems (i.e.,93%).** We obtained 100% of all of the evaluation data we were seeking for 59 of the 69 surveyed (i.e.,85%). For the remaining 10 surveyed we obtained varying types of data.

The Survey data, combined with the data collected from the other sources, was compiled into several analytical formats. These analyses focused upon five primary functional areas:

- Retirement system benefits.
- Actuarial valuation components.
- Investment components.
- Administrative costs.
- Retirement board composition.

The surveyed state public employees retirement systems' benefits data was also used to prepare a *Composite Ranking* of the overall retirement benefits.

This *Composite Ranking* was derived by scoring and ranking several retirement system benefits factors:

- Member contribution rate.
- Employer contribution rate.
- Retirement benefit amount at 30 years' service for two levels of final average salary actuarially increased to $15,000 and $30,000 final year's salary.
- The presence of an automatic cost of living adjustment (COLA).
- Integration with Social Security.
- The percentage multiplier factor used to calculate benefits.

We also prepared a comparative analysis and ranking of the *Dollars of Benefits Per Percent of Member Contribution Rate*, and the *Dollars of Benefits Per Percent of Employer Contribution Rate* for the surveyed state public employees retirement systems.

The detailed *Composite Ranking* and the associated retirement benefits rankings for the surveyed state public employees retirement systems are found in Appendix 4.

We examined the surveyed state retirement systems' actuarial valuation and investment components. This data is included with the survey data found in Appendix 2. We conducted an analysis of the funding status/ratio of the surveyed state retirement systems from two perspectives:

- We examined and ranked the surveyed retirement systems on the basis of their individual *Actuarial Value Funding Ratio.*
- We examined and ranked the surveyed retirement systems on the basis of their individual *Assets Market Value/Liability Funding Ratio.*

We believe a more relative, comparative measure of funding status is achieved by our *Assets Market Value/Liability Funding Ratio* analysis (i.e., defined as the Market Value of Assets ÷ the Actuarial Accrued Liability). This is especially true when comparing the funding status of different retirement systems because they all use varying actuarial valuation, investment and funding assumptions. These rankings and related analyses are found in Appendix 5.

We calculated the annual administrative costs for the surveyed retirement systems per member and per staff position...and we calculated the administrative costs as a percent of the assets' market value. The detailed administrative costs data compilation is included with the survey data found in Appendix 2. The administrative costs rankings and analysis are presented in Appendix 6.

We summarized the surveyed retirement systems' retirement board composition data by board member category. This data is presented in Appendix 7.

We collected data relating to several other states' approach to organizing and staffing their respective investment management functions. These contacts were made by telephone and were much less formal and structured than our other data collection processes. We found four states who have an investment management function that is separated from their state retirement systems' boards of trustees. These states are Illinois, Wisconsin, Oregon and Washington. **However, we found no state where, as in Arizona, the separate investment management function is dedicated entirely to the management of their retirement system's funds.** On the other hand, all four of these other states have a full-time, executive director and support staff who report directly to their respective investment management boards.

The Private Pension Systems Survey Data Collection Survey Process yielded unsatisfactory results. The Private Pension Systems Survey was sent to 32 of the largest companies in Arizona. We also contacted each company by telephone to request a response to the survey. In spite of this, we received only five completed surveys. **While this data is useful and is generally indicative of the private sector pension plan environment, it is not sufficient to form conclusive findings.** Consequently, we have supplemented this survey data with summary data obtained from the Arizona State Personnel Division's "Joint Governmental Salary and Benefits Survey." These findings resulted from information provided to the Arizona State Personnel Division by 195 private sector companies. To the extent possible, we have extrapolated these data to allow for a composite analysis which included the data from the Private Pension Systems Survey we conducted.

7.2 Internal Data Collection and Analysis

Data was used and/or collected from the following primary sources which are internally oriented with the Arizona State Retirement System and the State of Arizona:

- The computerized database of more than 33,000 retirement benefits recipients as of November 1988 (reference Appendix 10).
- Studies, data and other information relating to the Arizona State Retirement System (reference Appendix 1).
- Structured interviews with each member of the Retirement Board and the Director of the Arizona State Retirement System (reference Appendix 8).
- Structured interviews with representatives of several employee and employer advocacy groups (reference Appendix 8).

The actuarially oriented analysis of the computerized retirement benefits database was used primarily to develop our recommended ***Post-Retirement Benefit Enhancement Dedicated Trust Fund*** concept (reference Appendix 9). This analysis summarized totals of retirees' benefits by several different age, years of service and other related categories.

The Appendix 10 Tables were prepared using a tape containing the retiree database as of November 1988 provided by the Arizona State Retirement System. Data from the tape was transferred to a computer disc file. A computer program was written to sort and tabulate the data by criteria such as date of retirement and final average salary. Calculations such as final average salary required, for example, reversing COLA's to find the original benefit, reversing the effect of retirement options such as joint-and-survivor and early retirement, and then dividing by the benefit percentage yielded from service and date of retirement.

The four Table 11 spread sheets were developed to illustrate the expected life of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* (reference Appendix 10 page 10-15 through 10-22). The major complication arose from the assumption that when a *Post-Retirement Benefit Enhancement* is given a liability results for the life of the recipient retirees. This actuarial liability reduces the balance that can be used for new *Post-Retirement Benefit Enhancements.* To calculate this liability a standard 1979-80 US Life Table was used and a rate of total increase in retiree benefits was derived from the Wyatt & Company asset valuation. The Table 11 spread sheets dispense new *Post-Retirement Benefit Enhancement* until the actuarial surplus is expended. After that, no new *Post-Retirement Benefit*

Enhancement are given although payments continue on *Post-Retirement Benefit Enhancement* already granted.

Among the studies relating specifically to the Arizona State Retirement System we reviewed, and which are listed in Appendix 1, we particularly analyzed the following:

- Arizona State Retirement Plan - Actuarial Valuation as of June 30, 1989.
- Asset/Liability Modeling Study for the Arizona State Retirement System March 1989.
- Arizona State Retirement System Alternatives for Actuarial Value of Assets and the Cost of an Automatic COLA, December 15, 1989.
- Arizona State Retirement System Spendable Income Analysis.
- Arizona State Retirement System Investment Performance Evaluation Report for Periods Ending September 30, 1989.
- Asset and Benefit Valuation of the Arizona State Retirement Plan for The Arizona Legislative Council, May 8, 1989.

Further, the Wyatt Company was helpful in providing answers to some of the information requests we made of them.

FIGURE 1

ARIZONA STATE RETIREMENT SYSTEM STATEMENT OF PRIMARY INTENT

1. *It is the policy of the Arizona State Legislature that the* ***primary intent*** *of the Arizona State Retirement System is to:*

   a. ***recruit and retain employees*** *of the* ***highest possible quality.***

   b. *contribute toward providing a* ***total compensation package*** *that is* ***generally equivalent to comparable employment*** *in other public and private organizations in the State of Arizona.*

   c. *provide a* ***retirement system and associated retirement benefits*** *which will* ***make government employment attractive*** *to qualified employees and which will* ***encourage these employees to remain in government service*** *for such periods of time as to provide the public employer full benefit of the training and experience gained by these employees.*

   d. *provide an orderly method of* ***promoting and maintaining a high level of service to the public*** *through an equitable separation procedure which is available to employees at retirement or upon becoming disabled.*

2. *Generally, it is the* ***intent*** *of the Arizona State Retirement System to encourage a* ***full 30-year service career****, to* ***discourage early retirement****, and* ***encourage extended employment.***

3. *Generally, the* ***intent*** *of the Arizona State Retirement System is* ***NOT to meet 100%*** *of a member's* ***post-retirement income*** *requirements.*

FIGURE 2

ARIZONA STATE RETIREMENT SYSTEM PRIMARY FUNDING OBJECTIVES

1. *Keep employer and employee* ***contribution rates*** *at the* ***lowest possible level,*** *while simultaneously providing for the* ***maximum possible return on investment,*** *and maintaining an* ***investment portfolio*** *of the* ***highest possible caliber.***

2. *Maintain the* ***Actuarial Value Funding Ratio*** *at* ***1.05 or greater;*** *and, if the funding ratio declines to less than 1.05, to provide for its reaching 1.05 in not less than 10 years from the date it fell below 1.05.*

3. ***Meet the defined actuarial liabilities*** *of the Arizona State Retirement System through investment activity which is* ***consistent with the prudent man rule*** *and which meets other requirements of Arizona State law and the investment management policies of the Investment Advisory Council.*

FIGURE 3

DEFINITION OF THE TRUST FUND NATURE OF THE ARIZONA STATE RETIREMENT SYSTEM

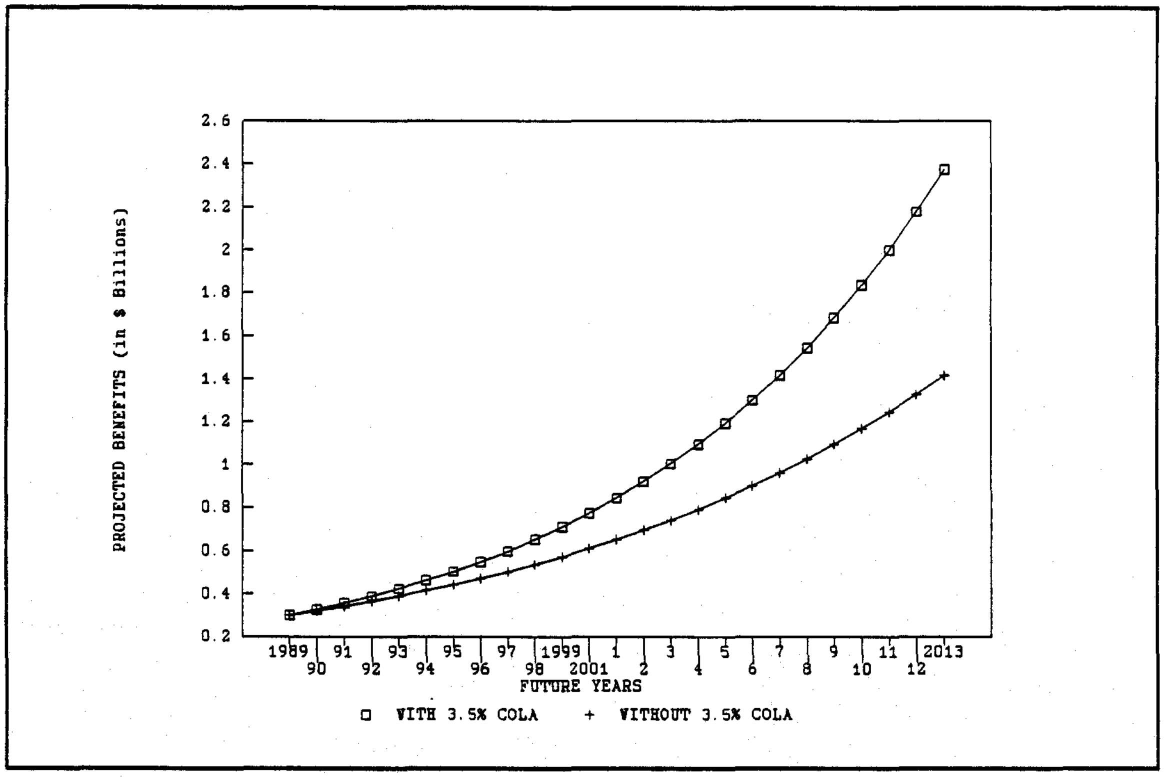
1. *It is the policy of the Arizona State Legislature that the Arizona State Retirement System's* ***Public Employees' Retirement Trust Fund*** *is a* ***trust fund*** *established to* ***afford an optimum degree of security*** *to the member employees of the State and its political subdivisions. The monies and other assets of the Arizona State Retirement System's* ***Public Employees' Retirement Trust Fund*** *shall not be used or appropriated for any purpose which is incompatible with the* ***Arizona State Retirement System Statement of Intent.***

2. *On the date that this policy is implemented, the Retirement Board shall* ***deposit all monies and other assets*** *of the Arizona State Retirement System into the Arizona State Retirement System's* ***Public Employees' Retirement Trust Fund.***

3. *All funds received by the Arizona State Retirement System as* ***employer and employee contributions*** *shall be* ***deposited into*** *the Arizona State Retirement System's* ***Public Employees' Retirement Trust Fund.***

FIGURE 4

PROJECTED RETIREMENT BENEFITS PAYMENTS FOR THE NEXT 25 YEARS



NOTE:

1. The source for this data is the Wyatt Company's *"Asset/Liability Modeling Study for the Arizona State Retirement System"* dated March 1989.

2. The projected retirement benefits have been reduced by eliminating the effect of the 3.5% COLA in two out of three of the projected future years.

FIGURE 5

SAMPLE BENEFITS USING THE ACTUAL AD-HOC COLA AMOUNTS GRANTED (Page 1 of 2)

Case One:
- **The member retired effective 1/1/1974.**
- **The member had 30 years of service.**
- **The member's final average salary equalled $1,150 per month.**
- **The initial benefit equals $450/month (.0125 x 23.5 x $1,150 plus .015 x 6.5 x $1,150).**

YEAR	AD-HOC COLA LEGISLATION	ACTUAL BENEFIT AMOUNT	CPI IN PRIOR YEAR	½ OF CPI UP TO 3%	BENEFIT IF 3% CAPPED COLA
	Initial Benefit (1/1/74)	$ 450.00			$ 450.00
1974	5% to all retirees	472.50	6.2%	N/A	450.00
1975	No increase	472.50	11.0%	3.0%	463.50
1976	10% if benefit under $500	519.75	7.0%	3.0%	477.41
1977	No increase	519.75	4.8%	2.4%	488.87
1978	No increase-benefit over $500	519.75	6.8%	3.0%	503.53
1979	No increase	519.75	9.0%	3.0%	518.64
1980	5% to all retirees	545.74	13.3%	3.0%	534.20
1981	Scale-years retired (8%)	589.40	12.4%	3.0%	550.23
1982	Scale-years retired (6.75%)	629.18	8.9%	3.0%	566.74
1983	No increase	629.18	3.9%	1.95%	577.79
1984	$40/month-all retirees	669.18	3.8%	1.9%	588.77
1985	$40/month-all retirees	709.18	4.0%	2.0%	600.54
1986	60¢/mo. for yrs.retd.+yrs.svc.	734.38	3.8%	1.9%	611.95
1987	60¢/mo. for yrs.retd.+yrs.svc.	760.18	1.1%	.55%	615.32
1988	No increase	760.18	4.4%	2.2%	628.85

NOTE: The actual increases are about 21% more than the increases would have been with an automatic COLA (i.e., $760.18 versus $628.85).

FIGURE 5

SAMPLE BENEFITS USING THE ACTUAL AD-HOC COLA AMOUNTS GRANTED (Page 2 of 2)

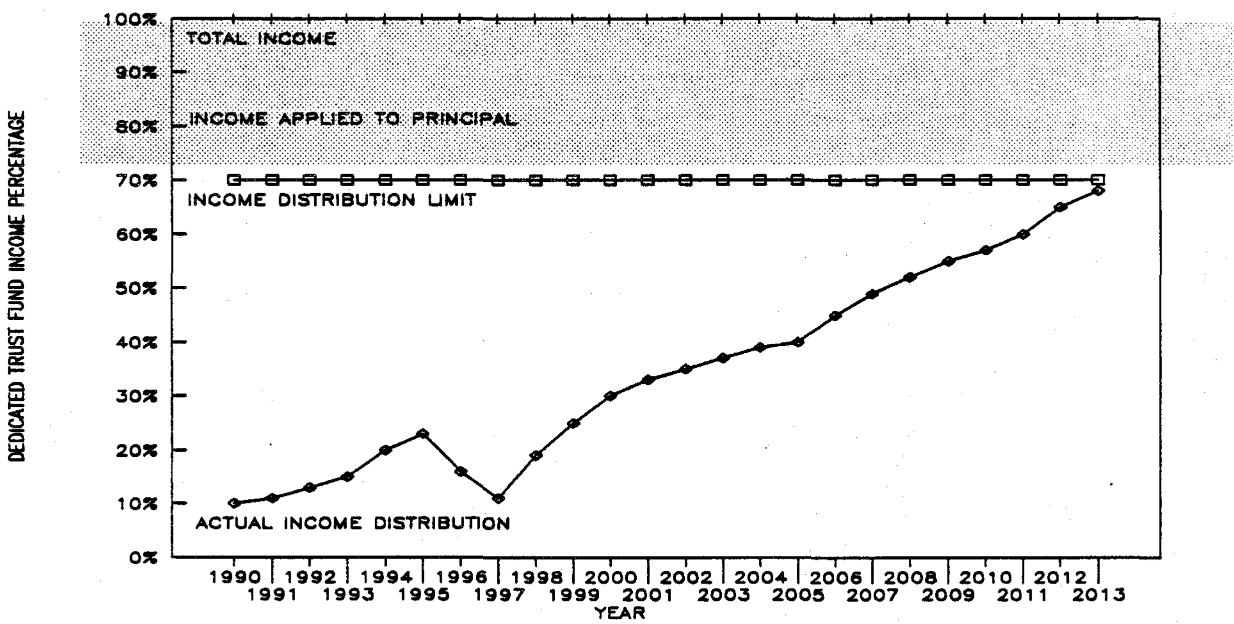
Case Two:
- **The member retired effective 1/1/1975**
- **The member had only 10 years of service.**
- **The member's final average salary equalled $1,739 per month.**
- **The initial benefit equals $250/month (.0125 x 2.5 x $1,740 plus .015 x 7.5 x $1,740)**

YEAR	AD-HOC COLA LEGISLATION	ACTUAL BENEFIT AMOUNT	CPI IN PRIOR YEAR	½ OF CPI UP TO 3%	BENEFIT IF 3% CAPPED COLA
	Initial Benefit (1/1/75)	$ 250.00			$ 250.00
1975	No increase	250.00	11.0%	N/A	250.00
1976	10% if benefit under $500	275.00	7.0%	3.0%	257.50
1977	No increase	275.00	4.8%	2.4%	263.68
1978	Scale-6% increase	291.50	6.8%	3.0%	271.59
1979	No increase	291.50	9.0%	3.0%	279.74
1980	5% to all retirees	306.08	13.3%	3.0%	288.13
1981	Scale-years retired (7%)	327.51	12.4%	3.0%	296.77
1982	Scale-years retired (6%)	347.16	8.9%	3.0%	305.68
1983	No increase	347.16	3.9%	1.95%	311.64
1984	$40/month-all retirees	387.16	3.8%	1.9%	317.56
1985	$40/month-all retirees	427.16	4.0%	2.0%	323.91
1986	60¢/mo. for yrs.retd.+yrs.svc.	439.76	3.8%	1.9%	330.06
1987	60¢/mo. for yrs.retd.+yrs.svc.	452.96	1.1%	.55%	331.88
1988	No increase	452.96	4.4%	2.2%	339.18

NOTE: The actual increases are about 34% more than the increases would have been with an automatic COLA (i.e., $452.96 versus $339.18).

FIGURE 6

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND INCOME DISTRIBUTION CONCEPT



APPENDIX 1

LIST OF OTHER SURVEY DATA SOURCES

RESOURCE - GENERAL:	SOURCE:
NASRA/NCTR Survey of Systems: 1989	NASRA - Bert D. Hunsaker P.O. Box 2875 Salt Lake City, UT 84110-2875 NCTR - Bruce Hineman P.O. Box 1882 Austin, TX 78767-1882
1988 Pension Commission Clearinghouse Report on State Pension Commissions	Foster Higgins & Co., Inc. Pension Commission Clearinghouse 125 Broad Street New York, NY 10004 Joyce Gaul
Retirement Provisions Survey: 1985-86	National Education Assoc. 1201 16th St., N.W. Washington, D.C. 20036-3290 Margaret "Peg" Jones, Director
Comparative Statistics of Major State Retirement Systems, 1984-1988 Legislative Finance Papers	Fiscal Affairs Program National Conference of State Legislatures 1050 17th St., Suite 2100 Denver, CO 80265 Ronald K. Snell
1987 Survey of Actuarial Assumptions and Funding (plans with 1,000 or more active members)	The Wyatt Company
On Target, 90% - Public Pension Funds 1988	Greenwich Associates Office Park Eight Greenwich, CT 06830 Rick Green
The Business Journal, 1989 Book of Lists Used: - The top 25 Arizona-based public companies. - 25 of the largest Maricopa County employers	The Business Journal 3737 N. Seventh Street, Suite 200 Phoenix, AZ 85014

RESOURCE - GENERAL:	SOURCE:
Arizona Statistical Review 45th Annual Edition: December 1989	Valley National Bank of Ariz. Economic Planning Division P.O. Box 71 Phoenix, AZ 85014
Arizona Labor Market Information Annual Planning Information 1989-90	Arizona Department of Economic Security Research Administration P.O. Box 6123, Phoenix
Joint Governmental Salary and Benefits Study: 1989	Arizona Dept. of Administration Personnel Division Compensation Section 1831 W. Jefferson Phoenix, AZ 85007

RESOURCE - ARIZONA RETIREMENT:	SOURCE:
Arizona Revised Statutes Title 38, Chapter 5 October, 1989	Arizona State Retirement System Edwin C. Gallison, Director
Arizona State Retirement Plan Actuarial Valuation as of June 30, 1989 November 17, 1989	The Wyatt Company
Arizona State Retirement Plan Actuarial Valuation as of June 30, 1988 December 16, 1988	The Wyatt Company
Asset/Liability Modeling Study for the Arizona State Retirement System March 1989	The Wyatt Company
Arizona State Retirement System Alternatives for Actuarial Value of Assets and the Cost of an Automatic COLA December 15, 1989	The Wyatt Company
Arizona State Retirement System Spendable Income Analysis	The Wyatt Company
Arizona State Retirement Plan Introduction to the Projected Unit Credit Actuarial Valuation Method October 14, 1988	The Wyatt Company
Arizona State Retirement System Investment Performance Evaluation Report for Periods Ending September 30, 1989 November 1989	William M. Mercer Meidinger Hansen Asset Planning, Inc. 3303 Wilshire Boulevard Los Angeles, CA 90010

RESOURCE - ARIZONA RETIREMENT:	SOURCE:
Asset and Benefit Valuation of the Arizona State Retirement Plan for The Arizona Legislative Council May 8, 1989	James R. Booth, Ph.D. Richard L. Smith, Ph.D. Professors of Finance Arizona State University
Arizona State Retirement System 35th Comprehensive Annual Financial Report for the Year Ended June 30, 1988	Arizona State Retirement System Edwin C. Gallison, Director
Arizona State Retirement System Board Component Unit Financial Statements and Additional Information and Independent Auditor's Report Years Ended June 30, 1989 and 1988	Touche Ross
Report of the Legislative Council Study Commission on the Arizona State Retirement System January 1, 1983	Arizona Legislative Council
Minutes of the Arizona State Retirement System Retirement Board Meetings: 1989-90	Arizona State Retirement System Edwin C. Gallison, Director

APPENDIX 2

PUBLIC EMPLOYEES RETIREMENT SYSTEM SURVEY DATA

CONTENTS:

- Sample Survey Letter
- Retirement Plan Features Data and Administrative Cost Data
- Actuarial Valuation Data - Funding Information
- Actuarial Valuation Data - Valuation Assumptions Information
- Statewide Salary Comparison Data
- Comparison of Various Salary and Retirement Benefits Data

January 25, 1990

Mr. Harry M. Descoteau
Executive Secretary
New Hampshire Retirement System
169 Manchester Street, Building 3
Concord, NH 03301

Dear Mr. Descoteau:

This letter is written to request your assistance.

We have been retained by the Arizona Legislative Council Joint Study Committee, co-chaired by Speaker Jane Hull and Senator Doug Todd, to conduct an evaluation of the Arizona State Retirement System. This Study Project will include examining certain aspects of the Retirement System in comparison to private pension systems and other public retirement systems.

The enclosed spreadsheet shows four sets of data for your retirement system which we have compiled from various sources including the NASRA/NCTR Survey of Systems 1989. So that our project data may be as complete and accurate as possible, we ask that you supply information for your retirement system in the **highlighted** blank sections. Further, should you wish to provide more current information for any section other than that shown, please feel free to do.

We ask that you complete the enclosed survey form and, if possible, return it by February 9 to our associates at:

> **Cyberserv International Co. for**
> **Kaufmann and Goble Associates**
> **1091 West California Avenue**
> **Mill Valley, CA 94941**

Thank you for your assistance with this important work for the Arizona State Legislature.

Sincerely,

KAUFMANN AND GOBLE ASSOCIATES

RETIREMENT SYSTEM State	PERS	Teacher	NOTES	CONTRIBUTION RATE Member %	CONTRIBUTION RATE Employer %	BENEFIT AMOUNT 30 YRS. OF SERVICE $15,000/Ann	BENEFIT AMOUNT 30 YRS. OF SERVICE $30,000/Ann	COLA Auto.	COLA Invest. Return Related	COLA Ad Hoc	EARLY RETIREMENT Incentive Yes	EARLY RETIREMENT Incentive No	EARLY RETIREMENT Reduction Option Yes	EARLY RETIREMENT Reduction Option No	EARLY RETIREMENT No Reduc. Option Yes	EARLY RETIREMENT No Reduc. Option No	COORD. WITH SOC.SEC. Yes	COORD. WITH SOC.SEC. No
Alabama		1		5.000	7.570	$8,632	$17,264			1		1		1	1			1
Alaska		1		7.530	9.140	8,578	17,156			1		1	1			1		1
Alaska	1			6.830	9.230	9,650	19,301	1		1		1	1			1		1
ARIZONA	1			3.820	3.820	8,578	17,156			1		1	1			1		1
Arkansas		1		6.000	12.000	7,875	15,570	1				1	1			1		1
Arkansas	1			0.400	5.400	6,751	13,502	1		1		1	1			1	1	
California	1		*	6.000	13.200	9,210	19,581	1	1	1		1		1	1		1	
Colorado	1			8.000	8.500	8,936	17,871	1		1		1	1			1		1
Connecticut		1	*	6.000	25.500	8,578	17,156	1		1		1	1			1		1
Connecticut	1		*			5,704	11,409	1				1	1			1	1	
Delaware	1		*	3.000	9.000	6,792	13,583			1		1	1			1	1	
Florida	1			0.000	13.900	6,874	13,747	1				1	1			1		1
Georgia		1		6.000	13.630	8,786	17,571	1				1	1			1		1
Georgia	1			0.250	17.110	6,750	13,500	1				1	1		1			1
Hawaii	1		*	7.800	15.000	8,578	17,156	1				1					1	
Idaho	1			5.430	8.890	7,501	15,003	1				1	1		1			1
Illinois		1		8.000	9.510	8,505	17,010	1				1	1		1			1
Illinois	1			4.909	5.117	5,100	10,200	1		1		1	1			1	1	
Indiana		1		3.000	8.000	4,501	9,001			1		1	1			1		1
Indiana	1			3.000	8.000	4,501	9,001			1		1	1			1		1
Iowa	1		*			7,163	14,326											
Kansas	1		*	4.000	3.070	5,864	11,728			1		1	1		1			1
Kentucky		1	*	9.855	13.105	9,438	18,975	1		1		1	1		1			1
Kentucky	1			5.000	7.450	7,569	15,138	1				1	1		1		1	
Louisiana		1		7.000	10.300	10,723	21,445											
Louisiana	1			7.300	12.000	11,023	21,745			1		1	1			1		1
Maine	1			6.500	17.030	5,878	17,156	1				1	1			1		1
Maryland	1		*	3.050	16.520	3,431	9,591	1				1	1			1		1
Massachusetts		1		5.900	16.200	10,723	21,445			1		1	1			1		1
Massachusetts	1		*	7.000		10,723	21,445											
Michigan	1			0.000	8.040	6,750	13,500	1				1	1			1		1
Minnesota		1		4.500	8.980	5,455	10,910											
Minnesota	1			3.730	3.900	5,455	10,910		1			1	1		1			1
Mississippi	1			6.500	9.750	8,438	16,875	1	1	1		1	1			1		1
Missouri		1		9.200	9.200	8,592	17,184			1		1	1			1		1
Missouri	1			0.000	9.900	5,704	11,409	1				1	1			1		1
Montana		1		7.044	7.459	7,120	14,240			1		1	1		1			1
Montana	1			6.000	6.417	7,120	14,240			1		1	1			1		1
Nevada	1			9.125	9.125	10,723	21,445	1				1	1			1		1
New Hampshire	1		*	5.580	3.500	7,120	14,240			1		1	1			1		1
New Jersey		1		2.780	14.370			1				1	1			1		1
New Jersey	1		*	2.950	6.970	7,120	14,240	1				1	1		1			1
New Mexico		1		7.600	7.600	9,675	19,350	1		1		1	1			1		1
New York	1		*	3.000	16.700	8,578	17,156											
No. Carolina	1			6.000	9.350	6,618	13,236			1		1	1			1	1	
No. Dakota		1		6.750	6.750	5,736	11,472			1		1	1			1	1	
No. Dakota	1			4.000	5.120	6,137	12,274			1		1	1			1		1
Ohio		1		8.770	14.000	9,450	18,900	1	1	1	1		1			1		1
Ohio	1			9.500	13.710	9,007	18,014	1		1	1		1			1		1
Oklahoma		1		5.500	13.200	8,578	17,156			1		1	1		1			1
Oklahoma	1			2.508	8.000	8,578	17,156			1		1	1			1		1
Oregon	1			6.000	11.300	7,163	14,326	1		1		1	1		1			1
Pennsylvannia	1			5.000	13.220	8,578	17,156			1		1	1			1		1
Rhode Island	1			7.500	12.100	9,436	18,872	1				1	1			1		1
So. Carolina	1		*	6.000	7.550	8,640	16,380	1		1		1	1			1		1
So. Dakota	1			5.000	5.000	5,625	11,250	1				1	1		1			1
So.Dakota/Opt.	1			8.000	8.000	8,578	17,156	1				1	1			1		1
Tennessee	1		*	0.000	6.850	6,137	7,896	1				1	1			1	1	
Texas		1		6.400	8.000	8,578	17,156			1		1	1			1		1
Utah-Contrib.	1			6.000	5.330	8,578	17,156	1				1	1		1		1	
Utah-Noncon.	1			0.000	9.880	6,525	13,050	1				1	1		1		1	
VA Supplemtl.	1		*	5.000	8.556	6,483	13,560	1				1	1		1			1
Vermont		1	*	5.500	7.840			1				1	1			1		1
Vermont	1			0.530	10.740	5,625	11,250	1				1	1			1		1
Washington-I		1		6.000	11.800	8,183	16,365			1	1		1			1		1
Washington-I	1			6.000	6.280	8,183	16,365			1	1		1			1		1
West Virginia		1		6.000	6.000	8,183	16,365											
Wisconsin	1			6.000	6.000	6,863	13,725		1			1	1			1		1
Wyoming	1			5.570	5.680	8,578	17,156	1		1	1		1			1		1
TOTAL	47	22		67	66	67	67	39	5	36	5	58	60	2	17	45	12	51
% TTL.SURVEYED								48.8%	6.3%	45.0%	7.9%	92.1%	96.8%	3.2%	27.4%	72.6%	19.0%	81.0%
MINIMUM				0.000	3.070	$3,431	$7,896											
MAXIMUM				9.855	25.500	$11,023	$21,745											
AVERAGE				5.195	9.702	$7,687	$15,430											

RETIREMENT SYSTEM State	PERS	Teacher	NOTES	RETIRED MEMBERS (Ins.Surv. Benef.)	******ACTIVE****** MEMBERS (Not Def.Vested) Vested	Non-Vest.	****ADMINISTRATION***** Admin. Budget Only	Total Budget	***ADMINISTRATIVE COST DATA ANALYSIS*** Staff Size	Admin. Cost Per Member	Admin. Cost Per Staff	Total Members Per Staff
Alabama		1		26,119	105,545		$3,351,866	$3,351,866	90	$25.46	$37,243	1,463
Alaska		1		2,098	4,196	3,601	1,405,800	3,622,200	27	142.07	52,067	368
Alaska	1			4,633	13,097	13,665	1,905,900	5,132,700	34	57.52	53,115	923
ARIZONA	1			31,396	61,020	63,416	3,066,314	3,066,314	78	19.68	39,312	1,998
Arkansas		1		11,707	45,374		1,057,790	125,018,809	40	19.76	26,445	1,339
Arkansas	1			9,155	9,639	30,921	2,122,328	2,823,858	45	42.52	47,163	1,109
California	1		*	230,640	547,587		42,824,000	79,889,000	767	55.03	55,833	1,015
Colorado	1			30,649	59,300	41,508	8,654,229	8,654,229	125	65.83	69,234	1,052
Connecticut		1	*	13,668	32,500	8,130	1,814,766	1,814,766	31	33.42	58,541	1,752
Connecticut	1		*	21,137	56,202		5,500,000	5,500,000	85	71.12	64,706	910
Delaware	1		*	9,704	16,396	10,845	1,370,000	6,461,000	39	37.08	35,128	947
Florida	1			102,315	190,567	312,201	9,243,371	11,636,887	227	15.28	40,720	2,666
Georgia		1		26,582	50,412	78,449	4,209,052	4,209,052	69	27.08	61,001	2,253
Georgia	1			13,095	24,059	32,995	1,950,763	4,365,046	27	27.81	72,250	2,598
Hawaii	1		*	20,000	50,000				50			
Idaho	1			16,344	27,696	18,410	1,900,000	5,055,000	45	30.42	42,222	1,398
Illinois		1		43,385	80,000	20,000	5,271,130	13,286,130	103	36.76	51,176	1,392
Illinois	1			32,870	43,553	31,370	3,418,510	9,059,410	71	31.71	48,148	1,518
Indiana		1		25,849	43,215	20,942	981,934	981,934	26	10.91	37,767	3,462
Indiana	1			31,917	42,269	83,035	5,849,616	5,849,616	49			3,209
Iowa	1		*									
Kansas	1		*	36,171	39,399	58,291	2,712,238	12,800,000	63	20.26	43,051	2,125
Kentucky		1	*	18,599	36,696	12,058	2,279,000	2,974,000	45	33.84	50,644	1,497
Kentucky	1			24,327	52,432	38,649	2,245,991	2,245,991	70	19.46	32,086	1,649
Louisiana		1										
Louisiana	1			23,952	2,443	59,792	1,309,606	3,235,831	44	15.19	29,764	1,959
Maine	1			21,985	44,949		2,518,151	5,930,262	72	37.62	34,974	930
Maryland	1		*	46,586	157,977	22,849	3,200,000	10,300,000	102	14.07	31,373	2,230
Massachusetts		1		23,653	75,383		1,452,000	238,052,000	41	14.66	35,415	2,418
Massachusetts	1		*									
Michigan	1			21,873	30,458	33,090	2,600,000	2,600,000	19	30.44	136,842	4,496
Minnesota		1										
Minnesota	1			12,341	17,430	28,270	1,940,000	3,516,000	39	33.42	49,744	1,488
Mississippi	1			30,026	95,434	30,404	3,809,154	3,809,154	73	24.44	52,180	2,135
Missouri		1			28,812	26,986	1,435,452	2,334,256	40	25.73	35,886	1,395
Missouri	1			10,388	24,538	17,400	5,161,208	17,400	46	98.64	112,200	1,138
Montana		1		6,275	10,131	4,918	438,200	749,120	11	20.55	39,836	1,939
Montana	1			9,219	27,191		610,126	610,126	17	16.76	35,890	2,142
Nevada	1			10,295	14,435	30,475	1,782,521	1,782,521	37	32.29	48,176	1,492
New Hampshire	1		*	8,305	17,380	17,380	1,191,029	1,191,029	29	27.66	41,070	1,485
New Jersey		1		31,442	70,707	42,020						
New Jersey	1		*	57,109	85,108	192,527	19,462,000	19,462,000	459	49.71	42,401	853
New Mexico		1		11,280	26,324	19,168	1,086,000	1,086,000	28	19.13	38,786	2,028
New York	1		*	221,594	269,285	338,364						
No. Carolina	1			61,219	149,364	61,008	2,563,667	4,336,693	100	9.44	25,637	2,716
No. Dakota		1		3,892	7,435	2,192	500,073	1,809,878	15	36.99	33,338	901
No. Dakota	1			170,974	5,479	8,087	1,015,006	3,575,084	14	5.50	72,500	13,181
Ohio		1		66,453	118,788	102,861	20,543,500	20,543,500	248	71.31	82,837	1,162
Ohio	1			103,549	276,240		12,525,600	13,426,968	231	32.98	54,223	1,644
Oklahoma		1		23,780	33,000	45,400	1,600,000	3,500,000	38	15.66	42,105	2,689
Oklahoma	1			13,448	116,063	40,953		3,203,340	31			5,499
Oregon	1			50,467	74,893	40,031	4,400,000	4,400,000	100	26.60	44,000	1,654
Pennsylvannia	1			72,374	84,997	44,502	5,532,000	13,920,000	105	30.42	52,686	1,732
Rhode Island	1			10,476	14,406	10,276	1,165,000	1,640,000	22	33.14	52,955	1,598
So. Carolina	1		*	38,024	164,870		6,000,000	6,000,000	104	29.57	57,692	1,961
So. Dakota	1			9,852	17,307	11,442	1,482,768	1,482,768	30	38.41	49,426	1,287
So.Dakota/Opt.	1			9,852	17,307	11,442	1,482,768	1,482,768	30	38.41	49,426	1,287
Tennessee	1		*	49,598	62,303	93,780			80			2,571
Texas		1		108,545	165,794	286,784	7,734,691	15,872,545	302	13.78	25,612	1,858
Utah-Contrib.	1			13,866	46,675		5,012,575	9,139,100				
Utah-Noncon.	1			4,042	42,587							
VA Supplemtl.	1		*	52,971	148,873	81,621	6,793,500	9,980,920	109	23.97	62,326	2,601
Vermont		1	*	2,638	294	8,336	94,700	1,225,700	8	8.40	11,838	1,409
Vermont	1			2,433	1,795	5,405	99,000	2,032,800	8	10.28	12,375	1,204
Washington-I		1		22,846	30,700	1,616	3,974,866		75	72.06	52,998	735
Washington-I	1			47,571	46,850	5,705	7,215,634		137	72.07	52,669	731
West Virginia		1										
Wisconsin	1			70,017	197,988		6,900,000	6,900,000	162	25.75	42,593	1,654
Wyoming	1			6,600	36,000		1,800,000	13,800,000	18	41.28	100,000	2,422
TOTAL	47	22		55,162	155288	35.52%						
% TTL.SURVEYED				100126		64.48						
MINIMUM				2,098	294	1,616	$94,700	$17,400	8	$5.50	$11,838	368
MAXIMUM				230,640	547,587	338,364	$42,824,000	$42,824,000	767	$142.07	$136,842	13,181
AVERAGE				37,241	69,849	52,071	$4,473,541	$13,170,975	87	$34.27	$49,279	1,987

NOTES – Member Contribution Rate:

California PERS:	5.0%/mo. over $513
Connecticut PERS:	Two-tier system—Tier I, Plan B-2% up to Soc.Sec.max., 5% on salary above Soc.Sec.; Plan C-5% on all earnings; Tier II-non-contributory.
Delaware St.Emp.:	3.0% over $6,000 to OASDHI; max. plus 5% over
Georgia PERS:	old plan=6%; new plan=0.25%
Iowa PERS:	3.7% of max. $40,000
Maryland St.Pen.:	non-contr. to S.S. wage base; 5.7% on balance
N.Hamp.Ret.Sys.:	4.6% to OASDHI base; 9.2% on balance
New Jersey PERS:	5.03% to 8.73% by age
S.Carolina Ret.:	4.0% to $4,800; 6.0% on excess
Vermont Teachers:	0-5.5% depending on group.

NOTES – Employer Contribution Rate:

Connecticut PERS:	Rate actuarially required
Conn. Teachers:	Rate required
Georgia PERS:	old plan=12.36%; new plan-17.11%
Hawaii PERS:	Rate actuarially required
Iowa PERS:	5.75% of max. $40,000
Kansas PERS:	Rate required
Ky. Teachers:	Rate required
Maryland Pen.Sys:	Rate required
Massachusetts Ret.:	Rate required
N.Hamp.Ret.Sys.:	Rate required
New Jersey PERS:	Rate required
New York Ret.Sys.:	Rate required
Tenn.Consol.Ret.:	Rate required
VA.Suppl.Ret.Sys.:	Rate required (variable)

SURVEY OF PUBLIC SECTOR RETIREMENT SYSTEMS: VALUATION FUNDING DATA \DATA-COL\S-NCSL-

RETIREMENT SYSTEM State	PERS	Teacher	VALUATION DATE	BENEFIT OBLIGATION	ACTUARIAL VALUE	MARKET VALUE	MARKET VALUE FUNDED RATIO	ACTUARIAL VALUE FUNDED RATIO	UNFUNDED STATUS
Alabama		1	06/30/88	$4,601,000,000	$4,716,000,000	$4,716,000,000	102.50%	102.50%	($115,000,000)
Alaska		1	06/30/87	1,210,009,000	1,225,009,000	1,267,159,000	104.72%	101.24%	(15,000,000)
Alaska	1		06/30/87	1,905,001,000	1,898,437,000	1,739,843,000	91.33%	99.66%	6,564,000
ARIZONA	1		01/30/89	6,176,469,310	6,686,217,534	7,314,715,628	118.43%	108.25%	(509,748,224)
Arkansas		1	06/30/89	2,214,966,000	2,023,507,000	2,062,084,000	93.10%	91.36%	194,871,000
Arkansas	1		06/30/88	929,746,000	1,210,201,000	1,169,442,000	125.78%	130.16%	(280,455,000)
California	1		06/30/87	41,337,318,261	33,709,517,698	42,204,316,158	102.10%	81.55%	7,627,800,563
Colorado	1		12/31/87	7,210,454,000	7,019,255,000	6,997,824,000	97.05%	97.35%	191,199,000
Connecticut		1	06/30/89	7,090,175,000	3,600,763,000	4,136,564,000	58.34%	50.79%	3,489,412,000
Connecticut	1		06/30/89	5,071,519,548		2,798,932,668	55.19%		2,460,021,007
Delaware	1		06/30/89	1,455,388,400	1,404,722,000	1,571,605,824	107.99%	96.52%	50,666,400
Florida	1		07/—/89	27,370,000,000	17,559,000,000	17,663,000,000	64.53%	64.15%	9,811,000,000
Georgia		1	06/30/88	8,653,433,000	6,771,409,000	7,465,588,000	86.27%	78.25%	1,882,024,000
Georgia	1		06/30/88	2,752,237,000	1,921,175,000	2,734,636,000	99.36%	69.80%	831,062,000
Hawaii	1								
Idaho	1		07/01/89	1,798,000,000	1,364,400,000	1,560,024,024	86.76%	75.88%	433,600,000
Illinois		1	06/30/88	10,922,000,000	6,869,500,000	7,055,000,000	64.59%	62.90%	4,052,500,000
Illinois	1		06/30/89	3,752,134,283	2,580,198,846	2,856,941,986	76.14%	68.77%	1,171,935,437
Indiana		1	06/30/88	4,837,288,858	1,401,629,135	1,408,551,967	29.12%	28.98%	3,435,659,723
Indiana	1		06/30/88	2,521,018,241	2,502,428,755	2,693,011,018	106.82%	99.26%	18,589,486
Iowa	1								
Kansas	1		01/01/88	2,727,447,300	2,542,089,100	3,184,818,389	116.77%	93.20%	185,358,200
Kentucky		1	06/30/87	3,799,290,000	2,562,340,000	2,674,437,000	70.39%	67.44%	1,236,950,000
Kentucky	1		06/30/88	2,257,963,497	2,386,633,847	2,540,850,616	112.53%	105.70%	(128,670,350)
Louisiana		1							
Louisiana	1		06/30/88	3,786,235,700	2,019,831,530			53.35%	1,766,404,170
Maine	1		06/30/88	2,776,670,599	798,758,288	870,575,284	31.35%	28.77%	1,977,912,311
Maryland	1		06/30/88	14,142,576,353	9,868,590,586	8,889,489,647	62.86%	69.78%	4,273,985,767
Massachusetts		1	01/01/88	6,331,000,000	2,670,000,000	2,670,000,000	42.17%	42.17%	3,661,000,000
Massachusetts	1								
Michigan	1		09/30/88	3,386,800,000	3,663,000,000	3,541,000,000	104.55%	108.16%	(276,200,000)
Minnesota		1							
Minnesota	1		06/30/87	1,589,505,000	1,518,483,000	1,631,357,000	102.63%	95.53%	71,022,000
Mississippi	1		06/30/89	5,324,657,000	3,609,293,000	4,208,665,000	79.04%	67.78%	1,715,364,000
Missouri		1							
Missouri	1		07/01/88	1,266,733,000	1,179,828,000	1,230,510,335	97.14%	93.14%	86,905,000
Montana		1	07/01/88	999,351,743	561,349,964	620,814,560	62.12%	56.17%	438,001,779
Montana	1		07/01/88	945,736,228	692,744,348	758,498,644	80.20%	73.25%	252,991,880
Nevada	1		06/30/88	3,936,691,700	2,637,335,600	2,637,335,600	66.99%	66.99%	1,299,356,100
New Hampshire	1		06/30/87	798,307,185	792,615,988	1,047,992,635	131.28%	99.29%	5,691,197
New Jersey		1	03/31/87	10,522,530,000	7,144,923,671	9,135,299,635	86.82%	67.90%	3,377,606,329
New Jersey	1		03/31/87	6,094,020,000	5,823,476,394	7,656,919,275	125.65%	95.56%	270,543,606
New Mexico		1	06/30/88	2,238,242,000	1,661,955,000	1,743,263,912	77.89%	74.25%	576,287,000
New York	1		03/31/88	34,469,000,000	38,508,000,000			111.72%	(4,039,000,000)
No. Carolina	1		12/31/87	10,476,234,000	10,199,106,916	10,199,106,916	97.34%	97.34%	279,127,084
No. Dakota		1	07/01/89	525,957,000	385,848,100	412,606,100	78.45%	73.36%	140,108,900
No. Dakota	1		06/30/89	273,291,600	314,700,100	347,455,096	127.14%	115.15%	(41,408,500)
Ohio		1	07/01/89	21,978,477,000	16,057,321,000	17,507,301,000	79.66%	73.06%	5,921,156,000
Ohio	1		12/31/88	15,657,900,000	13,290,000,000	13,728,700,000	87.68%	84.88%	2,367,900,000
Oklahoma		1	07/01/89	4,108,284,000	1,795,276,134	1,813,947,997	44.15%	43.70%	2,313,007,866
Oklahoma	1		06/30/88	1,652,169,736	1,325,531,038	1,325,531,038	80.23%	80.23%	326,638,698
Oregon	1		12/31/87	8,325,000,000	7,696,500,000	8,388,200,000	100.76%	92.45%	628,500,000
Pennsylvannia	1		12/31/87	7,384,307,000	6,716,513,000	7,376,577,000	99.90%	90.96%	667,794,000
Rhode island	1		06/30/87	2,327,225,300	1,264,900,600	1,550,723,000	66.63%	54.35%	1,062,324,700
So. Carolina	1		06/30/87	6,447,539,000	4,805,381,000	4,938,382,000	76.59%	74.53%	1,642,158,000
So. Dakota	1		06/30/89	1,181,000,000	1,164,878,327	1,363,065,600	115.42%	98.63%	16,121,673
So.Dakota/Opt	1		06/30/89	1,181,000,000	1,164,878,327	1,363,065,600	115.42%	98.63%	16,121,673
Tennessee	1		06/30/89	7,107,200,000	7,078,000,000	7,710,800,000	108.49%	99.59%	29,200,000
Texas		1							
Utah-Contrib.	1			1,191,713,000	940,090,000	992,630,000	83.29%	78.89%	251,623,000
Utah-Noncon.	1			1,519,649,000	1,503,090,000	1,587,115,000	104.44%	98.91%	16,559,000
VA.Supplemnt.	1		06/30/86	11,778,500,000	6,280,800,000	7,157,100,000	60.76%	53.32%	5,497,700,000
Vermont		1	06/30/88	334,720,465	274,702,764	274,702,764	82.07%	82.07%	60,017,701
Vermont	1		07/01/88	319,612,600	240,249,700	261,966,300	81.96%	75.17%	79,362,900
Washington-I		1	06/30/88	5,177,100,000	3,039,000,000	3,007,800,000	58.10%	58.70%	2,138,100,000
Washington-I	1		12/31/88	5,846,600,000	3,861,110,000	3,848,100,000	65.82%	66.04%	1,985,490,000
West Virginia		1							
Wisconsin	1		12/31/88	14,894,000,000	15,039,900,000	16,613,800,000	111.55%	100.98%	(145,900,000)
Wyoming	1		01/01/89	1,046,776,000		1,141,592,000	109.06%		
TOTAL	47	22							
MINIMUM				$273,291,600	$240,249,700	$261,966,300	29.12%	28.77%	($4,039,000,000)
MAXIMUM				$41,337,318,261	$38,508,000,000	$42,204,316,158	131.28%	130.16%	$9,811,000,000
AVERAGE				$6,228,478,212	$5,076,989,751	$4,870,633,427	87.38%	80.82%	$1,278,998,551

RETIREMENT SYSTEM State	PERS	Teacher		FORMULA %	AVG.PD YRS.	*ECON.ASSUMPTIONS/ANNUAL* Invest.Ret. Int.Rate	Sal. Infl./ (* = Notes)	Incr. Merit	***BASIS/ACTUARIAL*** VALUATION OF ASSETS Cost	Market	Other	VALUATION METHODOLOGY PUC	Entry Age Normal	Other	********ACTUARIAL FIRM********
Alabama		1		2.013	3.0	8.25	*			1			1		Geo. B. Buck Cons. Actuaries
Alaska		1		2.000	3.0	9.00	*				1	1			Wm. M. Mercer-Meidinger-Hansen
Alaska	1		*	2.143	3.0	9.00	*				1	1			Wm. M. Mercer-Meidinger-Hansen
ARIZONA	1			2.000	3.0	8.00		5.50			1	1			The Wyatt Co.
Arkansas		1		1.750	26.0	7.50		7.48	1				1		Gabriel, Roeder, Smith & Co.
Arkansas	1			1.650	5.0	7.00	*		1						Gabriel, Roeder, Smith & Co.
California	1			2.418	3.0	8.50		7.00	1						Coates, Herfurth & England
Colorado	1		*	1.667	3.0	7.50		5.50	1				1		Gabriel, Roeder, Smith & Co.
Connecticut		1	*	2.000	3.0	8.50	*	12.00		1			1		The Wyatt Co., Stamford, CT
Connecticut	1		*	1.330	3.0	8.50	*			1		1			Milliman & Robertson, Inc.
Delaware	1			1.660	5.0	8.00		5.83			1	1			Martin E. Segal Co.
Florida	1			1.680	5.0	8.00		7.50			1		1		Milliman & Robertson, Inc.
Georgia		1		2.000	2.0	7.00	*		1				1		Buck Consultants
Georgia	1			1.500		7.00		5.20			1		1		Buck Consultants
Hawaii	1			2.000	2.0	8.00		6.50	1				1		Martin E. Segal Co.
Idaho	1			1.667	5.0	7.95	*		1				1		Milliman & Robertson, Inc.
Illinois		1	*	1.890	26.9	8.00		4.00	1	1		1			Geo. B. Buck Cons. Actuaries
Illinois	1			1.145		8.00		6.50	1			1			The Wyatt Co.
Indiana		1		1.100	5.0	7.50		5.50	1				1		Gabriel, Roeder, Smith & Co.
Indiana	1			1.100	5.0	7.50		6.50			1				Wm. M. Mercer-Meidinger-Hansen
Iowa	1			1.670	3.0										
Kansas	1			1.400	4.0	8.00		6.50	1						Martin E. Segal Co.
Kentucky		1		2.500	5.0	7.50		5.00	1			1			Geo. B. Buck Cons. Actuaries
Kentucky	1			1.190	5.0	8.00		7.50	1				1		Wm. M. Mercer-Meidinger-Hansen
Louisiana		1		2.500	3.0										
Louisiana	1			2.500	3.0	7.50	*				1				Hall Actuarial Associates
Maine	1			2.000	3.0	8.50	*								Milliman & Robertson, Inc.
Maryland	1		*	1.150	3.0	7.50	*		1						Milliman & Robertson, Inc.
Massachusetts		1			3.0	8.00		6.00		1					A. Foster Higgins Co., Inc.
Massachusetts	1			2.500	3.0										
Michigan	1			1.500	5.0	8.00	*	5.00			1				Gabriel, Roeder, Smith & Co.
Minnesota		1	*	1.250	5.0										
Minnesota	1		*	1.250	5.0	8.00		6.50			1		1		The Wyatt Co.
Mississippi	1		*	1.758	4.0	8.00	*		1				1		Buck Consultants, Inc.
Missouri		1		2.100	5.0	8.00		5.90	1				1		W. Alfred Hayes, St. Louis
Missouri	1			1.330	3.0	8.00	*	6.50	1						Gabriel, Roeder, Smith & Company
Montana		1		1.667	3.0	8.00		6.50	1		1		1		Hendrickson, Miller & Assoc.
Montana	1			1.660	3.0	8.00		6.50	1						Hendrickson, Miller & Assoc.
Nevada	1			2.500	3.0	8.00		6.50		1			1		Martin E. Segal Company
New Hampshire	1			1.660	3.0	8.00		6.00			1			1	Buck Consultants, Inc.
New Jersey		1				6.88		5.00	1						Buck Consultants, Inc.
New Jersey	1			1.660	3.0	6.50		5.00	1						Buck Consultants, Inc.
New Mexico		1		2.150	5.0	7.00		5.00	1				1		The Wyatt Co.
New York	1			2.000	3.0	8.00		7.30			1				"NA"
No. Carolina	1			1.630	4.0	7.50		7.50	1				1		Buck Consultants, Inc.
No. Dakota		1		1.220	3.0	7.50		6.00			1		1		Martin E. Segal Company
No. Dakota	1			1.650	3.0	8.00	*				1		1		Martin E. Segal Company
Ohio		1		2.100	3.0	7.75		5.88	1			1	1		Buck Consultants, Inc.
Ohio	1			2.100	3.0	7.75		5.50	1				1		Gabriel, Roeder, Smith & Company
Oklahoma		1		2.000	3.0	7.50		6.00		1	1			1	The Wyatt Co.
Oklahoma	1			2.000	3.0	7.50		6.00		1					Wm. M.Mercer-Meidinger-Hansen
Oregon	1			1.670	3.0	7.50		6.00			1		1		Milliman & Robertson, Inc.
Pennsylvania	1			2.000	3.0	7.75		4.25		1			1		Hay/Huggins Company
Rhode Island	1		*	2.300	3.0	7.50	*	4.00		1	1		1		Martin E. Segal Company
So. Carolina	1		*	1.820	3.0	7.00		11.00			1		1		Buck Consultants, Inc.
So. Dakota	1			1.250	3.0	7.00	*				1		1		Wm. M.Mercer-Meidinger-Hansen
So.Dakota/Opt.	1			2.000	3.0	7.00							1		Wm. M.Mercer-Meidinger-Hansen
Tennessee	1		*	1.500	5.0	8.50		8.00			1		1		Bryan,Pendleton,Swats/McAllister
Texas		1		2.000	3.0	8.00		6.00			1				The Wyatt Co.
Utah-Contrib.	1			2.000	3.0	7.50		5.75							C & B Consulting Group
Utah-Noncon.	1					7.50		5.75							C & B Consulting Group
VA. Supplemnt	1			1.650	3.0	8.50		5.25	1				1		Buck Consultants
Vermont		1				8.50		7.50		1					Buck Consultants
Vermont	1			1.250		8.00	*				1				Martin E. Segal Co.
Washington-I		1		2.000	2.0	8.20		5.25		1			1		Office of the State Actuary
Washington-I	1			2.000	2.0	7.00		5.50		1			1		Office of the State Actuary
West Virginia		1		2.000	5.0										
Wisconsin	1			1.600	3.0	7.50		5.60	1				1		Gabriel, Roeder, Smith & Co.
Wyoming	1			2.000	3.0	8.00		6.00		1			1		Martin E. Segal Co.
TOTAL	47	22							27	14	23	9	34	2	
% OF TOTAL									42.2%	21.9%	35.9%	20.0%	75.6%	4.4%	
MINIMUM				1.100	2.0	6.50		4.00							
MAXIMUM				2.500	26.9	9.00		12.00							
AVERAGE				1.790	4.2	7.76		6.21							

NOTES – Formula %:

Alaska PERS:	2.0% for 1st 10 yrs.; 2.25% for 2nd 10 yrs.; 2.50% over 20 yrs.
Colorado PERS:	2.5% x years up to 20; 1.25% for years over 20.
Connecticut PERS:	1.33% of final average salary plus 0.5% above $14,300
Illinois Teachers:	1.67% first 10 yrs.; 1.90% next 10 yrs.; 2.10% next 10 yrs.; 2.30% next 10 yrs.
Maryland Pension:	0.8% up to SSIL; 1.5% over SSIL
Minnesota PERS:	1.0% for 1st 10 yrs.; 1.5% beyond 1st 10 yrs.
Minn. Teachers:	1.0% for 1st 10 yrs.; 1.5% beyond 1st 10 yrs.
Mississippi PERS:	1-7/8% for 1st 30 yrs.; 2.0% in excess of 30 yrs.
Rhode Island PERS:	1.7% for 1st 10 yrst; 1.9% for 2nd 10 yrs.; 3.0% for 21–34 yrs.; 2.0% over 35 yrs.
So.Carolina Ret.:	1.25% up to $4,800; 1.65% over $4,800
Tennessee Consol.:	1.5% to SSIL; .25% in excess of SSIL

NOTES – Salary increase/assumptions:

Alabama Teachers:	8% at age 20 to 5.75% at age 65.
Alaska PERS:	6.5%/year for first 5 yrs. of employment; 5.5%/year thereafter.
Alaska Teachers:	6.5%/year for first 5 yrs. of employment; 5.5%/year thereafter.
Arkansas PERS:	5% for inflation; 0–3.8% for merit.
Colorado PERS:	5.5% for inflation; 7.4% State and Mun., 5% School and Jud. for merit.
Connecticut PERS:	Age 20=10.2%; age 25=9.2%; age 30=8.1%; age 35=7.1%; age 40=6.5%; 45 up=6.0%.
Conn. Teachers:	12.00 to 15 years of service; 7.5% thereafter.
Georgia Teachers:	4–1/4% to 7% for combined inflation and merit.
Idaho PERS:	6% inflation; various (based on a table) for merit.
Louisiana Ret.:	3.5% for inflation; graded 7.5% – 0% for merit.
Maine Ret.:	4.0% for inflation; merit is a % ranging from 6.0% to 10.0% based on age 65 – 20.
Maryland St. Ret.:	5.6% compounded annually for inflation; scaled by age 5.94% to 11.80% for merit.
Misisippi PERS:	5% to 9.3%/year graduated by age for salary increases; 5% for inflation, remainder to merit.
No.Dakota Ret.:	5% for inflation; 4.5% – 8.5% for merit.
Ohio Teachers:	From 10.50% at age 20 to 4.50% at age 65.
Rhode Island Ret.:	4% for inflation; 0% – 1.85% for merit. Funded ratio is 60.5% for State, 49.55% for Teachers.
Vermont PERS:	5% for inflation; 0–4% for merit depending on age.

SERVICE RETIREMENT

RETIREMENT SYSTEM

State	PERS	Teacher	
Alabama		1	
Alaska	1		2% x first 10 years x AMS*; + 2.25% x second 10 years x AMS; + 2.5% x remaining years x AMS
Alaska		1	2% x years of service x AMS*
Arizona	1		
Arkansas	1		1/8% of avg.highest 60 mos. of pay less 1.25% of primary Soc.Sec. x yrs. of serv.cred.
California	1		Yrs. PERS covered serv. x benefit factor x highest 36 consec. mos.or highest 12 consec.mos.by contract.
California		1	
Colorado	1		[2.5% x yrs.1-20) + (1.25 x yrs.over 20)] x avg. of 3 highest yrs.salary w/15% limitation in inc. or dec.
Connecticut	1		
Connecticut		1	Age 60/20 yrs.Conn.serv.; any age/35 yrs.(min. 25 yrs.in Conn.); 2% x yrs.serv. x highest 3-yr.avg.salary.
Delaware	1		1/60th of final avg. mo. compensation x yrs. of cred.serv.; age 62 w/5 yrs.serv.;age 60 w/15 yrs. of serv.
Florida	1		Reg.Class: 1.6% x yrs.serv. x AFC (highest 5 yrs). 1.6% grad.increases after age 62 or 30 yrs.serv.).
			Elected St. Off.Class: 3% (3.3% for judges) x yrs. serv. x AFC.
			Special Risk: 2% x yrs. serv. x AFC (2% factor sched. to inc. to 3% by 1/1/93).
			Sr. Mgmt. Select Class: 2% x yrs. serv. x AFC.
Georgia	1		After 7/1/82—1.5% x highest 8 cal.qtrs.avg.sal x cred.serv.
			Before 7/1/82—formula sal. less $140 x bene.form.x cred.serv.xage reduction.
Georgia		1	Formula: 2% x serv. (up to 40 yrs.) x avg.sal. for 2 highest consecutive years.
Hawaii	1		
Idaho	1		AMS x 1-2/3% x MS divided by 12 x 2% (Class 2); AMS = highest 60 consec.mos.; MS = mos. of serv.
Illinois	1		BASIC, coord.w/Soc.Sec. 1-10 yrs.=1.0%; next 10 yrs.=1.1%; next 10 yrs.=1.3%; over 30 yrs.=1.5%.
			non-coord. 1/10 yrs.=1.67%; next 10 yrs.=1.9%; next 10 yrs.=2.1%; over 30 yrs.=2.3%.
			Variations for Dept. of Correction and Police and Air Pilots.
Illinois		1	1.67% x 1st 10 yrs; 1.9% x 2nd 10 yrs.; 2.1.% x 3rd 10 yrs.; 2.3% x excess over 30
			x avg.sal.(highest 4 consec.w/i last 10 yrs) = annual benefit
Indiana	1		.011 x years service credit x 5 highest year salary.
Indiana		1	Yrs.of serv. x (5 highest salaries div. by 5) x 1.1% x age reduction of 1/10% per mo. ages 60-65
			and 5/12% per mo. ages 50-60 plus annuity accnt.which may be annuitized or taken in lump sum.
Iowa	1		
Kansas	1		Prior service 1% x final avg. salary x yrs. participating - 1.25%, 1.4%, or 1.5%, depending on years.
Kentucky	1		Yrs. of serv. x factor x FAS. FAS=Avg.of 5 highest fiscal yrs.of salary.
			Factors=1.0% co.genl.; 1.91% st.genl.; 12.41% st.police; 2.49% police/fire (st.); 2.5% police/fire (co.)
Kentucky		1	Yrs. x 2% x FAS for serv.to 1/84; yrs. x 2.5% x FAS for serv.since 1/84; yrs. x 2% x FAS for univ.members w/S.S.
Louisiana	1		2-1/2 x yrs. of serv. x avg. comp. (+ $300 for persons who became members prior to 7/1/86).
Louisiana		1	
Maine	1		Teachers,State & some local dists.=1/50 x yrs. of cred.serv. x avg.of highest 3 yrs. earnings.
			Some local dists. (PLD) have 1/60 x yrs. of cred. serv. x 3 highest yrs.earnings avg.
Maryland	1		Yrs.of Serv.div. by 55 x avg.final sal.(AFS)=max.ann.bene.(MAB) pen.sys. -8% of AFS to S.S.Integration Level
			(SSIL) + 1.5% of AFS of SSIL x Yrs. of Serv. = MAB
Massachusetts	1		
Massachusetts		1	Age factor x yrs. of cred.serv. x avg.sal.for 3 highest consec.yrs. = ann.ret.allow.option A.
Minnesota	1		1% per yr. for 1st 10 yrs. of serv.; 1-1/2% per yr. thereafter x high 5 FAS.
Minnesota		1	
Mississippi	1		Yrs. up to and incl. 30 yrs. x 1-3/4% and 2% for ea.yr. in excess of 30 yrs. x avg. of 4 highest consec.yrs.' salary,
			reduced 3% for ea. yr.under 30 yrs. serv. or age 65 whichever is the lesser if age 60 or older;
			reduced 6-2/3% if under age 60 & have 25-30 yrs.serv. No reduction if 30 yrs. of serv. or age 65.
Missouri	1		Seniority/merit varies from 1-3%.
Montana	1		Yrs. of serv. time 1/60 times the avg. of the highest 36 consec. mos. salary.
Montana		1	Equal to 1/60 of the avg. final compensation for each year of service.
Nevada	1		Serv. cred. x 2-1/2% x avg.comp.for highest consec.36 mos. of employ. = unmodified retirement plan.
New Hampshire	1		Yearly benefit age 60 thru 64 = 1/60 x AFC x creditable service; 65 and after = 1/66 x AFC x creditable service.
			Group II (police/fire) = 2-1/2% x AFC x creditable serv. (not to exceed 40 yrs.). AFC is avg. of 3 highest gross earnings yrs.
New Jersey	1		
New Mexico		1	FAS x service x .0215. FAS = avg. of last 5 years earnings or any consec. 5, whichever is greater.
New York	1	1	
No. Carolina	1	1	Avg. final compensation (highest 48 mos. in a row divided by 4) x .0160 x yrs. of creditable serv.
No. Dakota	1		Yrs. of service x 1.5% x final avg. salary (avg. highest consec. salaries in 5 of the last 10 yrs. worked).
No. Dakota		1	FAS "avg. high 3 salaries x 1.22% x years of service.
Ohio	1		
Ohio		1	2% at 30 yrs. or at age 65; reduction for early retirement; final avg. salary-3 highest yrs.; w/ min. money purchase benefit as a floor.
Oklahoma	1		Avg. ann. salary (high 3 of last 5) x 2% x total yrs. of cred. serv. divided by 12 = max.mo. benefit.
Oklahoma		1	Yrs. cred. serv. x avg. salary x .02 div. by 12. (avg. salary=high 3 of last 5 yrs. of serv., subj to max. cont. salary levels- $25,000 or $40,000).
Oregon	1		FAS x service x 1.67%. FAS - highest 3 cal. yrs. in career or last 36 mos. of coverage.
Pennsylvania	1		2% x FAS (final avg. salary) for each year of serv. FAS based on highest 3 yrs. Opt.addl.benefits 2% x avg. of earnings in excess of FICA
			subsequent to 12/31/55. This option closed 3/1/74 to new members by Legislature.
Rhode Island	1		1.7% of FAS for 1st 10 yrs; 1.9% for next 10 yrs., 3.0% for next 14 yrs.; 2% for 35th yr. Max.bene=80% FAS w/35 yrs.serv. 3 high consec.yrs.salary avg.=FAS.
So. Carolina	1		1.7% x AFC (36 months) x years of service.
South Dakota	1		Class A: 1) Final avg. salary (FAS) x 1.2% x yrs. of serv.; 2) FAS x service x 2% less all other public benefits.
			Class B: FAS x service x 2%. Judicial: FAS x service x 3.33% (up to 15 yrs) + FAS x remaining serv. x 2%.
So.Dakota/Opt.	1		
Tennessee	1		[1.5% x 5 yr. AFC x creditable serv] + [.25% x (5 yr. AFC exceeding SSIL) x creditable serv.] = [annual benefit].
Texas		1	(2% x yrs. of creditable serv.) x (avg. of highest 3 annual salaries) = annual standard annuity.
Utah	1		1.Yrs. of serv. prior to 7-1-67 x 1.10% x FAS; 2.yrs of service 7-1-67 to 6/30/75 x 1.25% x FAS;
			3.yrs.of serv. after 7-1-75 x 2% x FAS. Plan 1 allow - Total of 1, 2, 3. FAS = highest 5 yrs. earnings converted to a mo.avg.
Vermont	1		AFC x 1.25% x years of service.
Vermont		1	
VA. Supplemnt	1		Larger of 1.5% of avg.final comp.(high 36 consec.mos.) or 1.65% AFC less $1,200 for ea.yr.of cred.serv. $1,200 adjusted anny. for members w/all serv. after 4/1/80.
Washington	1		
West Virginia		1	
Wisconsin	1		Genl.Emp.: 3 highest yrs. ann. salary x .016 x yrs. of creditable serv. Protectives w/SS and Elected: 3 highest yrs. x .02 x years serv.
			Protectives w/o SS: 3 highest yrs. x .025 x creditable serv.
Wyoming	1		

*AMS = Average Monthly Salary based on 3 highest annual salaries.

STATE OF ARIZONA

	ALL EMPLOYERS			PUBLIC EMPLOYERS			PRIVATE EMPLOYERS			STATE OF ARIZONA		
	Wghtd.	Wghtd.	Wghtd.	Wghtd.	Wghtd.	Wghtd.	Wghtd.	Wghtd.	Wghtd.	Wghtd.	Wghtd.	Wghtd.
POSITION:	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.
Accountant	$2,325	$2,082	$2,700	$2,231	$2,002	$2,677	$2,394	$2,140	$2,717	$1,984	$1,713	$2,592
Accountant Supv	3,295	3,045	3,626	3,421	3,069	3,918	3,215	3,030	3,440	3,076	2,462	3,726
Accounting Clerk	1,442	1,266	1,694	1,389	1,232	1,666	1,495	1,299	1,722	1,274	1,155	1,663
Attorney	3,549	3,133	4,593	3,494	3,087	4,569	4,452	3,897	4,974	3,338	2,690	4,072
Auditor	2,614	2,455	2,818	2,623	2,422	2,923	2,606	2,482	2,734	2,383	1,853	2,804
Auto.Mechanic	2,117	1,923	2,320	2,097	1,870	2,353	2,139	1,983	2,283	1,768	1,633	2,184
Auto.Serv.Worke	1,738	1,615	1,863	1,649	1,511	1,794	1,854	1,752	1,953	1,468	1,325	1,909
Auto.Syst.Traine	2,120	1,976	2,337	2,185	2,052	2,405	1,870	1,687	2,075			
Biomed.Elec.Tec	2,137	1,927	2,365				2,135	1,991	2,253			
Bldg.Maint.Supv	2,487	2,268	2,711	2,403	2,090	2,731	2,601	2,511	2,683	2,069	1,713	2,592
Budget Analyst	2,906	2,650	3,232	2,795	2,526	3,141	3,110	2,879	3,401	2,878	2,462	3,726
Buyer	2,271	2,070	2,577	2,228	2,011	2,519	2,285	2,088	2,596	1,805	1,628	2,401
Carpenter (maint	2,256	1,997	2,470	2,258	1,900	2,491	2,255	2,055	2,457	1,923	1,633	2,184
Cashier/Office	1,277	1,114	1,654	1,375	1,257	1,598	1,260	1,089	1,663	1,094	1,080	1,481
Civil Engr.(reg.)	3,594	3,029	4,270	3,516	3,050	3,977	3,783	2,979	4,978	3,475	2,970	4,072
Clerical Supvr.	1,831	1,626	2,266	1,766	1,567	2,283	1,977	1,760	2,228	1,574	1,416	2,039
Clerk Typist	1,202	1,085	1,510	1,172	1,091	1,507	1,274	1,069	1,518	1,140	1,080	1,481
Comm. Techn.	2,646	2,326	2,919	2,596	2,323	2,865	2,743	2,333	3,024			
Compt.Oper.(lea	1,911	1,725	2,187	1,886	1,679	2,217	1,953	1,765	2,160	1,698	1,480	2,184
Comp.Opers.Mg	3,965	3,795	4,105	3,925	3,666	4,058	3,986	3,863	4,130	4,093	2,949	4,463
Comp.Programm	2,361	2,159	2,762	2,293	2,170	2,748	2,483	2,139	2,843	2,319	2,217	3,039
Cook	1,380	1,222	1,562	1,552	1,351	1,723	1,275	1,143	1,464	1,338	1,155	1,663
Custodial Suprvr	1,704	1,527	1,896	1,726	1,534	1,947	1,668	1,516	1,811	1,548	1,325	1,909
Custodial Worke	1,220	1,049	1,446	1,362	1,159	1,607	1,062	927	1,269	1,168	1,020	1,399
Data Comm. Tec	2,256	2,334	2,884	2,592	2,343	2,941	2,426	2,286	2,565			
Data Entry Oper.	1,311	1,168	1,557	1,276	1,152	1,563	1,334	1,178	1,554	1,233	1,080	1,481
Data Entry Supvr	2,103	2,027	2,168	2,239	2,126	2,357	2,019	1,966	2,052	1,988	1,586	2,401
Drafting Tech.	2,201	1,778	2,518	2,074	1,801	2,385	2,311	1,759	2,634	1,898	1,586	2,401
Driver	1,492	1,308	1,651	1,604	1,461	1,782	1,422	1,212	1,569	1,208	1,080	1,481
EDP Director	4,985	4,982	4,988	5,120	5,120	5,120	4,903	4,898	4,909			
EDP Prog./Analy	2,855	2,524	3,346	2,720	2,445	3,233	3,004	2,611	3,471	2,720	2,413	3,391
EDP Syst.Analyst	2,958	2,655	3,412	2,972	2,750	3,322	2,946	2,576	3,489			
EDP Sys/Prog.M	4,335	4,133	4,547	4,236	3,983	4,501	4,429	4,276	4,591	4,505	3,232	4,892
Electric. (maint)	2,673	2,512	2,793	2,475	2,078	2,758	2,742	2,662	2,806	2,025	1,795	2,401
Electronic Tech.	1,949	1,642	2,412	2,183	1,892	2,380	1,917	1,608	2,416	1,480	1,480	2,184
Equipment Oper.	1,895	1,634	2,084	1,906	1,593	2,134	1,868	1,738	1,957	1,537	1,239	1,784
Equip.Shop Sup	3,089	2,908	3,224	2,871	2,525	3,104	3,275	3,235	3,328	2,623	2,008	3,039
Food Serv. Supv	1,720	1,616	1,879	1,688	1,620	1,817	1,738	1,614	1,913	1,444	1,239	1,784
Food Serv. Work	994	831	1,215	1,042	841	1,293	919	815	1,091	1,003	957	1,312
Graphic Artist	1,883	1,665	2,000	1,885	1,729	2,072	1,614	1,640	1,972	1,884	1,713	2,592
Groundskeeper	1,413	1,255	1,608	1,476	1,301	1,672	1,180	1,082	1,366	3,120	1,155	1,663
Heat/Refrig.Mec	2,402	2,171	2,575	2,324	2,078	2,541	2,529	2,322	2,632	2,006	1,795	2,401
Heavy Equip.Op	2,347	2,032	2,510	2,170	1,885	2,356	2,560	2,208	2,695	2,128	1,586	2,401
Hvy.Equip.Mech.	2,509	2,259	2,666	2,470	2,116	2,714	2,524	2,316	2,647	2,229	1,845	2,592
Laborer	1,507	1,394	1,961	1,411	1,279	1,602	1,517	1,406	2,000	1,395	1,138	1,561
Lab.Technician	1,538	1,366	1,782	1,563	1,392	1,763	1,525	1,353	1,793	1,555	1,325	1,909

STATEWIDE SALARY COMPARISON \DATA-COL\SALARY-$.WK1

STATE OF ARIZONA

POSITION:	ALL EMPLOYERS Wghtd. Avg.	ALL EMPLOYERS Wghtd. Min.	ALL EMPLOYERS Wghtd. Max.	PUBLIC EMPLOYERS Wghtd. Avg.	PUBLIC EMPLOYERS Wghtd. Min.	PUBLIC EMPLOYERS Wghtd. Max.	PRIVATE EMPLOYERS Wghtd. Avg.	PRIVATE EMPLOYERS Wghtd. Min.	PRIVATE EMPLOYERS Wghtd. Max.	STATE OF ARIZONA Wghtd. Avg.	STATE OF ARIZONA Wghtd. Min.	STATE OF ARIZONA Wghtd. Max.
Legal Secretary	$1,726	$1,578	$2,024	$1,742	$1,579	$2,084	$1,653	$1,573	$1,726	$1,598	$1,480	$2,184
Librarian	2,630	1,978	3,284	2,641	1,976	3,308	2,061	2,061	2,061	1,989	1,853	2,804
Library Assistant	1,598	1,420	1,831	1,590	1,404	1,834	1,744	1,712	1,777	1,544	1,416	2,039
Lic.Prac.Nurse	1,641	1,356	1,963	1,534	1,322	2,025	1,655	1,361	1,955	1,356	1,155	1,663
Mail Clerk	1,174	1,079	1,348	1,246	1,163	1,478	1,126	1,024	2,359	1,079	1,020	1,399
Medical Tech.	2,218	1,859	2,687	2,168	1,821	2,837	2,224	1,863	2,670	1,740	1,586	2,401
Micro-System Prog./Analyst	2,380	2,259	2,498	2,266	2,158	2,398	2,599	2,453	2,690			
Nursing Asst.	1,116	935	1,382	1,255	1,001	1,605	1,098	926	1,352	1,137	1,020	1,399
Offset Press Ope	1,814	1,593	2,016	1,605	1,454	1,806	1,967	1,694	2,169	1,454	1,325	1,909
Painter (maint)	2,235	1,984	2,446	2,151	1,844	2,439	2,347	2,170	2,455	2,077	1,795	2,401
Personnel Analy	2,487	2,306	2,768	2,478	2,284	2,831	2,499	2,335	2,685	2,458	2,209	3,039
Personnel Asst.	1,608	1,457	1,782	1,740	1,554	1,975	1,526	1,397	1,663	1,580	1,325	1,909
Pharmacist	3,393	3,021	3,882	3,252	2,867	3,722	3,418	3,048	3,911	2,987	2,413	3,391
Physical Theraps	2,649	2,433	2,976	3,023	2,921	3,107	2,598	2,367	2,958	2,319	2,353	3,391
Phys. Plant Dir.	3,718	3,580	3,869	3,780	3,561	4,025	3,656	3,599	3,714	2,829	2,462	3,726
Plumber (maint.)	2,281	2,013	2,523	2,294	1,971	2,621	2,260	2,085	2,357	1,977	1,795	2,401
Program Planner	2,432	2,132	3,033	2,458	2,178	2,960	2,373	2,029	3,195	2,375	2,008	3,039
Pub.Info.Officer	2,491	2,285	2,706	2,471	2,221	2,731	2,533	2,420	2,654	2,177	1,713	2,592
Purchasing Dir.	3,843	3,603	4,246	4,180	4,112	4,231	3,761	3,479	4,250	2,967	2,462	3,726
Radiological Tec	1,948	1,692	2,317	1,900	1,720	2,168	1,951	1,690	2,327	1,815	1,416	2,039
Registered Nurs	2,348	1,964	2,949	2,263	2,014	2,959	2,354	1,961	2,949	2,138	1,884	2,592
Respiratory Ther	1,803	1,598	2,195	1,628	1,516	1,794	1,809	1,601	2,211			
Safety Officer	2,978	2,861	3,140	2,902	2,770	3,056	3,022	2,915	3,190			
Secretary	1,473	1,292	1,830	1,351	1,226	1,744	1,626	1,375	1,940	1,306	1,213	1,663
Secur.Off/unarm	1,390	1,188	1,707	1,436	1,311	1,730	1,376	1,150	1,700	1,290	1,138	1,561
Secy./non-dict.	1,497	1,292	1,801	1,514	1,303	1,867	1,474	1,278	1,710			
Social Worker	1,975	1,768	2,533	1,920	1,720	2,557	2,123	1,894	2,470	1,774	1,586	2,401
Stationary Engr.	1,922	1,736	2,177	1,930	1,705	2,288	1,916	1,760	2,093	1,656	1,480	2,184
Stock Clerk	1,394	1,219	1,639	1,496	1,345	1,696	1,369	1,187	1,624	1,183	1,080	1,481
Stores Suprvr.	2,509	2,457	2,669	2,215	2,055	2,388	2,672	2,525	2,824	2,217	1,853	2,804
Switchboard Op	1,191	1,077	1,385	1,258	1,129	1,509	1,167	1,058	1,339	1,165	1,020	1,399
Training Coord. (in-service)	2,578	2,294	2,905	2,479	2,150	2,880	2,694	2,466	2,935	2,424	2,008	3,039
Welder	2,533	2,483	2,566	2,363	2,106	2,531	2,555	2,531	2,570	2,075	1,795	2,401
WP Equip. Oper.	1,377	1,258	1,627	1,325	1,217	1,625	1,472	1,333	1,249	1,290	1,213	1,663
AVERAGE	$2,108	$1,955	$2,414	$2,123	$1,936	$2,444	$2,160	$1,993	$2,434	$1,882	$1,615	$2,332

Source: Joint Governmental Salary and Benefits Survey/Arizona 1989

COMPARISON OF VARIOUS SALARY AND RETIREMENT BENEFITS DATA

SALARY POPULATION	NOTE	AVERAGE
State of Arizona–State Agencies	1	$23,544
Arizona Industry–State & Local Government	2	$22,022
ASRS–Active Members' Average Salary–1989	4	$24,057
Public Employers	1	$26,448
Private Employers	1	$26,892
Arizona Industry–Without State & Local Government	2	$21,946
Retail and Wholesale Trade	3	$14,239
Average Overall Compensation		$22,735
U.S. Poverty Income–Family of 1	3	$5,770
U.S. Poverty Income–Family of 2	3	$7,730
U.S. Poverty Income–Family of 3	3	$9,690
U.S. Poverty Income–Family of 4	3	$11,650
ASRS–Retirement Benefits in Force–July 1, 1989 (for all retirees)	4	$7,236
ASRS–Retirement Benefits in Force–July 1, 1989 (age 61 and over)	4	$6,696
ASRS–Retirement Benefits in Force–July 1, 1989 (age 60 and under)	4	$12,229
ASRS–New Retirement Benefits–1988–89	4	$13,260

NOTES:

1. Arizona Joint Governmental Salary and Benefits Survey 1989
2. Valley National Bank's Arizona Statistical Review December 1989
3. Arizona Department of Economic Security–Annual Planning Information 1989–1990
4. The Wyatt Company's 1989 Actuarial Valuation Report

APPENDIX 3

PRIVATE PENSION SYSTEMS SURVEY DATA

CONTENTS:

- Sample Survey Letter
- Summary of Survey Data

January 10, 1990

Mr. Karl Eller
CEO
The Circle K Corporation
1601 N. Seventh Street
Phoenix, AZ 85007

Dear Mr. Eller:

We have been retained by the Arizona Legislative Council Joint Retirement System Study Committee, co-chaired by Speaker of the House, Jane Hull and Senator Doug Todd, to conduct an evaluation of the Arizona State Retirement System. This Study will include examining certain aspects of the State Retirement System in comparison to private pension systems and other public retirement systems.

This letter is written to request your assistance in compiling current data for the Study. To that end, we ask that you complete the enclosed Survey Form and return it by January 20th to us and our associates at:

> Kaufmann and Goble Associates and Cyberserv International Co.
> 1091 West California Avenue
> Mill Valley, CA 94941
>
> ATTENTION: ASRS Survey

Please also enclose a copy of your Summary Plan Description with the completed survey. All information will, of course, be kept confidential and used only for the Arizona State Retirement System Study.

Should you wish to receive a copy of the Survey results, please check the box at the top of the survey form.

Thank you for your assistance with this important work for the Arizona State Legislature.

Sincerely,

KAUFMANN AND GOBLE ASSOCIATES

SURVEY OF PRIVATE SECTOR RETIREMENT PLANS \DATA-COL\SUR-PVT.WK1

COMPANY NAME	TYPES OF RETIREMENT PLANS: Def. Bene.	401(k)	Profit Sharing	ESOP	Pension	Non-Qual Plan	MEMBERSHIP: Number Covered Empl.	Number Retired Empl.	FUND FINANCES: Date of Valuation	Total Fund Assets	Retire. Benefits Pd./Yr.	RATE OF EMPLOYER CONTRIBUTION: Def. Contr. Plan	Def.Contr. Rate-% of Covered PR	Def. Benefit Plan	Def.Ben. Rate-% of Covered PR
1st Interst. Bnk. of AZ															
Amer. Continental Corp.															
Amer. SW Mtg. Invest.															
Amer. West Airlines															
AT&T															
AZ Public Serv. Co.															
Burr-Brown Corp.															
Circle K Corp.															
Emerald Homes L.P.															
Goenell Builders															
Honeywell Bull Inc.															
Intel Corp.															
Inter-Tel Inc.															
McDonnell Douglass															
MicroAge Inc.															
Phelps Dodge Corp.															
Ramada Inc.															
Samaritan Health Serv.															
St.Joseph's Hos/Med Ctr															
Sun State S&L Assoc.															
Talley Industries															
Tucson Electric Power															
UDC-Universal Devel.															
U.S. West, Inc.															
Valley Natl. Corp.															
Western S&L Assoc.															
W.A.Krueger Co.															
CyCare Systems, Inc.*		1					832	0		$1,602,943	$0	401(k)	6.00%		
Del E. Webb Corp.		1	1				773	0		$9,545,617	$0	401(k)	3.00%		
Greyhound Corp.	1	1		1		1	12,650	459	12/31/88	$130,565,691	$1,372,603	401(k)	3.50%	Pension	4.00%
Motorola Inc.		1	1		1		58,000	3,800	12/31/89	$1,790,000,000	$128,100,000	Pft.Share.	2.00%	Pension	4.00%
Pinnacle West Cap Corp	1	1					300	1	12/31/89	$3,500,000	$5,200	401(k)	1.70%	Def.Ben.	0.00%
TOTAL	2	5	2	1	1	1	72,555	4,260		$1,935,214,251	$129,477,803				
% OF TOTAL															
AVERAGE							14,511	852		$387,042,850	$25,895,561		3.24%		2.67%
STATE PERSONNEL DIVISION SURVEY SUMMARY:															
TOTAL/AVERAGE		62			47	2								Pension	3.85%

SURVEY OF PRIVATE SECTOR RETIREMENT PLANS \DATA-COL\SUR-PVT.WK1

(Page 2 of 3)

COMPANY NAME	NUMBER ON RETIREMENT COMMITTEE	**COLA** Yes	**COLA** No	ACTUARIAL VALUATION ASSUMPTION: Valuation Method. PUC	Entry Age Normal	Other	Funding Ratio	% Assumed Invest.Ret. Int. Rate	% Assumed Salary Increase	INVESTMENT POLICIES*: Prudent Person Rule? Yes	Prudent Person Rule? No	Invest. Restrictions (See notes page 3) Incr.	Less.	No.Chg.	ADMINISTRATIVE COSTS: Total For Yr.	% Ttl. Assets	Per Member	EARLY RETIREMENT (See notes page 3): Incentive Yes	Incentive No	Discourage Yes	Discourage No	Option Yes	Option No
1st Interst. Bnk. of AZ																							
Amer. Continental Corp.																							
Amer. SW Mtg. Invest.																							
Amer. West Airlines																							
AT&T																							
AZ Public Serv. Co.																							
Burr-Brown Corp.																							
Circle K Corp.																							
Emerald Homes L.P.																							
Goenell Builders																							
Honeywell Bull Inc.																							
Intel Corp.																							
Inter-Tel Inc.																							
McDonnell Douglass																							
MicroAge Inc.																							
Phelps Dodge Corp.																							
Ramada Inc.																							
Samaritan Health Serv.																							
St.Joseph's Hos/Med Ctr																							
Sun State S&L Assoc.																							
Talley Industries																							
Tucson Electric Power																							
UDC-Universal Devel.																							
U.S. West, Inc.																							
Valley Natl. Corp.																							
Western S&L Assoc.																							
W.A.Krueger Co.																							
CyCare Systems, Inc.*			1							1				1	$65,000	4.06%	$78		1		1	1	
Del E. Webb Corp.	6		1												$23,190	0.24%	$30		1		1	1	
Greyhound Corp.	3		1	1						1		1			$535,773	0.41%	$41		1		1	1	
Motorola Inc.	11		1	1				8.25%	5.50%	1			1		$6,167,000	0.34%	$100		1		1	1	
Pinnacle West Cap Corp	5		1	1				10.44%	6.60%	1				1	$20,000	0.57%	$66		1		1	1	
TOTAL		0	5	3						4	0	1	1	2				0	5	0	5	5	0
% OF TOTAL		0%	100%	***						100%	0%	25%	25%	50%				0%	100%	0%	100%	100%	0%
AVERAGE	6.3							9.35%	6.05%						$1,362,193	1.12%	$63						

INVESTMENT POLICIES:

Greyhound Corp. Due to present economic conditions, do not invest in real estate.
Motorola More alternatives have been offered in the last several years.

RETIREMENT COMMITTEE:

CyCare Systems, Inc. CyCare.
Greyhound Corp. Appointed by CEO
Motorola, Inc. Pension Plan Comm. = Chairman, Chief Financial Officer, VP-Treas.; VP-Dir. of Bene.; Retired CFO.
Profit Sharing Comm. = Chairman, Chief Financial Officer, Retired CFO, 2 members elected by employees.
Pinnacle West Cap. Corp. CEO, CFO, VP of Human Resources, VP of Corporate Planning, Benefits Administrator.

EARLY RETIREMENT FEATURES:

Greyhound Corp. Normal Retirement Pension reduced – Retirement on or after age 62 but before age 65:
Reduced by .25% for each month that Early Retirement date precedes Normal Retirement Date.
Retirement on or after age 55 but before age 62:
Reduced by 9% plus .4167% for each month that Early Retirement Date precedes the first day of the month of 62nd birthday.

Motorola, Inc. Any time after age 55 if you have at least 5 years of service, or at age 60 regardless of service.
Early Retirement benefits based on percentage according to age: 65=100%; 64=93.3%; 63=86.7%; 62=80.0%; 61=73.3%' 60=66.7%; 59=6.3.%' 58=60.0%; 57=56.7%; 56=53.5%; 55=50.0%.

Pinnacle West Cap.C With 20 years of service, pension reduced 3% for each year benefit payments begin prior to the earlier of (1) age 65, or (2) date on which age 60 would be attained and be credited with 33-3/3 years of service.

OTHER INFORMATION:

*The CyCare plan was instituted in 1989.

APPENDIX 4

PUBLIC EMPLOYEES RETIREMENT SYSTEMS BENEFITS RANKINGS AND ANALYSIS

CONTENTS:

SUMMARY OF RETIREMENT SYSTEMS' COMPOSITE RANKING

RETIREMENT SYSTEM SORTED BY RANK

I.D.	State	PERS	Teacher	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
4	ARIZONA	1		1		
43	New Mexico		1	2	1	
69	Wyoming	1		3	2	
60	Utah–Contrib.	1		4	3	
51	Oklahoma	1		5	4	
25	Louisiana		1	6	5	
1	Alabama		1	7.5	6	
39	Nevada	1		7.5	7	
3	Alaska	1		9	8	
26	Louisiana	1		10	9	
67	West Virginia		1	11	10	
66	Washington–I	1		12	11	
29	Massachusetts		1	13.5	12	
7	California	1		13.5	13	
59	Texas		1	15.5	14	
55	So. Carolina	1		15.5	15	
6	Arkansas	1		17	16	
40	New Hampshire	1		18	17	
42	New Jersey	1		19	18	
8	Colorado	1		20	19	
54	Rhode Island	1		21	20	
57	So.Dakota/Opt.	1		22	21	
47	No. Dakota	1		24	22	
53	Pennsylvannia	1		24	23	
38	Montana	1		24	24	
16	Idaho	1		26	25	
13	Georgia		1	27.5	26	
68	Wisconsin	1		27.5	27	
2	Alaska		1	30	28	
31	Michigan	1		30	29	
24	Kentucky	1		30	30	
37	Montana		1	33	31	
50	Oklahoma		1	33	32	
34	Mississippi	1		33	33	
22	Kansas	1		35.5	34	
44	New York	1		35.5	35	
11	Delaware	1		37	36	
65	Washington–I		1	38	37	
17	Illinois		1	39	38	
58	Tennessee	1		40	39	
5	Arkansas		1	41.5	40	
49	Ohio	1		41.5	41	
12	Florida	1		43	42	
62	VA Supplemtl.	1		44.5	43	
56	So. Dakota	1		44.5	44	
9	Connecticut		1	46	45	
52	Oregon	1		47	46	
61	Utah–Noncon.	1		48	47	
15	Hawaii	1		49	48	
18	Illinois	1		50	49	
46	No. Dakota		1	51.5	50	
45	No. Carolina	1		51.5	51	
36	Missouri	1		53	52	
14	Georgia	1		54	53	
19	Indiana		1	55	54	
32	Minnesota		1	56.5	55	
20	Indiana	1		56.5	56	
64	Vermont	1		58	57	
28	Maryland	1		59	58	98.31%
10	Connecticut	1			NO/RA	
21	Iowa	1			NO/RA	
23	Kentucky		1		NO/RA	
27	Maine	1			NO/RA	
30	Massachusetts	1			NO/RA	
33	Minnesota	1			NO/RA	
35	Missouri		1		NO/RA	
41	New Jersey		1		NO/RA	
48	Ohio		1		NO/RA	
63	Vermont		1		NO/RA	
		—	—	—	—	
TOTAL/RANKED		47	22	59	64	
MINIMUM				1		
MAXIMUM				59		
AVERAGE				30		

I.D.	RETIREMENT SYSTEM State:	PERS	Teacher	****CONTRIBUTION RATE*** Member %	RANK	Employer %	RANK	********BENEFIT AMOUNT******** 30 YRS. OF SERVICE $15,000/FYS	RANK	$30,000/FYS	RANK	AUTO COLA RANK	SOC. SEC. RANK	PERCENTAGE MULTIPLIER FACTOR	RANK	TOTAL OF RANK VALUES	NUMBER & % OF STATES OVER/UNDER ARIZONA
4	ARIZONA	1		3.820	11	3.820	3	$8,578	15	$17,156	14	6	1	2.000	8	58	
43	New Mexico		1	7.600	31	7.600	21	9,675	3	19,350	4	3	1	2.150	4	67	1
69	Wyoming	1		5.570	19	5.680	10	8,578	15	17,156	14	3	1	2.000	8	70	2
60	Utah–Contrib.	1		6.000	21	5.330	8	8,578	15	17,156	14	3	2	2.000	8	71	3
51	Oklahoma	1		2.508	5	8.000	23	8,578	15	17,156	14	6	1	2.000	8	72	4
25	Louisiana		1	7.000	26	10.300	39	10,723	2	21,445	2	2	1	2.500	1	73	5
1	Alabama		1	5.000	15	7.570	20	8,632	13	17,264	12	6	1	2.013	7	74	6
39	Nevada	1		9.125	36	9.125	30	10,723	2	21,445	2	3	1	2.500	1	74	7
3	Alaska	1		6.830	25	9.230	33	9,650	4	19,301	5	2	1	2.143	5	75	8
26	Louisiana	1		7.300	28	12.000	43	11,023	1	21,745	1	3	1	2.500	1	78	9
67	West Virginia		1	6.000	21	6.000	11	8,183	18	16,365	18	3	1	2.000	8	80	10
66	Washington–I	1		6.000	21	6.280	12	8,183	18	16,365	18	3	1	2.000	8	81	11
29	Massachusetts		1	5.900	20	16.200	54	10,723	2	21,445	2	3	1	2.500	1	83	12
7	California	1		6.000	21	13.200	46	9,210	8	19,581	3	1	2	2.418	2	83	13
59	Texas		1	6.400	22	8.000	23	8,578	15	17,156	14	2	1	2.000	8	85	14
55	So. Carolina	1		6.000	21	7.550	19	8,640	11	16,380	17	6	1	1.820	10	85	15
6	Arkansas	1		0.400	3	5.400	9	6,751	27	13,502	28	2	2	1.650	16	87	16
40	New Hampshire	1		5.560	18	3.500	2	7,120	23	14,240	23	6	1	1.660	15	88	17
42	New Jersey	1		2.950	7	6.970	16	7,120	23	14,240	23	6	1	1.660	15	91	18
8	Colorado	1		8.000	33	8.500	25	8,936	10	17,871	10	2	1	1.667	14	95	19
54	Rhode Island	1		7.500	29	12.100	44	9,436	7	18,872	8	6	1	2.300	3	98	20
57	So.Dakota/Opt.	1		8.000	33	8.000	23	8,578	15	17,156	14	6	1	2.000	8	100	21
47	No. Dakota	1		4.000	12	5.120	7	6,137	32	12,274	32	2	1	1.650	16	102	22
53	Pennsylvannia	1		5.000	15	13.220	47	8,578	15	17,156	14	2	1	2.000	8	102	23
38	Montana	1		6.000	21	6.417	13	7,120	23	14,240	23	6	1	1.660	15	102	24
16	Idaho	1		5.430	16	8.890	27	7,501	21	15,003	21	3	1	1.667	14	103	25
13	Georgia		1	6.000	21	13.630	48	8,786	12	17,571	11	3	1	2.000	8	104	26
68	Wisconsin	1		6.000	21	6.000	11	6,863	25	13,725	25	3	1	1.600	18	104	27
2	Alaska		1	7.530	30	9.140	31	8,578	15	17,156	14	6	1	2.000	8	105	28
31	Michigan	1		0.000	1	8.040	24	6,750	28	13,500	29	3	1	1.500	19	105	29
24	Kentucky	1		5.000	15	7.450	17	7,569	20	15,138	20	6	2	1.190	25	105	30
37	Montana		1	7.044	27	7.459	18	7,120	23	14,240	23	1	1	1.667	14	107	31
50	Oklahoma		1	5.500	17	13.200	46	8,578	15	17,156	14	6	1	2.000	8	107	32
34	Mississippi	1		6.500	23	9.750	36	8,438	17	16,875	16	3	1	1.758	11	107	33
22	Kansas	1		4.000	12	3.070	1	5,864	34	11,728	33	6	1	1.400	21	108	34
44	New York	1		3.000	8	18.700	56	8,578	15	17,156	14	6	1	2.000	8	108	35
11	Delaware	1		3.000	8	9.000	29	6,792	26	13,583	26	3	2	1.660	15	109	36
65	Washington–I		1	6.000	21	11.800	42	8,183	18	16,365	18	3	1	2.000	8	111	37
17	Illinois		1	8.000	33	9.510	35	8,505	16	17,010	15	3	1	1.890	9	112	38
58	Tennessee	1		0.000	1	6.850	15	6,137	32	7,896	41	3	2	1.500	19	113	39
5	Arkansas		1	6.000	21	12.000	43	7,875	19	15,570	19	3	1	1.750	11	117	40
49	Ohio	1		9.500	37	13.710	49	9,007	9	18,014	9	6	1	2.100	6	117	41
12	Florida	1		0.000	1	13.900	50	6,874	24	13,747	24	6	1	1.680	12	118	42
62	VA Supplemtl.	1		5.000	15	8.556	26	6,483	31	13,560	27	3	1	1.650	16	119	43
56	So. Dakota	1		5.000	15	5.000	5	5,625	37	11,250	36	2	1	1.250	23	119	44
9	Connecticut		1	6.000	21	25.500	59	8,578	15	17,156	14	2	1	2.000	8	120	45
52	Oregon	1		6.000	21	11.300	41	7,163	22	14,326	22	1	1	1.670	13	121	46
61	Utah–Noncon.	1		0.000	1	9.880	37	6,525	30	13,050	31	3	2	1.450	20	124	47
15	Hawaii	1		7.800	32	15.000	53	8,578	15	17,156	14	3	2	2.000	8	127	48
18	Illinois	1		4.909	14	5.117	6	5,100	39	10,200	38	3	2	1.145	27	129	49
46	No. Dakota		1	6.750	24	6.750	14	5,736	35	11,472	34	3	2	1.220	24	136	50
45	No. Carolina	1		6.000	21	9.350	34	6,618	29	13,236	30	3	2	1.630	17	136	51
36	Missouri	1		0.000	1	9.900	38	5,704	36	11,409	35	4	1	1.330	22	137	52
14	Georgia	1		0.250	2	17.110	58	6,750	28	13,500	29	3	1	1.500	19	140	53
19	Indiana		1	3.000	8	8.000	23	4,501	40	9,001	40	2	1	1.100	28	142	54
32	Minnesota		1	4.500	13	8.980	28	5,455	38	10,910	37	6	1	1.250	23	146	55
20	Indiana	1		3.000	8	8.000	23	4,501	40	9,001	40	6	1	1.100	28	146	56
64	Vermont	1		0.530	4	10.740	40	5,625	37	11,250	36	6	1	1.250	23	147	57
28	Maryland	1		3.050	9	16.520	55	3,431	41	9,591	39	6	1	1.150	26	177	58 98.31%
10	Connecticut	1						5,704	36	11,409	35	6	1	1.330	22		NO/RA
21	Iowa	1						7,163	22	14,326	22	6	1	1.670	13		NO/RA
23	Kentucky		1	9.855	38	13.105	45	9,438	6	18,975	6		1	2.500	1		NO/RA
27	Maine	1		6.500	23	17.030	57	5,878	33	17,156	14		1	2.000	8		NO/RA
30	Massachusetts	1		7.000	26			10,723	2	21,445	2		1	2.500	1		NO/RA
33	Minnesota	1		3.730	10	3.900	4	5,455	38	10,910	37		1	1.250	23		NO/RA
35	Missouri		1	9.200	36	9.200	32	8,592	14	17,184	13		1	2.100	6		NO/RA
41	New Jersey		1	2.780	6	14.370	52					4	1				NO/RA
48	Ohio		1	8.770	34	14.000	51	9,450	5	18,900	7		1	2.100	6		NO/RA
63	Vermont		1	5.500	17	7.840	22					2	1				NO/RA
	TOTAL/RANKED	47	22	67		66		67		67		63	69	67		59	58
	MINIMUM			0.000		3.070		$3,431		$7,896				1.100		58	
	MAXIMUM			9.855		25.500		$11,023		$21,745				2.500		177	
	AVERAGE			5.195		9.702		$7,687		$15,430				1.795		105	

NOTE: FYS = Final Year's Salary : This amount is graded up to by an actuarial assumed increase rate of 5% per year.

RETIREMENT SYSTEM SORTED BY BENFIT AMOUNT
30 YRS. OF SERVICE $15,000/Ann

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	Benefit	RANK	NUMBER OF STATES OVER/UNDER ARIZONA	%
26	Louisiana	1		$11,023	1	1	
25	Louisiana		1	10,723	2	2	
30	Massachusetts	1		10,723	2	3	
29	Massachusetts		1	10,723	2	4	
39	Nevada	1		10,723	2	5	
43	New Mexico		1	9,675	3	6	
3	Alaska	1		9,650	4	7	
48	Ohio		1	9,450	5	8	
23	Kentucky		1	9,438	6	9	
54	Rhode Island	1		9,436	7	10	
7	California	1		9,210	8	11	
49	Ohio	1		9,007	9	12	
8	Colorado	1		8,936	10	13	
55	So. Carolina	1		8,840	11	14	
13	Georgia		1	8,786	12	15	
1	Alabama		1	8,632	13	16	
35	Missouri		1	8,592	14	17	25.37%
4	ARIZONA	1		8,578	15		
2	Alaska		1	8,578	15	1	
9	Connecticut		1	8,578	15	2	
15	Hawaii	1		8,578	15	3	
44	New York	1		8,578	15	4	
50	Oklahoma		1	8,578	15	5	
51	Oklahoma	1		8,578	15	6	
53	Pennsylvannia	1		8,578	15	7	
57	So.Dakota/Opt.	1		8,578	15	8	
59	Texas		1	8,578	15	9	
60	Utah-Contrib.	1		8,578	15	10	
69	Wyoming	1		8,578	15	11	
17	Illinois		1	8,506	16	12	
34	Mississippi	1		8,438	17	13	
66	Washington-I	1		8,183	18	14	
65	Washington-I		1	8,183	18	15	
67	West Virginia		1	8,183	18	16	
5	Arkansas		1	7,875	19	17	
24	Kentucky	1		7,569	20	18	
16	Idaho	1		7,501	21	19	
21	Iowa	1		7,163	22	20	
52	Oregon	1		7,163	22	21	
38	Montana	1		7,120	23	22	
37	Montana		1	7,120	23	23	
40	New Hampshire	1		7,120	23	24	
42	New Jersey	1		7,120	23	25	
12	Florida	1		6,874	24	26	
68	Wisconsin	1		6,863	25	27	
11	Delaware	1		6,792	26	28	
6	Arkansas	1		6,751	27	29	
14	Georgia	1		6,750	28	30	
31	Michigan	1		6,750	28	31	
45	No. Carolina	1		6,618	29	32	
61	Utah-Noncon.	1		6,525	30	33	
62	VA Supplemtl.	1		6,483	31	34	
47	No. Dakota	1		6,137	32	35	
58	Tennessee	1		6,137	32	36	
27	Maine	1		5,878	33	37	
22	Kansas	1		5,864	34	38	
46	No. Dakota		1	5,736	35	39	
10	Connecticut	1		5,704	36	40	
36	Missouri	1		5,704	36	41	
56	So. Dakota	1		5,625	37	42	
64	Vermont	1		5,625	37	43	
32	Minnesota		1	5,455	38	44	
33	Minnesota	1		5,455	38	45	
18	Illinois	1		5,100	39	46	
20	Indiana	1		4,501	40	47	
19	Indiana		1	4,501	40	48	
28	Maryland	1		3,431	41	49	73.13%
41	New Jersey		1	NO/RA			
63	Vermont		1	NO/RA			
	TOTAL/RANKED	47	22		67		
	MINIMUM			$3,431	1		
	MAXIMUM			$11,023	41		
	AVERAGE			$7,687	20		

SUMMARY OF RESULTS - \FIN-RPT\BEN-RANK.WK1

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	RETIREMENT SYSTEM SORTED BY BENFIT AMOUNT 30 YRS. OF SERVICE $30,000/Ann	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
26	Louisiana	1		21,745	1	1	
25	Louisiana		1	21,445	2	2	
30	Massachusetts	1		21,445	2	3	
29	Massachusetts		1	21,445	2	4	
39	Nevada	1		21,445	2	5	
7	California	1		19,581	3	6	
43	New Mexico		1	19,350	4	7	
3	Alaska	1		19,301	5	8	
23	Kentucky		1	18,975	6	9	
48	Ohio		1	18,900	7	10	
54	Rhode Island	1		18,872	8	11	
49	Ohio	1		18,014	9	12	
8	Colorado	1		17,871	10	13	
13	Georgia		1	17,571	11	14	
1	Alabama		1	17,264	12	15	
35	Missouri		1	17,184	13	16	23.88%
4	ARIZONA	1		17,156	14		
2	Alaska		1	17,156	14	1	
9	Connecticut		1	17,156	14	2	
15	Hawaii	1		17,156	14	3	
27	Maine	1		17,156	14	4	
44	New York	1		17,156	14	5	
51	Oklahoma	1		17,156	14	6	
50	Oklahoma		1	17,156	14	7	
53	Pennsylvannia	1		17,156	14	8	
57	So.Dakota/Opt.	1		17,156	14	9	
59	Texas		1	17,156	14	10	
60	Utah-Contrib.	1		17,156	14	11	
69	Wyoming	1		17,156	14	12	
17	Illinois		1	17,010	15	13	
34	Mississippi	1		16,875	16	14	
55	So. Carolina	1		16,380	17	15	
66	Washington-I	1		16,365	18	16	
65	Washington-I		1	16,365	18	17	
67	West Virginia		1	16,365	18	18	
5	Arkansas		1	15,570	19	19	
24	Kentucky	1		15,138	20	20	
16	Idaho	1		15,003	21	21	
21	Iowa	1		14,326	22	22	
52	Oregon	1		14,326	22	23	
37	Montana		1	14,240	23	24	
38	Montana	1		14,240	23	25	
40	New Hampshire	1		14,240	23	26	
42	New Jersey	1		14,240	23	27	
12	Florida	1		13,747	24	28	
68	Wisconsin	1		13,725	25	29	
11	Delaware	1		13,583	26	30	
62	VA Supplemtl.	1		13,560	27	31	
6	Arkansas	1		13,502	28	32	
14	Georgia	1		13,500	29	33	
31	Michigan	1		13,500	29	34	
45	No. Carolina	1		13,236	30	35	
61	Utah-Noncon.	1		13,050	31	36	
47	No. Dakota	1		12,274	32	37	
22	Kansas	1		11,728	33	38	
46	No. Dakota		1	11,472	34	39	
10	Connecticut	1		11,409	35	40	
36	Missouri	1		11,409	35	41	
56	So. Dakota	1		11,250	36	42	
64	Vermont	1		11,250	36	43	
33	Minnesota	1		10,910	37	44	
32	Minnesota		1	10,910	37	45	
18	Illinois	1		10,200	38	46	
28	Maryland	1		9,591	39	47	
20	Indiana	1		9,001	40	48	
19	Indiana		1	9,001	40	49	
58	Tennessee	1		7,896	41	50	74.63%
41	New Jersey		1	NO/RA			
63	Vermont		1	NO/RA			
TOTAL/RANKED		47	22		67		
MINIMUM				$7,896	1		
MAXIMUM				$21,745	41		
AVERAGE				$15,430	20		

SUMMARY OF RESULTS – \FIN–RPT\CON–RANK.WK1

RETIREMENT SYSTEM SORTED BY EMPLOYER CONTRIBUTION RATE					RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
I.D.	RETIREMENT SYSTEM State	PERS	Teacher	%			
22	Kansas	1		3.070	1	1	
40	New Hampshire	1		3.500	2	2	3.03%
4	ARIZONA	1		3.820	3		
33	Minnesota	1		3.900	4	1	
56	So. Dakota	1		5.000	5	2	
18	Illinois	1		5.117	6	3	
47	No. Dakota	1		5.120	7	4	
60	Utah–Contrib.	1		5.330	8	5	
6	Arkansas	1		5.400	9	6	
69	Wyoming	1		5.680	10	7	
67	West Virginia		1	6.000	11	8	
68	Wisconsin	1		6.000	11	9	
66	Washington–I	1		6.280	12	10	
38	Montana	1		6.417	13	11	
46	No. Dakota		1	6.750	14	12	
58	Tennessee	1		6.850	15	13	
42	New Jersey	1		6.970	16	14	
24	Kentucky	1		7.450	17	15	
37	Montana		1	7.459	18	16	
55	So. Carolina	1		7.550	19	17	
1	Alabama		1	7.570	20	18	
43	New Mexico		1	7.600	21	19	
63	Vermont		1	7.840	22	20	
19	Indiana		1	8.000	23	21	
20	Indiana	1		8.000	23	22	
51	Oklahoma	1		8.000	23	23	
57	So.Dakota/Opt.	1		8.000	23	24	
59	Texas		1	8.000	23	25	
31	Michigan	1		8.040	24	26	
8	Colorado	1		8.500	25	27	
62	VA Supplemtl.	1		8.556	26	28	
16	Idaho	1		8.890	27	29	
32	Minnesota		1	8.980	28	30	
11	Delaware	1		9.000	29	31	
39	Nevada	1		9.125	30	32	
2	Alaska		1	9.140	31	33	
35	Missouri		1	9.200	32	34	
3	Alaska	1		9.230	33	35	
45	No. Carolina	1		9.350	34	36	
17	Illinois		1	9.510	35	37	
34	Mississippi	1		9.750	36	38	
61	Utah–Noncon.	1		9.880	37	39	
36	Missouri	1		9.900	38	40	
25	Louisiana		1	10.300	39	41	
64	Vermont	1		10.740	40	42	
52	Oregon	1		11.300	41	43	
65	Washington–I		1	11.800	42	44	
5	Arkansas		1	12.000	43	45	
26	Louisiana	1		12.000	43	46	
54	Rhode Island	1		12.100	44	47	
23	Kentucky		1	13.105	45	48	
7	California	1		13.200	46	49	
50	Oklahoma		1	13.200	46	50	
53	Pennsylvannia	1		13.220	47	51	
13	Georgia		1	13.630	48	52	
49	Ohio	1		13.710	49	53	
12	Florida	1		13.900	50	54	
48	Ohio		1	14.000	51	55	
41	New Jersey		1	14.370	52	56	
15	Hawaii	1		15.000	53	57	
29	Massachusetts		1	16.200	54	58	
28	Maryland	1		16.520	55	59	
44	New York	1		16.700	56	60	
27	Maine	1		17.030	57	61	
14	Georgia	1		17.110	58	62	
9	Connecticut		1	25.500	59	63	95.45%
10	Connecticut	1		NO/RA			
21	Iowa	1		NO/RA			
30	Massachusetts	1		NO/RA			
TOTAL/RANKED		44	22		66		
MINIMUM				3.070			
MAXIMUM				25.500			
AVERAGE				9.702			

SUMMARY OF RESULTS – \FIN-RPT\CON-RANK.WK1

RETIREMENT SYSTEM SORTED BY MEMBER CONTRIBUTION RATE

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	%	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
12	Florida	1		0.000	1	1	
31	Michigan	1		0.000	1	2	
36	Missouri	1		0.000	1	3	
58	Tennessee	1		0.000	1	4	
61	Utah–Noncon.	1		0.000	1	5	
14	Georgia	1		0.250	2	6	
6	Arkansas	1		0.400	3	7	
64	Vermont	1		0.530	4	8	
51	Oklahoma	1		2.508	5	9	
41	New Jersey		1	2.780	6	10	
42	New Jersey	1		2.950	7	11	
11	Delaware	1		3.000	8	12	
20	Indiana	1		3.000	8	13	
19	Indiana		1	3.000	8	14	
44	New York	1		3.000	8	15	
28	Maryland	1		3.050	9	16	
33	Minnesota	1		3.730	10	17	25.37%
4	ARIZONA	1		3.820	11		
22	Kansas	1		4.000	12	1	
47	No. Dakota	1		4.000	12	2	
32	Minnesota		1	4.500	13	3	
18	Illinois	1		4.909	14	4	
1	Alabama		1	5.000	15	5	
24	Kentucky	1		5.000	15	6	
53	Pennsylvannia	1		5.000	15	7	
56	So. Dakota	1		5.000	15	8	
62	VA Supplemtl.	1		5.000	15	9	
16	Idaho	1		5.430	16	10	
50	Oklahoma		1	5.500	17	11	
63	Vermont		1	5.500	17	12	
40	New Hampshire	1		5.560	18	13	
69	Wyoming	1		5.570	19	14	
29	Massachusetts		1	5.900	20	15	
5	Arkansas		1	6.000	21	16	
7	California	1		6.000	21	17	
9	Connecticut		1	6.000	21	18	
13	Georgia		1	6.000	21	19	
38	Montana	1		6.000	21	20	
45	No. Carolina	1		6.000	21	21	
52	Oregon	1		6.000	21	22	
55	So. Carolina	1		6.000	21	23	
60	Utah–Contrib.	1		6.000	21	24	
65	Washington–I		1	6.000	21	25	
66	Washington–I	1		6.000	21	26	
67	West Virginia		1	6.000	21	27	
68	Wisconsin	1		6.000	21	28	
59	Texas		1	6.400	22	29	
27	Maine	1		6.500	23	30	
34	Mississippi	1		6.500	23	31	
46	No. Dakota		1	6.750	24	32	
3	Alaska	1		6.830	25	33	
25	Louisiana		1	7.000	26	34	
30	Massachusetts	1		7.000	26	35	
37	Montana		1	7.044	27	36	
26	Louisiana	1		7.300	28	37	
54	Rhode Island	1		7.500	29	38	
2	Alaska		1	7.530	30	39	
43	New Mexico		1	7.600	31	40	
15	Hawaii	1		7.800	32	41	
8	Colorado	1		8.000	33	42	
17	Illinois		1	8.000	33	43	
57	So.Dakota/Opt.	1		8.000	33	44	
48	Ohio		1	8.770	34	45	
39	Nevada	1		9.125	35	46	
35	Missouri		1	9.200	36	47	
49	Ohio	1		9.500	37	48	
23	Kentucky		1	9.855	38	49	73.13%
10	Connecticut	1		NO/RA			
21	Iowa	1		NO/RA			
		—	—	——	—		
TOTAL/RANKED		47	22		67		
MINIMUM				0.000			
MAXIMUM				9.855			
AVERAGE				5.195			

SUMMARY OF RESULTS – \FIN–RPT\FRM–RANK.WK1

RETIREMENT SYSTEM SORTED BY PERCENTAGE MULTIPLIER FACTOR

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	%	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
23	Kentucky		1	2.500	1	1	
25	Louisiana		1	2.500	1	2	
26	Louisiana	1		2.500	1	3	
30	Massachusetts	1		2.500	1	4	
29	Massachusetts		1	2.500	1	5	
39	Nevada	1		2.500	1	6	
7	California	1		2.418	2	7	
54	Rhode Island	1		2.300	3	8	
43	New Mexico		1	2.150	4	9	
3	Alaska	1		2.143	5	10	
35	Missouri		1	2.100	6	11	
49	Ohio	1		2.100	6	12	
48	Ohio		1	2.100	6	13	
1	Alabama		1	2.013	7	14	20.90%
4	ARIZONA	1		2.000	8		
2	Alaska		1	2.000	8	1	
9	Connecticut		1	2.000	8	2	
13	Georgia		1	2.000	8	3	
15	Hawaii	1		2.000	8	4	
27	Maine	1		2.000	8	5	
44	New York	1		2.000	8	6	
51	Oklahoma	1		2.000	8	7	
50	Oklahoma		1	2.000	8	8	
53	Pennsylvannia	1		2.000	8	9	
57	So.Dakota/Opt.	1		2.000	8	10	
59	Texas		1	2.000	8	11	
60	Utah–Contrib.	1		2.000	8	12	
65	Washington–I		1	2.000	8	13	
66	Washington–I	1		2.000	8	14	
67	West Virginia		1	2.000	8	15	
69	Wyoming	1		2.000	8	16	
17	Illinois		1	1.890	9	17	
55	So. Carolina	1		1.820	10	18	
34	Mississippi	1		1.758	11	19	
5	Arkansas		1	1.750	12	20	
12	Florida	1		1.680	13	21	
21	Iowa	1		1.670	14	22	
52	Oregon	1		1.670	14	23	
16	Idaho	1		1.667	15	24	
37	Montana		1	1.667	15	25	
8	Colorado	1		1.667	15	26	
11	Delaware	1		1.660	16	27	
38	Montana	1		1.660	16	28	
40	New Hampshire	1		1.660	16	29	
42	New Jersey	1		1.660	16	30	
6	Arkansas	1		1.650	17	31	
47	No. Dakota	1		1.650	17	32	
62	VA Supplemtl.	1		1.650	17	33	
45	No. Carolina	1		1.630	18	34	
68	Wisconsin	1		1.600	19	35	
14	Georgia	1		1.500	19	36	
31	Michigan	1		1.500	19	37	
58	Tennessee	1		1.500	19	38	
61	Utah–Noncon.	1		1.450	20	39	
22	Kansas	1		1.400	21	40	
10	Connecticut	1		1.330	22	41	
36	Missouri	1		1.330	22	42	
33	Minnesota	1		1.250	23	43	
32	Minnesota		1	1.250	23	44	
56	So. Dakota	1		1.250	23	45	
64	Vermont	1		1.250	23	46	
46	No. Dakota		1	1.220	24	47	
24	Kentucky	1		1.190	25	48	
28	Maryland	1		1.150	26	49	
18	Illinois	1		1.145	27	50	
19	Indiana		1	1.100	28	51	
20	Indiana	1		1.100	28	52	77.61%
41	New Jersey		1	NO/RA			
63	Vermont		1	NO/RA			
TOTAL/RANKED		47	22		67		
MINIMUM				1.100			
MAXIMUM				2.500			
AVERAGE				1.795			

SUMMARY OF RESULTS – DOLLARS/% OF MEMBER CONTRIBUTION RATE \FIN-RPT\CON$

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	MEMBER CONTRIBUTION RATE %	RANK	BENEFIT 30 YRS' SERVICE $15,000/Ann	RANK	DOLLARS PER % OF MEMBER CONTRIBUTION	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
12	Florida	1		0.000	1	$6,874	24	N/A	1	1	
31	Michigan	1		0.000	1	6,750	28	N/A	1	2	
36	Missouri	1		0.000	1	5,704	36	N/A	1	3	
58	Tennessee	1		0.000	1	6,137	32	N/A	1	4	
61	Utah–Noncon.	1		0.000	1	6,525	30	N/A	1	5	
14	Georgia	1		0.250	2	6,750	28	$27,000	2	6	
6	Arkansas	1		0.400	3	6,751	27	16,878	3	7	
64	Vermont	1		0.530	4	5,625	37	10,613	4	8	
51	Oklahoma	1		2.508	5	8,578	15	3,420	5	9	
44	New York	1		3.000	8	8,578	15	2,859	6	10	
42	New Jersey	1		2.950	7	7,120	23	2,414	7	11	
11	Delaware	1		3.000	8	6,792	26	2,264	8	12	18.46%
4	ARIZONA	1		3.820	11	8,578	15	2,246	9		
29	Massachusetts		1	5.900	20	10,723	2	1,817	10	1	
1	Alabama		1	5.000	15	8,632	13	1,726	11	2	
53	Pennsylvannia	1		5.000	15	8,578	15	1,716	12	3	
50	Oklahoma		1	5.500	17	8,578	15	1,560	13	4	
69	Wyoming	1		5.570	19	8,578	15	1,540	14	5	
7	California	1		6.000	21	9,210	8	1,535	15	6	
47	No. Dakota	1		4.000	12	6,137	32	1,534	16	7	
25	Louisiana		1	7.000	26	10,723	2	1,532	17	8	
30	Massachusetts	1		7.000	26	10,723	2	1,532	17	9	
24	Kentucky	1		5.000	15	7,569	20	1,514	18	10	
26	Louisiana	1		7.300	28	11,023	1	1,510	19	11	
20	Indiana	1		3.000	8	4,501	40	1,500	20	12	
19	Indiana		1	3.000	8	4,501	40	1,500	20	13	
55	So. Carolina	1		6.000	21	8,840	11	1,473	21	14	
22	Kansas	1		4.000	12	5,864	34	1,466	22	15	
13	Georgia		1	6.000	21	8,786	12	1,464	23	16	
33	Minnesota	1		3.730	10	5,455	38	1,462	24	17	
9	Connecticut		1	6.000	21	8,578	15	1,430	25	18	
60	Utah–Contrib.	1		6.000	21	8,578	15	1,430	25	19	
3	Alaska	1		6.830	25	9,650	4	1,413	26	20	
16	Idaho	1		5.430	16	7,501	21	1,381	27	21	
65	Washington–I		1	6.000	21	8,183	18	1,364	28	22	
66	Washington–I	1		6.000	21	8,183	18	1,364	28	23	
67	West Virginia		1	6.000	21	8,183	18	1,364	28	24	
59	Texas		1	6.400	22	8,578	15	1,340	29	25	
5	Arkansas		1	6.000	21	7,875	19	1,313	29	26	
34	Mississippi	1		6.500	23	8,438	17	1,298	30	27	
62	VA Supplemtl.	1		5.000	15	6,483	31	1,297	31	28	
40	New Hampshire	1		5.560	18	7,120	23	1,281	32	29	
43	New Mexico		1	7.600	31	9,675	3	1,273	33	30	
54	Rhode Island	1		7.500	29	9,436	7	1,258	34	31	
32	Minnesota		1	4.500	13	5,455	38	1,212	35	32	
52	Oregon	1		6.000	21	7,163	22	1,194	36	33	
38	Montana	1		6.000	21	7,120	23	1,187	37	34	
39	Nevada	1		9.125	35	10,723	2	1,175	38	35	
68	Wisconsin	1		6.000	21	6,863	25	1,144	39	36	
2	Alaska		1	7.530	30	8,578	15	1,139	40	37	
56	So. Dakota	1		5.000	15	5,625	37	1,125	41	38	
28	Maryland	1		3.050	9	3,431	41	1,125	41	39	
8	Colorado	1		8.000	33	8,936	10	1,117	42	40	
45	No. Carolina	1		6.000	21	6,618	29	1,103	43	41	
15	Hawaii	1		7.800	32	8,578	15	1,100	44	42	
48	Ohio		1	8.770	34	9,450	5	1,078	45	43	
57	So.Dakota/Opt.	1		8.000	33	8,578	15	1,072	46	44	
17	Illinois		1	8.000	33	8,506	16	1,063	47	45	
18	Illinois	1		4.909	14	5,100	39	1,039	48	46	
37	Montana		1	7.044	27	7,120	23	1,011	49	47	
23	Kentucky		1	9.855	38	9,438	6	958	50	48	
49	Ohio	1		9.500	37	9,007	9	948	52	49	
35	Missouri		1	9.200	36	8,592	14	934	53	50	
27	Maine	1		6.500	23	5,878	33	904	54	51	
46	No. Dakota		1	6.750	24	5,736	35	850	56	52	80.00%
10	Connecticut	1				5,704	36	NO/RA			
21	Iowa	1				7,163	22	NO/RA			
41	New Jersey		1	2.780	6			NO/RA			
63	Vermont		1	5.500	17			NO/RA			
	TOTAL/RANKED	47	22	67		67			65		
	MINIMUM			0.000		$3,431		$0			
	MAXIMUM			9.855		$11,023		$27,000			
	AVERAGE			5.228		$7,725		$2,082			

SUMMARY OF RESULTS – DOLLARS/% OF EMPLOYER CONTRIBUTION RATE \FIN-RPT\CO

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	EMPLOYER CONTRIBUTION RATE %	RANK	BENEFIT 30 YRS' SERVICE $15,000/Ann	RANK	DOLLARS PER % OF EMPLOYER CONTRIBUTION	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
3	Alaska	1		9.230	33	$9,650	4	$6,137	1	1	1.56%
4	ARIZONA	1		3.820	3	8,578	15	2,246	2		
40	New Hampshire	1		3.500	2	7,120	23	2,034	3	1	
22	Kansas	1		3.070	1	5,864	34	1,910	4	2	
60	Utah–Contrib.	1		5.330	8	8,578	15	1,609	5	3	
69	Wyoming	1		5.680	10	8,578	15	1,510	6	4	
33	Minnesota	1		3.900	4	5,455	38	1,399	7	5	
67	West Virginia		1	6.000	11	8,183	18	1,364	8	6	
66	Washington–I	1		6.280	12	8,183	18	1,303	9	7	
43	New Mexico		1	7.600	21	9,675	3	1,273	10	8	
6	Arkansas	1		5.400	9	6,751	27	1,250	11	9	
47	No. Dakota	1		5.120	7	6,137	32	1,199	12	10	
39	Nevada	1		9.125	30	10,723	2	1,175	13	11	
55	So. Carolina	1		7.550	19	8,840	11	1,171	14	12	
68	Wisconsin	1		6.000	11	6,863	25	1,144	15	13	
1	Alabama		1	7.570	20	8,632	13	1,140	16	14	
56	So. Dakota	1		5.000	5	5,625	37	1,125	17	15	
38	Montana	1		6.417	13	7,120	23	1,110	18	16	
51	Oklahoma	1		8.000	23	8,578	15	1,072	19	17	
57	So.Dakota/Opt.	1		8.000	23	8,578	15	1,072	19	18	
59	Texas		1	8.000	23	8,578	15	1,072	19	19	
8	Colorado	1		8.500	25	8,936	10	1,051	20	20	
25	Louisiana		1	10.300	39	10,723	2	1,041	21	21	
42	New Jersey	1		6.970	16	7,120	23	1,022	22	22	
24	Kentucky	1		7.450	17	7,569	20	1,016	23	23	
18	Illinois	1		5.117	6	5,100	39	997	24	24	
37	Montana		1	7.459	18	7,120	23	955	25	25	
2	Alaska		1	9.140	31	8,578	15	939	26	26	
35	Missouri		1	9.200	32	8,592	14	934	27	27	
26	Louisiana	1		12.000	43	11,023	1	919	28	28	
58	Tennessee	1		6.850	15	6,137	32	896	29	29	
17	Illinois		1	9.510	35	8,505	16	894	30	30	
34	Mississippi	1		9.750	36	8,438	17	865	31	31	
46	No. Dakota		1	6.750	14	5,736	35	850	32	32	
16	Idaho	1		8.890	27	7,501	21	844	33	33	
31	Michigan	1		8.040	24	6,750	28	840	34	34	
54	Rhode Island	1		12.100	44	9,436	7	780	35	35	
62	VA Supplemtl.	1		8.556	26	6,483	31	758	36	36	
11	Delaware	1		9.000	29	6,792	26	755	37	37	
23	Kentucky		1	13.105	45	9,438	6	720	38	38	
45	No. Carolina	1		9.350	34	6,618	29	708	39	39	
7	California	1		13.200	46	9,210	8	698	40	40	
65	Washington–I		1	11.800	42	8,183	18	693	41	41	
48	Ohio		1	14.000	51	9,450	5	675	42	42	
29	Massachusetts		1	16.200	54	10,723	2	662	43	43	
61	Utah–Noncon.	1		9.880	37	6,525	30	660	44	44	
49	Ohio	1		13.710	49	9,007	9	657	45	45	
5	Arkansas		1	12.000	43	7,875	19	656	46	46	
50	Oklahoma		1	13.200	46	8,578	15	650	47	47	
53	Pennsylvania	1		13.220	47	8,578	15	649	48	48	
13	Georgia		1	13.630	48	8,786	12	645	49	49	
52	Oregon	1		11.300	41	7,163	22	634	50	50	
32	Minnesota		1	8.980	28	5,455	38	607	51	51	
36	Missouri	1		9.900	38	5,704	36	576	52	52	
15	Hawaii	1		15.000	53	8,578	15	572	53	53	
19	Indiana		1	8.000	23	4,501	40	563	54	54	
20	Indiana	1		8.000	23	4,501	40	563	55	55	
64	Vermont	1		10.740	40	5,625	37	524	56	56	
44	New York	1		16.700	56	8,578	15	514	57	57	
12	Florida	1		13.900	50	6,874	24	495	58	58	
14	Georgia	1		17.110	58	6,750	28	395	59	59	
27	Maine	1		17.030	57	5,878	33	345	60	60	
9	Connecticut		1	25.500	59	8,578	15	336	61	61	
28	Maryland	1		16.520	55	3,431	41	208	62	62	96.88%
10	Connecticut	1				5,704	36	NO/RA			
21	Iowa	1				7,163	22	NO/RA			
30	Massachusetts	1				10,723	2	NO/RA			
41	New Jersey		1	14.370	52			NO/RA			
63	Vermont		1	7.840	22			NO/RA			
TOTAL/RANKED		47	22	66		67			64		
MINIMUM				3.070		$3,431		$0			
MAXIMUM				25.500		$11,023		$6,137			
AVERAGE				9.659		$7,648		$986			

APPENDIX 5

ACTUARIAL VALUATION RANKINGS AND ANALYSIS

CONTENTS:

- Rank Scoring Data - Assets Market Value/Liability Funding Ratios
- Rank Scoring Data - Actuarial Value Funding Ratios

SUMMARY OF RESULTS - \FIN-RPT\MVR-RANK.WK1

I.D.	RETIREMENT SYSTEM SORTED BY MARKET VALUE FUNDED RATIO RETIREMENT SYSTEM State	PERS	Teacher	RATIO	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
40	New Hampshire	1		131.28%	1	1	
47	No. Dakota	1		127.14%	2	2	
6	Arkansas	1		125.78%	3	3	
42	New Jersey	1		125.65%	4	4	6.90%
4	ARIZONA	1		118.43%	5		
22	Kansas	1		116.77%	6	1	
56	So. Dakota	1		115.42%	7	2	
57	So.Dakota/Opt	1		115.42%	7	3	
24	Kentucky	1		112.53%	8	4	
68	Wisconsin	1		111.55%	9	5	
69	Wyoming	1		109.06%	10	6	
58	Tennessee	1		108.49%	11	7	
11	Delaware	1		107.99%	12	8	
20	Indiana	1		106.82%	13	9	
2	Alaska		1	104.72%	14	10	
31	Michigan	1		104.55%	15	11	
61	Utah–Noncon.	1		104.44%	16	12	
33	Minnesota	1		102.63%	17	13	
7	California	1		102.10%	18	14	
52	Oregon	1		100.76%	19	15	
53	Pennsylvannia	1		99.90%	20	16	
14	Georgia	1		99.36%	21	17	
45	No. Carolina	1		97.34%	22	18	
36	Missouri	1		97.14%	23	19	
8	Colorado	1		97.05%	24	20	
5	Arkansas		1	93.10%	25	21	
3	Alaska	1		91.33%	26	22	
49	Ohio	1		87.68%	27	23	
41	New Jersey		1	86.82%	28	24	
16	Idaho	1		86.76%	29	25	
13	Georgia		1	86.27%	30	26	
60	Utah–Contrib.	1		83.29%	31	27	
63	Vermont		1	82.07%	32	28	
64	Vermont	1		81.96%	33	29	
51	Oklahoma	1		80.23%	34	30	
38	Montana	1		80.20%	35	31	
48	Ohio		1	79.66%	36	32	
34	Mississippi	1		79.04%	37	33	
46	No. Dakota		1	78.45%	38	34	
43	New Mexico		1	77.89%	39	35	
55	So. Carolina	1		76.59%	40	36	
18	Illinois	1		76.14%	41	37	
23	Kentucky		1	70.39%	42	38	
39	Nevada	1		66.99%	43	39	
54	Rhode island	1		66.63%	44	40	
66	Washington–I	1		65.82%	45	41	
17	Illinois		1	64.59%	46	42	
12	Florida	1		64.53%	47	43	
28	Maryland	1		62.86%	48	44	
37	Montana		1	62.12%	49	45	
62	VA.Supplemnt.	1		60.76%	50	46	
9	Connecticut		1	58.34%	51	47	
65	Washington–I		1	58.10%	52	48	
10	Connecticut	1		55.19%	53	49	
50	Oklahoma		1	44.15%	54	50	
29	Massachusetts		1	42.17%	55	51	
27	Maine	1		31.35%	56	52	
19	Indiana		1	29.12%	57	53	91.38%
1	Alabama		1	NO/RA			
15	Hawaii	1		NO/RA			
21	Iowa	1		NO/RA			
25	Louisiana		1	NO/RA			
26	Louisiana	1		NO/RA			
30	Massachusetts	1		NO/RA			
32	Minnesota		1	NO/RA			
35	Missouri		1	NO/RA			
44	New York	1		NO/RA			
59	Texas		1	NO/RA			
67	West Virginia		1	NO/RA			
TOTAL/RANKED		47	22		58		
MINIMUM				29.12%			
MAXIMUM				131.28%			
AVERAGE				87.12%			

SUMMARY OF RESULTS - \FIN-RPT\AVR-RANK.

RETIREMENT SYSTEM SORTED BY ACTUARIAL VALUE FUNDED RATIO

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	RATIO	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
6	Arkansas	1		130.20%	1	1	
47	No. Dakota	1		115.20%	2	2	
44	New York	1		111.70%	3	3	5.08%
4	ARIZONA	1		108.30%	4		
31	Michigan	1		108.20%	5	1	
24	Kentucky	1		105.70%	6	2	
1	Alabama		1	102.50%	7	3	
2	Alaska		1	101.20%	8	4	
68	Wisconsin	1		101.00%	9	5	
3	Alaska	1		99.70%	10	6	
58	Tennessee	1		99.60%	11	7	
20	Indiana	1		99.30%	12	8	
40	New Hampshire	1		99.30%	12	9	
61	Utah-Noncon.	1		98.90%	13	10	
56	So. Dakota	1		98.60%	14	11	
57	So.Dakota/Opt	1		98.60%	14	12	
8	Colorado	1		97.30%	15	13	
45	No. Carolina	1		97.30%	15	14	
11	Delaware	1		96.50%	16	15	
42	New Jersey	1		95.60%	17	16	
33	Minnesota	1		95.50%	18	17	
22	Kansas	1		93.20%	19	18	
36	Missouri	1		93.10%	20	19	
52	Oregon	1		92.50%	21	20	
5	Arkansas		1	91.40%	22	21	
53	Pennsylvannia	1		91.00%	23	22	
49	Ohio	1		84.90%	24	23	
63	Vermont		1	82.10%	25	24	
7	California	1		81.50%	26	25	
51	Oklahoma	1		80.20%	27	26	
60	Utah-Contrib.	1		78.90%	28	27	
13	Georgia		1	78.30%	29	28	
16	Idaho	1		75.90%	30	29	
64	Vermont	1		75.20%	31	30	
55	So. Carolina	1		74.50%	32	31	
43	New Mexico		1	74.30%	33	32	
46	No. Dakota		1	73.40%	34	33	
38	Montana	1		73.20%	35	34	
48	Ohio		1	73.10%	36	35	
14	Georgia	1		69.80%	37	36	
28	Maryland	1		69.80%	37	37	
18	Illinois	1		68.80%	38	38	
41	New Jersey		1	67.90%	39	39	
34	Mississippi	1		67.80%	40	40	
23	Kentucky		1	67.40%	41	41	
39	Nevada	1		67.00%	42	42	
66	Washington-I	1		66.00%	43	43	
12	Florida	1		64.20%	44	44	
17	Illinois		1	62.90%	45	45	
65	Washington-I		1	58.70%	46	46	
37	Montana		1	56.20%	47	47	
54	Rhode Island	1		54.40%	48	48	
26	Louisiana	1		53.30%	49	49	
62	VA.Supplemnt.	1		53.30%	49	50	
9	Connecticut		1	50.80%	50	51	
50	Oklahoma		1	43.70%	51	52	
29	Massachusetts		1	42.20%	52	53	
19	Indiana		1	29.00%	53	54	
27	Maine	1		28.80%	54	55	93.22%
10	Connecticut	1		NO/RA			
15	Hawaii	1		NO/RA			
21	Iowa	1		NO/RA			
25	Louisiana		1	NO/RA			
30	Massachusetts	1		NO/RA			
32	Minnesota		1	NO/RA			
35	Missouri		1	NO/RA			
59	Texas		1	NO/RA			
67	West Virginia		1	NO/RA			
69	Wyoming	1		NO/RA			
TOTAL/RANKED		47	22		59		
MINIMUM				28.80%	1		
MAXIMUM				130.20%	54		
AVERAGE				80.83%	27		

APPENDIX 6

ADMINISTRATIVE COSTS RANKINGS AND ANALYSIS

CONTENTS:

SUMMARY OF RESULTS – ADMINISTRAIVE COSTS PER MEMBER \FIN–RPT\ADMIN$.WK1

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	**RETIRED* MEMBERS (Ins.Surv. Benef.)	******ACTIVE***** MEMBERS (Not Def.Vested) Vested	Non–Vest.	****ADMINISTRATION***** Admin. Budget Only	Total Budget	ADMINISTRATIVE COST/MEMBER Staff Size	Cost Per Member	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
47	No. Dakota	1		170,974	5,479	8,087	$1,015,006	$3,575,084	14	$5.50	1	1	
45	No. Carolina	1		61,219	149,364	61,008	2,563,667	4,336,693	100	9.44	2	2	
64	Vermont	1		2,433	1,796	5,405	99,000	2,032,800	8	10.28	3	3	
19	Indiana		1	25,849	43,215	20,942	981,934	981,934	26	10.91	4	4	
59	Texas		1	108,545	165,794	286,784	7,734,691	15,872,545	302	13.78	5	5	
28	Maryland	1		46,586	157,977	22,849	3,200,000	10,300,000	102	14.07	6	6	
29	Massachusetts		1	23,653	75,383		1,452,000	238,052,000	41	14.66	7	7	
26	Louisiana	1		23,962	2,443	59,792	1,309,606	3,235,831	44	15.19	8	8	
12	Florida	1		102,315	190,567	312,201	9,243,371	11,636,887	227	15.28	9	9	
50	Oklahoma		1	23,780	33,000	45,400	1,600,000	3,500,000	38	15.66	10	10	
38	Montana	1		9,219	27,191		610,126	610,126	17	16.76	11	11	
43	New Mexico		1	11,280	26,324	19,168	1,086,000	1,086,000	28	19.13	12	12	
24	Kentucky	1		24,327	52,432	38,649	2,245,991	2,245,991	70	19.46	13	13	23.64%
4	ARIZONA	1		31,396	61,020	63,416	3,066,314	3,066,314	78	19.68	14		
5	Arkansas		1	11,707	45,374		1,057,790	125,018,809	40	19.76	15	1	
22	Kansas	1		36,171	39,399	58,291	2,712,238	12,800,000	63	20.26	16	2	
37	Montana		1	6,275	10,131	4,918	438,200	749,120	11	20.55	17	3	
62	VA Supplemtl.	1		52,971	146,873	81,621	6,793,500	9,980,920	109	23.97	18	4	
34	Mississippi	1		30,026	95,434	30,404	3,809,154	3,809,154	73	24.44	19	5	
1	Alabama		1	26,119	105,545		3,351,866	3,351,866	90	25.46	20	6	
35	Missouri		1		28,812	26,986	1,435,452	2,334,256	40	25.73	21	7	
68	Wisconsin	1		70,017	197,988		6,900,000	6,900,000	162	25.75	22	8	
52	Oregon	1		50,467	74,893	40,031	4,400,000	4,400,000	100	26.60	23	9	
13	Georgia		1	26,582	50,412	78,449	4,209,052	4,209,052	69	27.08	24	10	
40	New Hampshire	1		8,305	17,380	17,380	1,191,029	1,191,029	29	27.66	25	11	
14	Georgia	1		13,095	24,059	32,995	1,950,763	4,365,046	27	27.81	26	12	
55	So. Carolina	1		38,024	164,870		6,000,000	6,000,000	104	29.57	27	13	
53	Pennsylvannia	1		72,374	64,997	44,502	5,532,000	13,920,000	105	30.42	28	14	
16	Idaho	1		16,344	27,696	18,410	1,900,000	5,055,000	45	30.42	29	15	
31	Michigan	1		21,873	30,458	33,090	2,600,000	2,600,000	19	30.44	30	16	
18	Illinois	1		32,870	43,553	31,370	3,418,510	9,059,410	71	31.71	31	17	
39	Nevada	1		10,295	14,435	30,475	1,782,521	1,782,521	37	32.29	32	18	
49	Ohio	1		103,549	276,240		12,525,600	13,426,988	231	32.98	33	19	
54	Rhode Island	1		10,476	14,406	10,276	1,166,000	1,640,000	22	33.14	34	20	
9	Connecticut		1	13,668	32,500	8,130	1,814,766	1,814,766	31	33.42	35	21	
33	Minnesota	1		12,341	17,430	28,270	1,940,000	3,516,000	39	33.42	35	22	
23	Kentucky		1	18,599	36,696	12,058	2,279,000	2,974,000	45	33.84	36	23	
17	Illinois		1	43,385	80,000	20,000	5,271,130	13,286,130	103	36.76	37	24	
46	No. Dakota		1	3,892	7,435	2,192	500,073	1,809,878	15	36.99	38	25	
11	Delaware	1		9,704	16,396	10,845	1,370,000	6,461,000	39	37.08	39	26	
27	Maine	1		21,986	44,949		2,518,151	5,930,262	72	37.62	40	27	
56	So. Dakota	1		9,852	17,307	11,442	1,482,768	1,482,768	30	38.41	41	28	
57	So.Dakota/Opt.	1		9,852	17,307	11,442	1,482,768	1,482,768	30	38.41	41	29	
69	Wyoming	1		8,600	35,000		1,800,000	13,800,000	18	41.28	42	30	
6	Arkansas	1		9,156	9,839	30,921	2,122,328	2,823,858	45	42.52	43	31	
7	California	1		230,640	547,587		42,824,000	79,889,000	767	55.03	44	32	
3	Alaska	1		4,633	13,097	13,665	1,805,900	5,132,700	34	57.52	45	33	
42	New Jersey	1		57,109	86,108	192,527	19,462,000	19,462,000	459	58.14	46	34	
8	Colorado	1		30,649	59,300	41,508	8,654,229	8,654,229	125	65.83	47	35	
10	Connecticut	1		21,137	56,202		5,500,000	5,500,000	86	71.12	48	36	
48	Ohio		1	66,453	118,788	102,861	20,543,500	20;543,500	248	71.31	49	37	
65	Washington–I		1	22,846	30,700	1,616	3,974,866		75	72.06	50	38	
66	Washington–I	1		47,571	46,850	5,706	7,215,634		137	72.07	51	39	
36	Missouri	1		10,388	24,538	17,400	5,161,208	17,400	46	98.64	52	40	
2	Alaska		1	2,098	4,196	3,601	1,406,800	3,622,200	27	142.07	53	41	74.55%
15	Hawaii	1		20,000	50,000				50	NO/RA			
20	Indiana	1		31,917	42,269	83,035	5,849,616	5,849,616	49	NO/RA			
21	Iowa	1								NO/RA			
25	Louisiana		1							NO/RA			
30	Massachusetts	1								NO/RA			
32	Minnesota		1							NO/RA			
41	New Jersey		1	31,442	70,707	42,020				NO/RA			
44	New York	1		221,594	269,286	338,364				NO/RA			
51	Oklahoma	1		13,448	116,063	40,953		3,203,340	31	NO/RA			
58	Tennessee	1		49,598	62,303	93,780			80	NO/RA			
60	Utah–Contrib.	1		13,866	48,675		5,012,575	9,139,100		NO/RA			
61	Utah–Noncon.	1		4,042	42,587					NO/RA			
63	Vermont		1	2,638	294	8,336		1,225,700	8	NO/RA			
67	West Virginia		1							NO/RA			
	TOTAL/RANKED	47	22							55			
	MINIMUM			2,098	1,796	1,616	$99,000	$17,400	8	$5.50			
	MAXIMUM			230,640	547,587	312,201	$42,824,000	$238,052,000	767	$142.07			
	AVERAGE			36,252	68,512	45,388	$4,518,336	$13,798,638	91	$34.90			

SUMMARY OF RESULTS - ADMINISTRAIVE BUDGET PER STAFF \FIN-RPT\ADMIN$.WK1

	RETIREMENT SYSTEM State:	PERS	Teacher	*RETIRED* * MEMBERS (Inc.Surv. Benef.)	******ACTIVE***** MEMBERS (Not Def.Vested) Vested	Non-Vest.	****ADMINISTRATION***** Admin. Budget Only	Total Budget	ADMINISTRATIVE COST/STAFF Staff Size	Cost Per Staff	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
64	Vermont	1		2,433	1,795	5,405	$99,000	$2,032,900	8	$12,375	1	1	
59	Texas		1	108,546	165,794	286,784	7,734,691	15,872,545	302	25,612	2	2	
45	No. Carolina	1		61,219	149,364	61,008	2,563,667	4,336,693	100	25,637	3	3	
5	Arkansas		1	11,707	45,374		1,057,790	125,018,909	40	26,445	4	4	
26	Louisiana	1		23,952	2,443	59,792	1,309,606	3,235,831	44	29,764	5	5	
28	Maryland	1		46,586	157,977	22,849	3,200,000	10,300,000	102	31,373	6	6	
24	Kentucky	1		24,327	52,432	38,649	2,245,991	2,245,991	70	32,086	7	7	
46	No. Dakota		1	3,892	7,435	2,192	500,073	1,809,878	15	33,338	8	8	
27	Maine	1		21,985	44,949		2,518,151	5,930,262	72	34,974	9	9	
11	Delaware	1		9,704	16,396	10,845	1,370,000	6,461,000	39	35,128	10	10	
29	Massachusetts		1	23,653	75,383		1,452,000	238,052,000	41	35,415	11	11	
35	Missouri		1		28,812	26,986	1,435,452	2,334,256	40	35,886	12	12	
38	Montana	1		9,219	27,191		610,126	610,126	17	35,890	13	13	
1	Alabama		1	26,119	105,545		3,351,866	3,351,866	90	37,243	14	14	
19	Indiana		1	25,849	43,215	20,942	981,934	981,934	26	37,767	15	15	
43	New Mexico		1	11,280	26,324	19,168	1,086,000	1,086,000	28	38,786	16	16	28.57%
4	ARIZONA	1		31,396	61,020	63,416	3,066,314	3,066,314	78	39,312	17		
37	Montana		1	6,275	10,131	4,918	438,200	749,120	11	39,836	18	1	
12	Florida	1		102,315	190,567	312,201	9,243,371	11,636,887	227	40,720	19	2	
40	New Hampshire	1		8,306	17,380	17,380	1,191,029	1,191,029	29	41,070	20	3	
50	Oklahoma		1	23,780	33,000	45,400	1,600,000	3,500,000	38	42,105	21	4	
16	Idaho	1		16,344	27,696	18,410	1,900,000	5,055,000	45	42,222	22	5	
42	New Jersey	1		57,109	85,108	192,527	19,462,000	19,462,000	459	42,401	23	6	
68	Wisconsin	1		70,017	197,988		6,900,000	6,900,000	162	42,593	24	7	
22	Kansas	1		36,171	39,399	58,291	2,712,238	12,800,000	63	43,051	25	8	
52	Oregon	1		50,467	74,893	40,031	4,400,000	4,400,000	100	44,000	26	9	
6	Arkansas	1		9,155	9,839	30,921	2,122,328	2,823,858	45	47,163	27	10	
18	Illinois	1		32,870	43,553	31,370	3,418,510	9,059,410	71	48,148	28	11	
39	Nevada	1		10,295	14,435	30,475	1,782,521	1,782,521	37	48,176	29	12	
56	So. Dakota	1		9,852	17,307	11,442	1,482,768	1,482,768	30	49,426	30	13	
57	So.Dakota/Opt.	1		9,852	17,307	11,442	1,482,768	1,482,768	30	49,426	30	14	
33	Minnesota	1		12,341	17,430	28,270	1,940,000	3,516,000	39	49,744	31	15	
23	Kentucky		1	18,599	36,696	12,058	2,279,000	2,974,000	45	50,644	32	16	
17	Illinois		1	43,385	80,000	20,000	5,271,130	13,286,130	103	51,176	33	17	
2	Alaska		1	2,098	4,198	3,601	1,405,800	3,622,200	27	52,067	34	18	
34	Mississippi	1		30,026	95,434	30,404	3,809,154	3,809,154	73	52,180	35	19	
66	Washington–I	1		47,571	46,850	5,705	7,215,634		137	52,669	36	20	
53	Pennsylvannia	1		72,374	64,997	44,502	5,532,000	13,920,000	105	52,686	37	21	
54	Rhode Island	1		10,476	14,406	10,276	1,165,000	1,640,000	22	52,955	38	22	
65	Washington–I		1	22,846	30,700	1,616	3,974,866		75	52,998	39	23	
3	Alaska	1		4,633	13,097	13,665	1,805,900	5,132,700	34	53,115	40	24	
49	Ohio	1		103,549	276,240		12,525,600	13,426,968	231	54,223	41	25	
7	California	1		230,640	547,587		42,824,000	79,889,000	767	55,833	42	26	
55	So. Carolina	1		38,024	164,870		6,000,000	6,000,000	104	57,692	43	27	
9	Connecticut		1	13,668	32,500	8,130	1,814,766	1,814,766	31	58,541	44	28	
13	Georgia		1	26,582	50,412	78,449	4,209,052	4,209,052	69	61,001	45	29	
62	VA Supplemtl.	1		52,971	148,673	81,621	6,793,500	9,980,920	109	62,326	46	30	
10	Connecticut	1		21,137	56,202		5,500,000	5,500,000	85	64,706	47	31	
8	Colorado	1		30,649	59,300	41,508	8,654,229	8,654,229	125	69,234	48	32	
14	Georgia	1		13,095	24,059	32,995	1,950,763	4,365,046	27	72,250	49	33	
47	No. Dakota	1		170,974	5,479	8,087	1,015,006	3,575,084	14	72,500	50	34	
48	Ohio		1	66,453	118,788	102,861	20,543,500	20,543,500	248	82,837	51	35	
69	Wyoming	1		8,600	35,000		1,800,000	13,800,000	18	100,000	52	36	
36	Missouri	1		10,388	24,538	17,400	5,161,208	17,400	46	112,200	53	37	
20	Indiana	1		31,917	42,269	83,035	5,849,616	5,849,616	49	119,380	54	38	
31	Michigan	1		21,873	30,458	33,090	2,600,000	2,600,000	19	136,842	55	39	69.64%
15	Hawaii	1		20,000	50,000				50	NO/RA			
21	Iowa	1								NO/RA			
25	Louisiana		1							NO/RA			
30	Massachusetts	1								NO/RA			
32	Minnesota		1							NO/RA			
41	New Jersey		1	31,442	70,707	42,020				NO/RA			
44	New York	1		221,594	269,285	338,364				NO/RA			
51	Oklahoma	1		13,448	116,063	40,953		3,203,340	31	NO/RA			
58	Tennessee	1		49,598	62,303	93,780			80	NO/RA			
60	Utah–Contrib.	1		13,866	48,675		5,012,575	9,139,100		NO/RA			
61	Utah–Noncon.	1		4,042	42,587					NO/RA			
63	Vermont		1	2,638	294	8,336		1,225,700	8	NO/RA			
67	West Virginia		1							NO/RA			
	TOTAL/RANKED	47	22							56			
	MINIMUM			2,098	1,795	1,616	$99,000	$17,400	8	$12,375			
	MAXIMUM			230,640	547,587	312,201	$42,824,000	$238,052,000	767	$136,842			
	AVERAGE			36,173	68,043	46,225	$4,542,109	$13,651,434	90	$51,199			

SUMMARY OF RESULTS -- ADMINISTRAIVE COSTS AS A % OF TOTAL ASSETS \FIN-RPT\ADMIN%.WK1

I.D.	RETIREMENT SYSTEM State	PERS	Teacher	MARKET VALUE (in $B)	****ADMINISTRATION***** Admin. Budget Only	Total Budget	ADMINISTRATIVE COST AS A % OF TOTAL ASSETS	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
45	No. Carolina	1		$10.199	$2,563,667	$4,336,693	0.025%	1	1	
28	Maryland	1		8.889	3,200,000	10,300,000	0.036%	2	2	
64	Vermont	1		0.262	$99,000	$2,032,800	0.038%	3	3	
68	Wisconsin	1		16.614	6,900,000	6,900,000	0.042%	4	4	9.76%
4	ARIZONA	1		7.315	3,088,314	3,088,314	0.042%	5		
9	Connecticut		1	4.137	1,814,766	1,814,766	0.044%	6	1	
5	Arkansas		1	2.062	1,057,790	125,018,809	0.051%	7	2	
12	Florida	1		17.663	9,243,371	11,636,887	0.052%	8	3	
52	Oregon	1		8.388	4,400,000	4,400,000	0.052%	9	4	
29	Massachusetts		1	2.670	1,452,000	238,052,000	0.054%	10	5	
13	Georgia		1	7.466	4,209,052	4,209,052	0.056%	11	6	
43	New Mexico		1	1.743	1,086,000	1,086,000	0.062%	12	7	
39	Nevada	1		2.637	1,782,521	1,782,521	0.068%	13	8	
19	Indiana		1	1.409	981,934	981,934	0.070%	14	9	
37	Montana		1	0.621	438,200	749,120	0.071%	15	10	
1	Alabama		1	4.716	3,351,866	3,351,866	0.071%	16	11	
14	Georgia	1		2.736	1,950,763	4,365,046	0.071%	17	12	
31	Michigan	1		3.541	2,600,000	2,600,000	0.073%	18	13	
17	Illinois		1	7.066	5,271,130	13,286,130	0.075%	19	14	
53	Pennsylvannia	1		7.377	5,532,000	13,920,000	0.075%	20	15	
54	Rhode Island	1		1.551	1,166,000	1,640,000	0.075%	21	16	
38	Montana	1		0.758	610,126	610,126	0.080%	22	17	
22	Kansas	1		3.186	2,712,238	12,800,000	0.085%	23	18	
23	Kentucky		1	2.674	2,279,000	2,974,000	0.085%	24	19	
11	Delaware	1		1.572	1,370,000	6,461,000	0.087%	25	20	
50	Oklahoma		1	1.814	1,600,000	3,500,000	0.088%	26	21	
24	Kentucky	1		2.541	2,245,991	2,245,991	0.088%	27	22	
34	Mississippi	1		4.209	3,809,154	3,809,154	0.091%	28	23	
49	Ohio	1		13.729	12,525,600	13,426,968	0.091%	29	24	
62	VA Supplemtl.	1		7.157	6,793,500	9,980,920	0.095%	30	25	
7	California	1		42.204	42,824,000	79,889,000	0.101%	31	26	
3	Alaska	1		1.740	1,805,900	5,132,700	0.104%	32	27	
56	So. Dakota	1		1.363	1,482,768	1,482,768	0.109%	33	28	
57	So.Dakota/Opt.	1		1.363	1,482,768	1,482,768	0.109%	34	29	
2	Alaska		1	1.267	1,405,800	3,622,200	0.111%	35	30	
40	New Hampshire	1		1.048	1,191,029	1,191,029	0.114%	36	31	
48	Ohio		1	17.507	20,543,500	20,543,500	0.117%	37	32	
33	Minnesota	1		1.631	1,940,000	3,516,000	0.119%	38	33	
18	Illinois	1		2.857	3,418,510	9,059,410	0.120%	39	34	
46	No. Dakota		1	0.413	500,073	1,809,678	0.121%	40	35	
55	So. Carolina	1		4.938	6,000,000	6,000,000	0.121%	41	36	
16	Idaho	1		1.560	1,900,000	5,055,000	0.122%	42	37	
8	Colorado	1		6.998	8,654,229	8,654,229	0.124%	43	38	
65	Washington-I		1	3.008	3,974,866		0.132%	44	39	
69	Wyoming	1		1.142	1,800,000	13,800,000	0.158%	45	40	
6	Arkansas	1		1.169	2,122,328	2,823,868	0.181%	46	41	
66	Washington-I	1		3.848	7,215,634		0.188%	47	42	
10	Connecticut	1		2.799	5,500,000	5,500,000	0.197%	48	43	
20	Indiana	1		2.693	5,849,616	5,849,616	0.217%	49	44	
42	New Jersey	1		7.657	19,462,000	19,462,000	0.254%	50	45	
27	Maine	1		0.871	2,518,151	5,930,262	0.289%	51	46	
47	No. Dakota	1		0.347	1,015,006	3,575,084	0.292%	52	47	
36	Missouri	1		1.231	5,161,208	17,400	0.419%	53	48	
60	Utah-Contrib.	1		0.993	5,012,575	9,139,100	0.505%	54	49	87.80%
15	Hawaii	1					NO/RA			
21	Iowa	1					NO/RA			
25	Louisiana		1				NO/RA			
26	Louisiana	1			1,309,606	3,236,831	NO/RA			
30	Massachusetts	1					NO/RA			
32	Minnesota		1				NO/RA			
35	Missouri		1		1,435,452	2,334,256	NO/RA			
41	New Jersey		1	9.135			NO/RA			
44	New York	1					NO/RA			
51	Oklahoma	1		1.326		3,203,340	NO/RA			
58	Tennessee	1		7.711			NO/RA			
59	Texas		1		7,734,691	15,872,545	NO/RA			
61	Utah-Noncon.	1		1.587			NO/RA			
63	Vermont		1	0.275		1,225,700	NO/RA			
67	West Virginia		1				NO/RA			
TOTAL RANKED		47	22				54			
MINIMUM				$0.262	$99,000	$17,400	0.025%			
MAXIMUM				$42.204	$42,824,000	$238,052,000	0.505%			
AVERAGE				$4.951	$4,609,092	$13,939,883	0.117%			

SUMMARY OF RESULTS - TOTAL MEMBERS PER STAFF \FIN-RPT\ADMIN

L. D.	RETIREMENT SYSTEM State	PERS	Teacher	*****MEMBERS PER STAFF***** Staff Size	Total Members Per Staff	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
47	No. Dakota	1		14	13,181	1	1	
51	Oklahoma	1		31	5,499	2	2	
31	Michigan	1		19	4,496	3	3	
19	Indiana		1	26	3,462	4	4	
20	Indiana	1		49	3,209	5	5	
45	No. Carolina	1		100	2,716	6	6	
50	Oklahoma		1	38	2,689	7	7	
12	Florida	1		227	2,666	8	8	
62	VA Supplemtl.	1		109	2,601	9	9	
14	Georgia	1		27	2,598	10	10	
58	Tennessee	1		80	2,571	11	11	
69	Wyoming	1		18	2,422	12	12	
29	Massachusetts		1	41	2,416	13	13	
13	Georgia		1	69	2,253	14	14	
28	Maryland	1		102	2,230	15	15	
38	Montana	1		17	2,142	16	16	
34	Mississippi	1		73	2,135	17	17	
22	Kansas	1		63	2,125	18	18	
43	New Mexico		1	28	2,028	19	19	32.20%
4	ARIZONA	1		78	1,988	20		
26	Louisiana	1		44	1,959	21	1	
55	So. Carolina	1		104	1,951	22	2	
37	Montana		1	11	1,939	23	3	
59	Texas		1	302	1,858	24	4	
9	Connecticut		1	31	1,752	25	5	
53	Pennsylvannia	1		105	1,732	26	6	
52	Oregon	1		100	1,654	27	7	
68	Wisconsin	1		162	1,654	27	8	
24	Kentucky	1		70	1,649	28	9	
49	Ohio	1		231	1,644	29	10	
54	Rhode Island	1		22	1,598	30	11	
18	Illinois	1		71	1,518	31	12	
23	Kentucky		1	45	1,497	32	13	
39	Nevada	1		37	1,492	33	14	
33	Minnesota	1		39	1,488	34	15	
40	New Hampshire	1		29	1,486	35	16	
1	Alabama		1	90	1,463	36	17	
63	Vermont		1	8	1,409	37	18	
35	Missouri		1	40	1,395	38	19	
17	Illinois		1	103	1,392	39	20	
16	Idaho	1		45	1,388	40	21	
5	Arkansas		1	40	1,339	41	22	
56	So. Dakota	1		30	1,287	42	23	
57	So.Dakota/Opt.	1		30	1,287	42	24	
64	Vermont	1		8	1,204	43	25	
48	Ohio		1	248	1,162	44	26	
36	Missouri	1		46	1,138	45	27	
6	Arkansas	1		45	1,109	46	28	
8	Colorado	1		125	1,052	47	29	
7	California	1		767	1,015	48	30	
11	Delaware	1		39	947	49	31	
27	Maine	1		72	930	50	32	
3	Alaska	1		34	923	51	33	
10	Connecticut	1		85	910	52	34	
46	No. Dakota		1	15	901	53	35	
42	New Jersey	1		459	853	54	36	
65	Washington-I		1	75	735	55	37	
66	Washington-I	1		137	731	56	38	
2	Alaska		1	27	366	57	39	66.10%
15	Hawaii	1		50	NO/RA			
21	Iowa	1			NO/RA			
25	Louisiana		1		NO/RA			
30	Massachusetts	1			NO/RA			
32	Minnesota		1		NO/RA			
41	New Jersey		1		NO/RA			
44	New York	1			NO/RA			
60	Utah-Contrib.	1			NO/RA			
61	Utah-Noncon.	1			NO/RA			
67	West Virginia		1		NO/RA			
TOTAL/RANKED		47	22		59			
MINIMUM				8	366			
MAXIMUM				767	13,181			
AVERAGE				88	1,987			

APPENDIX 7

RETIREMENT BOARD COMPOSITION DATA

RETIREMENT SYSTEM State	PERS	Teacher	TOTAL PERSONS RETIRE. BOARD (See Notes for Addl. Info.)	STATE EMPLOYEES Active	STATE EMPLOYEES Retired	MUNICIPAL EMPLOYEES Active	MUNICIPAL EMPLOYEES Retired	TEACHERS Active	TEACHERS Retired	SCHOOL DISTRICT EMPLOYEES Active	SCHOOL DISTRICT EMPLOYEES Retired	MEMBERS (OTHER) Active	MEMBERS (OTHER) Retired	STATE/LOCAL OFFICIALS Active	STATE/LOCAL OFFICIALS Retired	GENERAL PUBLIC	EX-OFFICIO VOTING	EX-OFFICIO NON-VOTING
Alabama		1	14					8	2								4	
Alaska		1	5															
Alaska	1		5															
ARIZONA	1		7	2	1			1								3		
Arkansas		1	12					3	1			3	2				3	
Arkansas	1		9															
California	1		13	1		1				1		2	1			3	4	
Colorado	1		16	4	1	2		5	1			1					2	
Connecticut		1	11					3	1							4	3	
Connecticut	1		15	12												3		
Delaware	1		7													5	2	
Florida	1																	
Georgia		1	10					4	1							2	3	
Georgia	1		7	1	1								1			1	3	
Hawaii	1																	
Idaho	1		5									3				2		
Illinois		1	10					4	1							4	1	
Illinois	1		7															
Indiana		1	5					2	2							1		
Indiana	1		5		1											4		
Iowa	1																	
Kansas	1		7															
Kentucky		1	9					4	1							2	2	
Kentucky	1		9		2		2					2		2		1	1	
Louisiana		1																
Louisiana	1		11															
Maine	1		8															
Maryland	1		15															
Massachusetts		1	5															
Massachusetts	1																	
Michigan	1		9															
Minnesota		1																
Minnesota	1		11		1							7		1		2		
Mississippi	1		9	2		2		2				2	1			1	1	
Missouri		1	5					2	1							1	1	
Missouri	1		11															
Montana		1	6					2	1							2	1	
Montana	1		6															
Nevada	1		7									6	1					
New Hampshire	1		13															
New Jersey		1	7															
New Jersey	1		9															
New Mexico		1	7					1	1			1				2	2	
New York	1																	
No. Carolina	1		14	2	1			2	1			1		1		5		
No. Dakota		1	5					1	1			1					2	
No. Dakota	1		8															
Ohio		1	9					5	1								3	
Ohio	1		9	1		1		1				2	1				3	
Oklahoma		1	13					2	2			1	1			4	3	
Oklahoma	1		13															
Oregon	1		9	2	1			1		1				2		1		
Pennsylvania	1		11															
Rhode Island	1		15	2	1	1		2					1	6		2		
So. Carolina	1		5											5				
So. Dakota	1		17	2		1		2		1		4		5		1		1
So.Dakota/Opt.	1		17	2		1		2		1		4		5		1		1
Tennessee	1		17	2				3						3			7	2
Texas		1	9															
Utah-Contrib.	1		7															
Utah-Noncon.	1		7															
VA. Supplemnt	1		7															
Vermont		1	6															
Vermont	1		6															
Washington-I		1																
Washington-I	1		0															
West Virginia		1																
Wisconsin	1		11															
Wyoming	1		11	2	1					2				1		5		
TOTAL	47	22																
MINIMUM			0															
MAXIMUM			17															
AVERAGE			9	3	1	1	2	3	1	1	0	3	1	3	0	2	3	1

COMPOSITION OF RETIREMENT BOARD

RETIREMENT SYSTEM

State	PERS	Teacher	
Alabama		1	
Alaska	1		Six-year terms; three appointed by Governor, two PERS members elected by membership.
Alaska		1	Three-year terms; all appointed by Governor.
Arizona	1		
Arkansas	1		Six members appointed by Governor; 3 members ex-officio (St.Treas./Auditor/Dir.of Fin.& Admin.)
Arkansas		1	6 active members, elected; 3 retired members, elected; 3 ex-officio.
California	1		Six elected by membership for 4-yr. terms; 2 appointed by Governor for 4-yr.terms; 1 joint appntmt. by Leg. for a 4-yr term; 1 designated by St. Personnel Board; 3 are ex-officio members.
California		1	
Colorado	1		Elected as follows: 4 by st.empl.; 5 by school empl.; 2 by municipal empl.; 1 by judges; 2 by retirees; 2 are ex-officio (St. Auditor and St. Treas.). All elected for 4-yr. terms.
Connecticut	1		
Connecticut		1	4 teachers-3 active, 1 retired, 4-yr.terms. 4 pub.members appointed by Gov.; 3 st.officials, ex-officio.
Delaware	1		Five appointed by Governor, confirmed by Sen., 4-yr.terms; 2 ex-officio (St.Personnel Dir./Sec.of Fin.).
Florida	1		Has no board.
Georgia	1		Three ex-officio (St. Auditor/Ins.Comm/Comm.of Personnel Admin.); 1 appointed by Governor; 2 elected by other trustees membership; 1 non-member w/10 yrs.invest.exp.,elected by other trustees.
Georgia		1	St.Auditor,Comm.of Ins.,Dir.,Fiscal Div.,Dept.of Admin.Serv.,Ex off.;classroom teacher,school admin., pub.school empl., GA citizen appnt.by Gov.3-yr.terms;univ.empl.,appnt.by Brd.of Reg.3-yr.term; TRS retiree, person skilled in invest.,elected by remaining trustees for 3-yr.term.
Hawaii	1		
Idaho	1		Appointed by Governor, confirmed by Senate; Chair appnted. by Gov.; staggered 5-yr. terms.
Illinois	1		Three Gov.appnted=chair/pub.member,vested empl.,annuitant;2 elected=vested empl.,annuitant; 2 ex-officio=St.Comp. and Dir., Bur. of the Budget.
Illinois		1	Supt.of Educ.; 4 non-members Gov.appnted.;4 active members elected; 1 retired annuitant elected.
Indiana	1		Five members, 4-yr. rotating term, bipartisan, appointed by Governor.
Indiana		1	Five members, 4-yr. rotating term, bipartisan, appointed by Governor.
Iowa	1		
Kansas	1		Appointed by Governor, confirmed by Senate; 4-yr. overlapping terms.
Kentucky	1		Elected=2 by St.ret.sys.members,2 by local ret.sys.members,1 by members of St.Pol.Ret.Sys (4 yrs.ea); 3 appointed by Gov. (4-yr.terms); State Personnel Commissioner, ex-officio.
Kentucky		1	Memberhship elected=4 teachers, 1 ret. teacher, 2 lay persons; 2 ex-officio=St.Treas. & Supt.of Pub.Instr.
Louisiana	1		Nine elected by active members; 2 elected by retired members; 2-yr. terms.
Louisiana		1	
Maine	1		Two pub.members appntd by Gov.; 1 elected by St.Empl.Assoc.;1 elected by Teachers Assoc.;1 appntd by Munic.Assoc.; 1 selected by Gov.from 3 nominated by Maine Ret.Teachers; 1 selected by Gov.from nominees of retired st.empl., retired local dist.empl., or reps of the two groups; St.Treasurer-ex-officio,non-voting member.
Maryland	1		Six St. officials are ex-officio; 2 empl.elected by membership; 2 teachers.elected by membership; 2 St.Police appntd.by Brd. of Pub. Works; 1 local govt.appntd.by Gov.; 2 genl.pub.appntd.by Gov.
Massachusetts	1		
Massachusetts		1	Comm.of Educ.or designee; ret.teacher appntd.by Gov.; 2 active or ret.teachers elected by sys.mmbrs; 1 elected by other brd.mmbrs.
Michigan	1		Attny.Genl., Dpty.Auditor Genl., St. Treas., Ins. Comm., St. Personnel Dir., 2 employee and 2 retiree members.
Minnesota	1		Three appntd.by Gov.; 8 elected by employees depending on plan by which covered; 4-yr.terms.
Minnesota		1	
Mississippi	1		Two appntd. by Gov.; 2 ex-officio (St.Treas. & Supt.of Ed.); 1 elected by retirees; 5 elected by membership.
Missouri	1		Comm.,Off.of Admin., ex-officio; St.Treas., ex-officio; 2 appntd. St.Senators; 2 appntd.St. Reps.; 2 appntd. members of MOSERS; 3 elected members of MOSERS.
Missouri		1	Two elected from active membership; 2 appntd. by St. Board of Educ.; Comm.of Educ.ex-officio.
Montana	1		Three public employ.; 1 retiree; 2 at-large appntd. by Gov.; 5-yr. staggered terms.
Montana		1	Five appntd. by Gov.—2 member teachers, 2 rep. of public, 1 retired member; Supt. of Pub. Instr. is ex-officio.
Nevada	1		Seven board members, 4-yr. terms, appointed by Governor.
New Hampshire	1		1 St. Senator; 1 St. Rep.; 2 non-system members; 8 system members=2 ea. employee, teacher, police officer & firefighter. 1 ex-officio bank commissioner.
New Jersey	1		6 employee reps., 2 appointed by Governor, St. Treasurer.
New Jersey		1	6 employee reps., 2 appointed by Governor, St. Treasurer.
New Mexico		1	St.Supt.of Educ.; S. Treas.; 1 ea. elected by teacher organ.,univ. profs' organ.,retirees' organ.; 1 appntd. by Gov.
New York	1	1	
No. Carolina	1	1	St.Treas.=ex officio Chair; Supt. of Pub. Instr.=ex-officio; members appntd. by Gov., Lt.Gov., Speaker of the House.
No. Dakota	1		Chair,appntd. by Gov.;1 appntd.by Attny.Genl.;3 elected active members; 3 ex-officio=St.Auditor,St.Health Officer, Comm.of Banking & Fin.Inst.
No. Dakota		1	St. Supt., St. Treas., 3 appntd. by Governor.
Ohio	1		
Ohio		1	5 teachers-teacher elected; 1 retired teacher-retired teacher elected; Attny. Genl.; St.Auditor; St.Supt.of Pub.Instr.
Oklahoma	1		5 statutory; 1 court systems; 3 Governor; 2 Pres.Pro Tem Senate; 2 Speaker of House.
Oklahoma		1	3 ex-officio; 6 appntd. by Governor; 2 appntd. by Pres.Pro Tem of Senate; 2 appntd.by Speaker of House.
Oregon	1		4 labor, 4 management, 1 taxpayers (1 must be retired PERS); appntd.by Gov, conf. by Senate.
Pennsylvania	1		6 appntd. by Gov., confirmed by Senate; 2 appntd. by Pres. Pro Tem of Senate; 2 appntd. by Speaker of House; St. Treas. is ex-officio member..
Rhode Island	1		7 ex-officio, 6 elected by membership, 2 appntd. by Governor.
So. Carolina	1		5 - all elected officials (Governor, Comptroller Genl., Treasurer, Chair-Sen. Finance Comm., Chair, House Ways & Means Comm.
So. Dakota	1		14 elected by their "respective groups", 2 appntd. by Governor, 1 ex-officio non-voting member appointed by Investment Council.
So.Dakota/Opt.	1		
Tennessee	1		3 vested teachers, elected by teachers; 2 vested st. employ. elected by st. employ.; 3 reps appntd. by Co. organizations; ex-officio = Treas., TCRS Dir., Comm. of Finance & Admin., Comptroller, Exec.Secy. Supreme Crt., Comm. of Personnel, Secy. of St.
Texas		1	Gov. appnts. 7 - 3 can be neither members nor annuitants, 2 pub. school employ., 1 retiree, 1 employ.of inst. of higher educ; 2 members appntd.by Brd.of Ed.
Utah	1		4 members from genl. pub. w/invest.or banking exp.; 1 school empl.; 1 pub. employ.; appnt. by Gov. St.Treas.as ex-officio member.
Vermont	1		6 members, 4-yr. terms except ex-officio Treas, Governor's rep, and Director of Personnel.
Vermont		1	2 active teachers elected by membership; 1 retired teacher; ex-officio St. Treas., Comm. of Educ., Comm. of Banking & Ins.
VA. Supplemnt	1		1 st.govt.exec.branch official; 1 teacher; 1 state employ., 1 employ. of a political subdivision; 3 who are not employees of any govt.
Washington	1		The Retirement System has no Board. The Director is appointed by, and reports to, the Governor.
West Virginia		1	
Wisconsin	1		2 appntd. by Governor; 1 designated by statute; 4 each elected by Wisc. Ret. Board & Teachers Ret. Board.
Wyoming	1		

APPENDIX 8

LIST OF INTERVIEWED EMPLOYEE AND EMPLOYER ADVOCACY GROUPS AND OTHER STATE OFFICIALS

LEGISLATIVE COUNCIL STUDY COMMITTEE:

Speaker Jane Dee Hull, Co-chairman
Senator Doug Todd, Co-chairman
Representative Susan Gerard
Representative Nancy Wessel
Senator William Hardt
Public Member: William J. Adler
Public Member: Darrell Guy
Public Member: Richard L. Smith, Ph.D.
Public Member: Lowell Sutton

RETIREMENT BOARD MEMBERS:

Robert A. Williams, Jr., Chairman
Susan R. Burns
Paul Felix
Gerald W. Jones
Douglas G. Martin
Richard Morgan

ARIZONA STATE RETIREMENT SYSTEM:

Edwin C. Gallison, Director

INVESTMENT ADVISORY COUNCIL MEMBERS:

Rollin Pelton, Chairman
Richard B. Zoller, Vice Chairman
Robert A. Williams, Jr.

EMPLOYEE AND EMPLOYER ADVOCACY GROUPS REPRESENTATIVES:

Arizona Education Association:
AFL-CIO

Darrell Guy, President

Tom Shaffer

Mary Kay Havelin

Public Employees, AFSCME Council 97

Jim Schmitz, Director

David Horowitz, Legislative Liason

Dorothy Krause

Arizona Retired Teachers Association:

Robert Morehouse

Naomi Morehouse

Coalition of Active and Retired Employees:

Howard Greenseth

Dorothy Krause

Robert Letson

Donald Shea

University of Arizona Retirees Association:

Raymond Klein

Edgar Louttit

League of Arizona Cities and Towns:

Jack DeBolske, Executive Director

Jeff Martin, Staff Assistant

OTHER STATE OFFICIALS:

Theodore Ferris, Director of the Legislative Budget Office

Peter Burns, Director of the Executive Budget Office

Harold Scott, Governor's Office

Mike McCormick, Governor's Liason to the Arizona State Retirement System

OTHER CONCERNED PERSONS:

Ed Cornell

Shirley B. Goettsch, Ed.D.

APPENDIX 9

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND CONCEPT

DEFINITION: It is the policy of the Arizona State Legislature that the Arizona State Retirement System's *Post-Retirement Benefit Enhancement Dedicated Trust Fund* is a **trust fund**. The monies and other assets of the Arizona State Retirement System's *Post-Retirement Benefit Enhancement Dedicated Trust Fund* shall not be used or appropriated for any purpose which is incompatible with its intent.

The *Post-Retirement Benefit Enhancement Dedicated Trust Fund* is a temporary trust fund which shall terminate in the event that all assets of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* are depleted.

The single intent of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* is to serve as the single statutory mechanism for providing post-retirement benefit enhancements for the retirees of the Arizona State Retirement System.

OBJECTIVES: The first objective of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* is to provide a self-perpetuating and self-funding mechanism to provide reasonable post-retirement benefit enhancements to the retirees of the Arizona State Retirement System which can be provided within the capabilities of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund.*

The second objective of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* is to provide post-retirement benefit enhancements which protect, to the maximum affordable level, the purchasing power of retirees' benefits from the effects of "inflation" (e.g., wage, price, or some hybrid "inflation" index).

The third objective of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* is to provide post-retirement benefit enhancements without the requirement to continually increase contribution rates and place the burden of payment of current unfunded benefit enhancements upon future employees, employers and taxpayers of the State of Arizona.

FUNDING: The *Post-Retirement Benefit Enhancement Dedicated Trust Fund* shall be established by transferring $400 million from the assets of the **Public Employees' Retirement Trust Fund** into the *Post-Retirement Benefit Enhancement Dedicated Trust Fund.*

Any actuarily determined overfunding in excess of the *Actuarial Value Funding Ratio's* 1.05 funding level shall be annually transferred from the **Public Employees' Retirement Trust Fund's** assets into the *Post-Retirement Benefit Enhancement Dedicated Trust Fund.* The *Actuarial Value Funding Ratio* is defined as: the ratio of the actuarial value of assets to the actuarial accrued libility under the actuarial valuation method.

The Legislature may appropriate supplemental monies to be transferred into the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* as deemed necessary to meet special funding requirements associated with their granting of post-retirement benefit enhancements.

INCOME DISTRIBUTION: A maximum of 70% of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund's* gross income from any one year may be used to fund one-time and/or on-going post-retirement benefit enhancements. Figure 6 presents a graphical depiction of this income distribution concept.

If feasible, part of the initial funding capacity of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* shall be used to bring the old 1.2% and 1.5% formula retirees' benefits up to a benefit based upon the present 2.0% formula...if such calculation would result in a benefit which exceeds the present benefit.

Payment of any post-retirement benefit enhancement may be reduced, or terminated, in the event of funding availability constraints encountered in the management of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund.*

MANAGEMENT: The distribution of the income of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* shall be administered by the Retirement Board of the Arizona State Retirement System. The Retirement Board shall prepare, and maintain, a written definition of the process to be used for determining how much of each year's income is to be distributed, and how and to which groups of retirees said income is to be distributed.

The Retirement Board, in their duty to distribute the income of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund*, shall be bound by such statutes which govern the *Post-Retirement Benefit Enhancement Dedicated Trust Fund.*

Income from the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* shall be distributed in either the form of periodic (e.g., quarterly) lump-sum payments, or in the form of an on-going addition to the monthly retirement benefit.

The assets and investments of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* shall be managed by the

Investment Advisory Council, under the investment statutes which govern the investments of the Arizona State Retirement System.

The majority of the assets of the *Post-Retirement Benefit Enhancement Dedicated Trust Fund* shall be invested with the primary objective of meeting the annual income distribution requirements.

APPENDIX 10

ACTUARIALLY ORIENTED ANALYSIS OF THE CURRENT ARIZONA STATE RETIREMENT SYSTEM RETIREES' BENEFITS

CONTENTS:

RETIREES' BENEFITS BY:
YEARS OF SERVICE

TABLE 1

TOTAL RETIREES COUNTED = 29,055

YEARS OF SERVICE	% OF TOTAL	* * * * *AVERAGE MONTHLY BENEFIT AMOUNT* * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT'S DOLLAR INCREASE
1	0.048	$104	$107	$114	$29	$32	259	$75
2	0.189	121	127	132	47	52	157	74
3	0.434	138	147	155	56	64	146	82
4	0.547	140	147	154	57	63	146	83
5	2.822	147	160	167	80	91	84	67
6	3.958	162	175	182	91	103	78	71
7	3.913	182	197	205	108	121	69	74
8	3.827	200	218	225	124	140	61	76
9	3.924	224	245	252	141	160	59	83
10	4.825	261	282	287	185	205	41	76
11	4.750	287	310	316	204	225	41	83
12	4.419	304	328	334	222	245	37	82
13	4.426	335	360	365	249	273	35	86
14	4.381	373	403	409	287	315	30	86
15	4.522	405	438	444	311	343	30	94
16	4.192	441	476	482	344	377	28	97
17	3.934	481	521	527	380	419	27	101
18	3.862	517	555	562	412	449	25	105
19	3.617	559	607	615	453	499	23	106
20	4.113	586	641	650	480	532	22	106
21	3.548	624	681	689	514	569	21	110
22	3.094	663	726	735	550	610	21	113
23	2.867	710	766	774	593	648	20	117
24	2.382	759	830	839	643	710	18	116
25	2.698	829	915	923	710	794	17	119
26	2.433	891	986	995	772	863	15	119
27	2.103	980	1115	1126	865	996	13	115
28	2.027	1027	1156	1164	908	1032	13	119
29	1.845	1138	1320	1328	1029	1204	11	109
30	1.714	1158	1364	1372	1039	1237	11	119
31	1.356	1247	1488	1497	1125	1359	11	122
32	1.232	1226	1455	1466	1101	1323	11	125
33	1.088	1274	1472	1482	1142	1334	12	132
34	0.878	1219	1376	1385	1079	1231	13	140
35	0.723	1362	1560	1568	1222	1413	11	140
36	0.558	1234	1391	1399	1084	1233	14	150
37	0.472	1168	1269	1280	996	1097	17	172
38	0.423	1125	1222	1236	919	1010	22	206
39	0.330	994	1064	1077	755	821	32	239
40	0.344	1024	1095	1110	785	855	30	239
41	0.258	845	880	899	567	606	49	278
42	0.244	827	858	870	523	553	58	304
43	0.227	844	878	893	546	576	55	298
44	0.169	787	809	827	453	475	74	334
45	0.107	717	746	767	362	388	98	355
46	0.072	779	795	801	419	431	86	360
47	0.055	775	810	828	399	428	94	376
48	0.024	731	759	767	363	381	101	368
49	0.007	575	577	645	238	266	142	337
50	0.014	739	768	779	457	478	62	282
51	0.003	771	834	852	310	343	149	461
AVERAGE	100	$534	$591	$598	$433	$487	23	$101

RETIREES' BENEFITS BY:
AGE AT RETIREMENT

TABLE 2
TOTAL RETIREES COUNTED = 29,065

AGE AT RET.	% OF TOTAL	* * * * *AVERAGE MONTHLY BENEFIT AMOUNT* * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT'S DOLLAR INCREASE
0	0.028	$364	$364	$364	$221	$221	65	$143
1	0.003	178	178	178	48	48	271	130
5	0.003	314	314	314	202	202	55	112
6	0.003	206	223	206	49	49	320	157
12	0.003	157	170	157	40	40	293	117
20	0.003	409	409	409	288	288	42	121
21	0.003	920	920	920	277	277	232	643
23	0.003	755	755	755	392	392	93	363
27	0.003	310	338	310	93	93	233	217
28	0.003	234	234	234	127	127	84	107
34	0.003	239	259	239	50	50	378	189
35	0.003	158	159	158	50	50	216	108
42	0.007	797	797	797	776	776	3	21
43	0.014	431	661	982	389	555	11	42
44	0.007	243	243	243	129	129	88	114
45	0.014	250	250	250	149	149	68	101
46	0.010	268	602	1178	112	358	139	156
47	0.021	305	381	416	201	225	52	104
48	0.014	364	712	873	212	518	72	152
49	0.021	363	617	749	194	355	87	169
50	0.324	362	650	691	312	592	16	50
51	0.389	339	592	635	284	528	19	55
52	0.420	379	605	640	319	537	19	60
53	0.664	463	678	708	394	600	18	69
54	0.843	557	801	827	491	727	13	66
55	1.666	657	904	920	597	837	10	60
56	2.161	703	910	925	637	838	10	66
57	2.537	776	963	974	711	891	9	65
58	2.867	764	905	914	695	832	10	69
59	3.383	819	933	940	746	857	10	73
60	6.588	685	755	761	602	669	14	83
61	5.600	700	759	764	615	672	14	85
62	19.814	506	537	543	409	439	24	97
63	10.828	491	523	528	390	419	26	101
64	6.870	490	520	525	384	412	28	106
65	17.085	437	462	468	315	338	39	122
66	8.284	458	482	489	318	340	44	140
67	3.311	459	490	496	347	376	32	112
68	1.893	436	468	474	331	361	32	105
69	1.421	442	473	480	325	353	36	117
70	1.731	470	509	518	344	381	37	126
71	0.533	422	455	462	303	332	39	119
72	0.186	327	346	350	237	253	38	90
73	0.100	313	331	340	221	236	42	92
74	0.107	224	236	250	134	146	67	90
75	0.093	275	300	311	174	196	58	101
76	0.028	286	269	303	130	141	120	156
77	0.014	269	303	306	189	221	42	80
78	0.017	345	405	415	276	334	25	69
79	0.017	194	196	203	146	149	33	48
80	0.010	314	320	366	188	225	67	126
81	0.014	240	298	306	158	199	52	82
82	0.010	333	434	442	259	358	29	74
84	0.003	217	266	266	213	261	2	4
86	0.003	663	723	738	459	511	44	204
91	0.007	663	663	663	536	536	24	127
95	0.003	678	819	831	599	734	13	79
98	0.003	1010	1206	1218	914	1102	11	96
AVERAGE	100	$534	$591	$598	$433	$487	23	$101

RETIREES' BENEFITS BY:
PRESENT AGE AT 7/1/90

TABLE 3
TOTAL RETIREES COUNTED = 29,055

PRESENT AGE	% OF TOTAL	* * * * *AVERAGE MONTHLY BENEFIT AMOUNT* * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL [1]	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT'S DOLLAR INCREASE
0	0.003	$604	$604	$604	$174	$174	247	$430
1	0.010	589	601	597	327	329	80	262
2	0.003	678	819	831	599	734	13	79
3	0.007	223	249	236	56	59	298	167
5	0.007	908	1005	1011	573	667	58	335
7	0.007	566	566	566	316	316	79	250
9	0.003	115	115	115	18	18	539	97
11	0.003	492	492	492	330	330	49	162
12	0.007	226	226	226	106	106	113	120
13	0.007	373	373	373	231	231	61	142
16	0.003	314	314	314	202	202	55	112
17	0.003	547	547	547	265	265	106	282
18	0.003	178	178	178	48	48	271	130
29	0.007	283	289	283	164	164	73	119
39	0.003	234	234	234	127	127	84	107
40	0.003	755	755	755	392	392	93	363
44	0.003	1499	1499	1499	1470	1470	2	29
46	0.007	663	663	663	650	650	2	13
47	0.003	96	96	96	82	82	17	14
48	0.010	207	207	207	198	198	5	9
49	0.003	158	159	158	50	50	216	108
51	0.007	308	308	308	296	296	4	12
52	0.062	307	443	443	294	427	4	13
53	0.100	305	574	574	295	559	3	10
54	0.165	396	698	699	386	681	3	10
55	0.217	562	919	920	545	894	3	17
56	0.303	570	862	864	555	840	3	15
57	0.516	796	1177	1189	767	1139	4	29
58	0.740	782	1101	1115	751	1063	4	31
59	1.077	892	1188	1201	860	1149	4	32
60	1.394	788	1000	1010	753	960	5	35
61	1.635	833	1023	1034	794	980	5	39
62	2.375	821	981	993	775	930	6	46
63	2.626	798	928	938	751	877	6	47
64	3.617	771	872	880	726	825	6	45
65	4.085	698	782	789	653	734	7	45
66	4.994	665	736	742	614	683	8	51
67	5.500	625	682	687	571	626	9	54
68	5.675	619	670	674	558	606	11	61
69	5.961	592	635	640	522	564	13	70
70	5.706	563	604	609	480	519	17	83
71	4.908	537	571	577	442	475	21	95
72	4.894	509	542	549	404	436	26	105
73	4.598	473	502	509	361	387	31	112
74	4.560	464	490	497	342	366	36	122
75	4.220	421	445	453	296	318	42	125
76	4.037	412	435	444	279	300	48	133
77	3.535	393	414	422	251	270	57	142
78	3.249	360	377	385	213	227	69	147
79	2.698	363	380	388	208	222	75	155
80	2.667	348	363	372	188	200	85	160
81	2.258	347	361	370	179	191	94	168
82	2.148	324	337	346	148	158	119	176
83	1.876	338	353	363	155	166	118	183
84	1.446	344	357	367	147	156	134	197
85	1.332	308	319	328	122	131	152	186
86	1.039	312	323	333	121	130	158	191
87	0.929	301	310	317	109	115	176	192
88	0.664	301	314	319	106	113	184	195
89	0.465	294	306	314	101	108	191	193
90	0.379	303	315	325	95	102	219	208
91	0.282	294	300	311	90	96	227	204
92	0.275	332	342	358	105	112	216	227
93	0.182	359	376	391	114	124	215	245
94	0.179	368	377	392	117	123	215	251
95	0.100	372	389	400	112	120	232	260
96	0.066	445	460	463	141	146	216	304
97	0.052	335	368	380	98	110	242	237
98	0.034	430	438	473	137	147	214	293
99	0.031	432	452	474	156	169	177	276
100	0.010	238	270	292	56	70	325	182
AVERAGE	100	$534	$591	$598	$438	$487	23	$101

RETIREES' BENEFITS BY:
FINAL AVERAGE SALARY LEVEL
(Page 1 of 2)

TABLE 4 – IN $1,000 INCREMENTS

TOTAL RETIREES COUNTED = 25,993 (Excludes the System retirees)

FINAL AVERAGE SALARY	% OF TOTAL	* * * * *AVERAGE MONTHLY BENEFIT AMOUNT* * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT' DOLLAR INCREASE
0-999	0.027	$89	$92	$96	$8	$8	1013	$81
1-1,999	0.277	124	130	133	32	34	288	92
2-2,999	1.058	142	150	152	45	48	216	97
3-3,999	1.785	165	173	176	62	66	166	103
4-4,999	2.705	183	191	197	76	81	141	107
5-5,999	3.578	212	222	230	98	106	116	114
6-6,999	4.513	243	253	261	121	129	101	122
7-7,999	5.04	271	285	294	144	156	88	127
8-8,999	4.967	292	307	316	167	180	75	125
9-9,999	4.894	324	341	350	195	211	66	129
10-10,999	5.013	339	360	369	220	239	54	119
11-11,999	4.794	362	382	390	249	268	45	113
12-12,999	4.663	382	407	415	276	299	38	106
13-13,999	4.52	409	436	443	308	333	33	101
14-14,999	4.213	439	470	478	343	372	28	96
15-15,999	4.055	468	503	511	373	406	25	95
16-16,999	3.855	506	544	552	412	448	23	94
17-17,999	3.355	541	586	593	453	495	19	88
18-18,999	3.262	561	611	619	477	525	18	84
19-19,999	2.928	597	649	657	513	563	16	84
20-20,999	2.531	624	684	691	545	604	14	79
21-21,999	2.093	660	724	732	580	642	14	80
22-22,999	2.097	696	763	770	622	687	12	74
23-23,999	1.82	707	782	789	637	710	11	70
24-24,999	1.836	754	831	837	683	758	10	71
25-25,999	1.731	798	883	888	731	813	9	67
26-26,999	1.724	825	913	917	764	850	8	61
27-27,999	1.512	899	1003	1006	838	938	7	61
28-28,999	1.508	927	1033	1038	867	970	7	60
29-29,999	1.393	998	1128	1135	932	1059	7	66
30-30,999	1.216	1068	1199	1203	1006	1132	6	62
31-31,999	1.135	1108	1242	1248	1044	1174	6	64
32-32,999	1.008	1137	1280	1285	1072	1211	6	65
33-33,999	0.919	1225	1380	1384	1167	1317	5	58
34-34,999	0.831	1277	1451	1461	1212	1379	5	65
35-35,999	0.692	1215	1401	1406	1158	1339	5	57
36-36,999	0.635	1363	1550	1554	1297	1479	5	66
37-37,999	0.569	1355	1563	1568	1291	1493	5	64
38-38,999	0.542	1403	1648	1653	1334	1572	5	69
39-39,999	0.423	1422	1633	1636	1360	1565	5	62
40-40,999	0.408	1429	1636	1639	1365	1567	5	64
41-41,999	0.396	1555	1840	1845	1485	1762	5	70
42-42,999	0.323	1483	1800	1807	1415	1723	5	68
43-43,999	0.262	1618	1915	1918	1557	1846	4	61
44-44,999	0.285	1608	1948	1960	1545	1875	4	63
45-45,999	0.242	1600	1966	1972	1533	1889	4	67
46-46,999	0.265	1702	2014	2018	1624	1926	5	78
47-47,999	0.215	1611	1969	1974	1543	1890	4	68
48-48,999	0.181	1690	2072	2076	1624	1996	4	66
49-49,999	0.177	1793	2174	2181	1715	2083	5	78

RETIREES' BENEFITS BY:
FINAL AVERAGE SALARY LEVEL
(Page 2 of 2)

TABLE 4 – IN $1,000 INCREMENTS

TOTAL RETIREES COUNTED = 25,993 (Excludes the System retirees)

FINAL AVERAGE SALARY	% OF TOTAL	* * * * *AVERAGE MONTHLY BENEFIT AMOUNT* * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT' DOLLAR INCREASE
50–50,999	0.181	1840	2217	2226	1758	2122	5	82
51–51,999	0.131	1907	2437	2446	1836	2352	4	71
52–52,999	0.162	1926	2389	2393	1852	2304	4	74
53–53,999	0.092	1961	2482	2488	1874	2381	5	87
54–54,999	0.115	1801	2189	2192	1736	2114	4	65
55–55,999	0.088	2042	2466	2470	1978	2392	3	64
56–56,999	0.062	2007	2541	2545	1955	2479	3	52
57–57,999	0.05	2172	2609	2612	2106	2532	3	66
58–58,999	0.046	1894	2369	2375	1806	2268	5	88
59–59,999	0.062	2043	2484	2492	1930	2360	6	113
60–60,999	0.035	2203	2910	2913	2143	2833	3	60
61–61,999	0.058	2181	2707	2713	2102	2615	4	79
62–62,999	0.035	2109	2579	2582	2036	2494	4	73
63–63,999	0.038	2563	2990	2993	2479	2896	3	84
64–64,999	0.035	2514	3362	3366	2441	3270	3	73
65–65,999	0.012	2277	2841	2848	2199	2746	4	78
66–66,999	0.023	2342	2915	2919	2258	2817	4	84
67–67,999	0.035	2361	3056	3061	2286	2963	3	75
68–68,999	0.012	1869	2550	2579	1728	2382	8	141
69–69,999	0.012	2179	3352	3352	2124	3265	3	55
70–70,999	0.015	1626	2198	2198	1594	2155	2	32
71–71,999	0.027	2205	2675	2685	2117	2573	4	88
72–72,999	0.015	2404	3496	3500	2332	3399	3	72
73–73,999	0.023	2108	2934	2934	2067	2876	2	41
74–74,999	0.019	2489	3504	3513	2421	3411	3	68
75–75,999	0.004	2475	4169	4169	2427	4088	2	48
76–76,999	0.019	2588	3033	3037	2487	2919	4	101
77–77,999	0.004	3017	3691	3705	2840	3488	6	177
78–78,999	0.008	1089	1291	1301	1000	1194	9	89
79–79,999	0.004	3788	4211	4219	3579	3986	6	209
80–80,999	0.012	2380	3724	3728	2284	3585	4	96
81–81,999	0.015	2819	4243	4245	2730	4124	3	89
82–82,999	0.012	2399	3378	3378	2352	3312	2	47
83–83,999	0.000	0	0	0	0	0	0	0
84–84,999	0.000	0	0	0	0	0	0	0
85–85,999	0.004	2624	2922	2922	2572	2864	2	52
86–86,999	0.000	0	0	0	0	0	0	0
87–87,999	0.004	2710	3812	3812	2657	3541	2	53
88–88,999	0.004	4320	4977	4977	4235	4879	2	85
89–89,999	0.008	2819	3554	3554	2713	3434	4	106
90–90,999	0.004	3509	4300	4300	3440	4216	2	69
91–91,999	0.000	0	0	0	0	0	0	0
92–92,999	0.004	2623	3280	3280	2572	3216	2	51
93–93,000	0.000	0	0	0	0	0	0	0
94–94,999	0.004	3496	4826	4826	3427	4732	2	69
95–95,999	0.000	0	0	0	0	0	0	0
96–96,999	0.004	4599	6089	6089	4420	5852	0	179
97–97,999	0.004	3775	5056	5056	3701	4957	0	74
98–98,999	0.000	0	0	0	0	0	0	0
99–99,999	0.000	0	0	0	0	0	0	0
100–100,9	0.035	2195	2985	2994	2090	2862	5	105
AVERAGE	100	$567	$629	$637	$471	$531	4	$62

RETIREES' BENEFITS BY:
RETIREMENT FORMULA PERCENTAGE MULTIPLIER

TABLE 5
TOTAL RETIREES COUNTED = 29,065

CLASS OF PERCENTAGE MULTIPLIER	% MULT. PAST SERVICE (Before 7/1/67)	% MULT. FUTURE SERVICE (After 7/1/67)	% OF TOTAL	* * * * *AVERAGE MONTHLY BENEFIT AMOUNT* * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT' DOLLAR INCREASE	ESTIMATED TOTAL INITIAL MONTHLY COST TO BRING BENEFITS UP TO THE 2%	AVERAGE ADJUSTED MONTHLY BENEFIT WITH THE 2% (with all prior COLA's)
After 10/1/71 Before 7/1/75	1.25	1.50	6.897	$347	$363	$372	$158	$169	120	$189	$214,903	$469
After 7/1/75 Before 7/1/78	1.25	2.00	11.668	369	389	399	216	233	71	153	198,830	428
After 7/1/78 Before 7/1/85	1.50	2.00	45.338	566	621	631	460	513	23	106	534,270	606
After 7/1/85	2.00	2.00	24.557	733	842	842	714	821	3	19	0	733
SYSTEM: FIELD=PLAN >	N/A	N/A	6.233	205	205	221	85	92	141	120	0	205
SYSTEM: PTYPE NOT 3,4	N/A	N/A	0.489	383	439	453	373	426	3	10	0	383
SYSTEM: DOR < 10/1/71	N/A	N/A	4.818	330	348	349	116	122	184	214	0	330
AVERAGE			100	$534	$591	$598	$433	$487	23	$101		$567

RETIREES' BENEFITS BY: RETIREMENT PLAN OPTION

TABLE 6

TOTAL RETIREES COUNTED = 29,065

PLAN OPTION	% OF TOTAL	* * * * "AVERAGE MONTHLY BENEFIT AMOUNT" * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT'S DOLLAR INCREASE
PLAN: 61	22.833	$555	$556	$555	$472	$472	18	$83
PLAN: 62	11.898	538	574	578	440	474	22	98
PLAN: 63	29.475	508	560	569	393	442	29	115
PLAN: 64	12.490	522	653	670	438	563	19	84
PLAN: 65	3.848	809	974	986	709	867	14	100
PLAN: 66	4.760	818	955	965	723	854	13	95
PLAN: 67	3.951	729	899	901	710	875	3	19
PLAN: 82	0.103	455	455	455	386	386	18	69
PLAN: 83	0.182	362	363	362	265	265	37	97
PLAN: 84	0.079	482	482	482	472	472	2	10
PLAN: 85	0.045	502	504	502	329	329	53	173
PLAN: 86	0.055	420	420	420	256	256	64	164
PLAN: 87	0.024	294	294	294	270	270	9	24
PLAN: 92	0.021	419	455	455	405	440	3	14
PLAN: 93	0.344	402	437	446	304	337	32	98
PLAN: 94	0.626	345	402	426	209	259	65	136
PLAN: 95	0.134	387	441	457	234	280	65	153
PLAN: 96	0.148	309	338	349	177	201	75	132
PLAN: 97	0.055	250	315	315	242	304	3	8
SYSTEM: 10	2.936	219	217	219	72	72	204	147
SYSTEM: 20	1.883	298	302	310	102	105	192	196
SYSTEM: 30	2.829	265	272	286	88	95	201	177
SYSTEM: 40	0.592	246	260	285	89	104	176	157
SYSTEM: 42	0.289	198	217	226	52	60	281	146
SYSTEM: 43	0.210	195	254	337	52	89	275	143
SYSTEM: 51	0.003	179	180	179	73	73	145	106
SYSTEM: 52	0.014	247	255	247	108	108	129	139
SYSTEM: 53	0.048	274	277	274	97	97	182	177
SYSTEM: 59	0.007	758	758	758	227	227	234	531
SYSTEM: 70	0.014	176	177	176	50	50	252	126
SYSTEM: 71	0.103	228	225	228	90	90	153	138
AVERAGE	100	$534	$591	$598	$433	$487	23	$101

RETIREES' BENEFITS BY:
YEARS OF SERVICE AND SALARY UNDER $12,000
(Page 1 of 2)

TABLE 7 – UNDER $12,000 FAS

TOTAL RETIREES COUNTED = 10,046 (Excludes System retirees)

YEARS OF SERVICE	% OF TOTAL	* * * * *AVERAGE MONTHLY BENEFIT AMOUNT* * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT'S DOLLAR INCREASE
2	0.328	$95	$98	$103	$25	$27	280	$70
3	0.786	111	114	121	32	35	247	79
4	1.095	131	136	144	41	45	220	90
5	4.599	134	140	149	56	61	139	78
6	6.042	146	154	163	65	72	125	81
7	5.823	163	172	181	76	84	114	87
8	5.365	174	183	192	85	94	105	89
9	5.335	195	206	216	98	108	99	97
10	5.654	207	218	225	114	124	82	93
11	5.843	221	233	240	119	129	86	102
12	5.525	234	246	253	134	145	75	100
13	5.326	246	257	263	143	153	72	103
14	5.017	266	280	286	162	175	64	104
15	4.937	282	296	302	166	178	70	116
16	4.360	301	317	324	178	192	69	123
17	3.852	317	333	341	193	207	64	124
18	3.474	329	345	351	197	210	67	132
19	3.016	348	364	371	210	224	66	138
20	3.444	352	373	383	213	231	65	139
21	2.857	361	384	394	218	237	66	143
22	2.319	375	397	406	226	245	66	149
23	2.061	409	429	437	252	269	62	157
24	1.563	407	428	436	250	268	63	157
25	1.523	416	437	445	241	257	73	175
26	1.404	449	471	480	274	292	64	175
27	0.946	439	462	471	273	293	61	166
28	0.856	465	490	500	283	304	64	182
29	0.766	465	493	502	288	310	61	177
30	0.776	467	501	513	285	310	64	182
31	0.528	497	522	531	308	328	61	189
32	0.468	510	544	554	321	349	59	189
33	0.478	533	564	574	336	362	59	197
34	0.488	527	558	567	319	344	65	208
35	0.388	555	590	599	331	359	68	224
36	0.378	502	552	564	300	337	67	202
37	0.259	658	674	680	416	430	58	242
38	0.239	624	657	666	349	373	79	275
39	0.328	650	681	694	374	399	74	276
40	0.279	654	676	686	364	382	80	290
41	0.239	662	691	703	360	383	84	302
42	0.259	668	688	696	378	393	77	290
43	0.289	700	728	742	389	412	80	311
44	0.189	694	714	730	370	386	88	324
45	0.109	685	712	720	355	374	93	330
46	0.070	700	722	733	396	416	77	304
47	0.090	706	739	764	370	404	91	336
48	0.010	680	738	755	340	378	100	340
49	0.010	781	849	867	376	417	108	405
50	0.010	473	525	549	319	371	48	154
AVERAGE	100	$276	$290	$298	$157	$170	78	$119

RETIREES' BENEFITS BY:
YEARS OF SERVICE AND SALARY OVER $12,000
(Page 2 of 2)

TABLE 7 – OVER $12,000 FAS

TOTAL RETIREES COUNTED = 15,947 (Excludes System retirees)

YEARS OF SERVICE	% OF TOTAL	* * * * *AVERAGE MONTHLY BENEFIT AMOUNT* * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT'S DOLLAR INCREASE
1	0.075	110	113	121	30	33	267	$80
2	0.113	169	182	188	95	106	78	74
3	0.219	203	228	239	123	146	65	80
4	0.238	170	183	188	113	125	50	57
5	1.380	178	204	210	138	163	29	40
6	2.019	204	230	236	162	187	26	42
7	2.195	227	254	261	185	211	23	42
8	2.245	260	294	301	213	246	22	47
9	2.383	288	326	334	235	271	23	53
10	3.938	336	369	374	284	316	18	52
11	3.844	374	410	416	316	352	18	58
12	3.562	401	441	446	345	383	16	56
13	3.813	440	482	487	377	417	17	63
14	4.026	487	533	539	423	467	15	64
15	4.390	519	570	577	450	499	15	69
16	4.126	571	623	628	500	550	14	71
17	4.126	608	667	672	530	586	15	78
18	4.270	646	700	705	563	616	15	82
19	4.295	675	741	749	590	652	14	85
20	4.910	712	786	793	624	695	14	88
21	4.314	757	833	840	669	741	13	88
22	3.831	804	887	896	710	791	13	94
23	3.668	844	918	924	748	819	13	96
24	3.123	901	991	998	804	890	12	97
25	3.668	976	1087	1094	880	967	11	96
26	3.367	1035	1154	1162	938	1052	10	97
27	3.048	1124	1291	1301	1026	1187	10	98
28	3.023	1155	1307	1315	1053	1200	10	102
29	2.790	1278	1492	1500	1185	1392	8	93
30	2.502	1331	1581	1588	1232	1474	8	99
31	1.956	1449	1749	1757	1354	1646	7	95
32	1.806	1408	1685	1693	1306	1575	8	102
33	1.543	1493	1741	1749	1387	1629	8	106
34	1.198	1458	1660	1667	1347	1543	8	111
35	1.003	1600	1851	1858	1490	1733	7	110
36	0.696	1577	1786	1793	1462	1666	8	115
37	0.589	1426	1573	1580	1301	1444	10	125
38	0.502	1417	1549	1558	1259	1386	13	158
39	0.301	1371	1487	1495	1193	1303	15	178
40	0.332	1403	1527	1537	1223	1341	15	180
41	0.182	1197	1282	1294	1009	1087	19	188
42	0.132	1278	1361	1369	1039	1114	23	239
43	0.119	1297	1358	1363	1093	1147	19	204
44	0.069	1246	1307	1315	979	1029	27	267
45	0.019	1259	1376	1388	997	1107	26	262
46	0.019	1142	1165	1169	950	970	20	192
47	0.019	987	1026	1034	625	655	58	362
48	0.006	1032	1059	1064	777	801	33	255
50	0.006	1135	1135	1135	950	950	19	185
AVERAGE	100	$751	$843	$850	$669	$758	12	$81

RETIREES' BENEFITS BY:
YEAR OF RETIREMENT

TABLE 8
TOTAL RETIREES COUNTED = 29,055

YEAR	% OF TOTAL	* * * * "AVERAGE MONTHLY BENEFIT AMOUNT" * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S %. INCREASE	ORIGINAL MONTHLY BENEFIT'S DOLLAR INCREASE
1933	0.003	$206	$223	$206	$49	$49	320	$157
1938	0.003	920	920	920	277	277	232	643
1946	0.003	442	614	691	107	168	313	335
1947	0.003	571	571	571	150	150	281	421
1948	0.007	274	298	274	71	71	286	203
1949	0.010	553	946	1105	143	286	287	410
1951	0.003	636	964	1078	172	292	270	464
1952	0.007	758	848	875	215	248	253	543
1953	0.010	377	773	1198	93	289	305	284
1954	0.010	506	552	558	141	155	259	365
1956	0.014	439	452	445	122	124	260	317
1957	0.014	321	335	327	84	85	282	237
1958	0.014	408	418	408	118	118	246	290
1959	0.034	541	563	570	164	172	230	377
1960	0.045	403	421	416	122	125	230	281
1961	0.100	415	420	437	122	127	240	293
1962	0.148	303	319	328	84	90	261	219
1963	0.186	272	272	289	71	74	283	201
1964	0.251	322	336	344	96	102	235	226
1965	0.344	289	298	304	86	90	236	203
1966	0.437	311	317	327	97	102	221	214
1967	0.654	272	282	285	84	88	224	188
1968	0.723	288	296	299	95	98	203	193
1969	0.964	276	281	288	90	94	207	186
1970	1.108	260	266	276	85	91	206	175
1971	1.576	324	332	343	125	132	159	199
1972	2.165	332	343	352	135	143	146	197
1973	2.581	313	329	340	130	140	141	183
1974	2.478	337	352	366	162	175	108	175
1975	3.394	348	363	372	189	202	84	159
1976	4.233	366	385	395	210	226	74	156
1977	4.419	360	380	390	214	231	68	146
1978	4.313	420	444	454	272	293	54	148
1979	4.464	453	480	489	313	337	45	140
1980	4.774	452	482	492	326	355	39	126
1981	6.188	471	508	520	353	389	33	118
1982	7.988	489	535	549	374	418	31	115
1983	16.672	734	820	828	645	728	14	89
1984	3.187	321	362	367	278	317	15	43
1985	5.242	502	569	570	479	543	5	23
1986	6.677	642	741	741	622	718	3	20
1987	7.489	772	889	889	757	872	2	15
1988	7.062	842	965	965	825	946	2	17
AVERAGE	100	$534	$591	$598	$433	$487	23	$101

RETIREES' BENEFITS BY:
PERCENT OF RETIREE PAYROLL ELIGIBLE FOR POST RETIREMENT BENEFIT ENHANCEMENT

(Identifies when they will reach what age and be retired n years)

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TABLE 9

TOTAL RETIREES COUNTED = 29,065

AGE	NUMBER OF YEARS RETIRED: 0	1	2	3	4	5	6	7	8	9+
0	1.0000	0.8855	0.7777	0.6981	0.6494	0.5117	0.4007	0.3272	0.2730	0.2329
1	0.9999	0.8854	0.7777	0.6980	0.6493	0.5116	0.4007	0.3272	0.2730	0.2329
2	0.9999	0.8854	0.7777	0.6980	0.6493	0.5116	0.4007	0.3272	0.2730	0.2329
3	0.9999	0.8854	0.7777	0.6980	0.6493	0.5116	0.4007	0.3272	0.2730	0.2329
4	0.9998	0.8853	0.7775	0.6979	0.6492	0.5115	0.4006	0.3271	0.2729	0.2328
5	0.9998	0.8852	0.7775	0.6978	0.6491	0.5115	0.4006	0.3271	0.2729	0.2328
6	0.9997	0.8852	0.7775	0.6978	0.6491	0.5114	0.4006	0.3271	0.2729	0.2328
7	0.9997	0.8852	0.7775	0.6978	0.6491	0.5114	0.4006	0.3271	0.2729	0.2328
8	0.9997	0.8852	0.7775	0.6978	0.6491	0.5114	0.4006	0.3271	0.2729	0.2328
9	0.9997	0.8852	0.7775	0.6978	0.6491	0.5114	0.4006	0.3271	0.2729	0.2328
10	0.9997	0.8852	0.7774	0.6977	0.6491	0.5114	0.4006	0.3271	0.2729	0.2328
11	0.9997	0.8851	0.7774	0.6977	0.6490	0.5114	0.4005	0.3270	0.2728	0.2327
12	0.9996	0.8851	0.7774	0.6977	0.6490	0.5113	0.4005	0.3270	0.2728	0.2327
13	0.9996	0.8851	0.7774	0.6977	0.6490	0.5113	0.4005	0.3270	0.2728	0.2327
14	0.9996	0.8851	0.7774	0.6977	0.6490	0.5113	0.4005	0.3270	0.2728	0.2327
15	0.9996	0.8851	0.7773	0.6977	0.6490	0.5113	0.4005	0.3270	0.2728	0.2327
16	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
17	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
18	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
19	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
20	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
21	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
22	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
23	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
24	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
25	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
26	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
27	0.9996	0.8850	0.7773	0.6976	0.6489	0.5113	0.4004	0.3269	0.2727	0.2326
28	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
29	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
30	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
31	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
32	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
33	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
34	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
35	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
36	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
37	0.9995	0.8850	0.7773	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
38	0.9995	0.8850	0.7772	0.6976	0.6489	0.5112	0.4004	0.3269	0.2727	0.2326
39	0.9995	0.8849	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
40	0.9995	0.8849	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
41	0.9995	0.8849	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
42	0.9995	0.8849	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
43	0.9994	0.8849	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
44	0.9994	0.8849	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
45	0.9993	0.8848	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
46	0.9993	0.8848	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
47	0.9992	0.8848	0.7772	0.6975	0.6488	0.5112	0.4003	0.3268	0.2727	0.2326
48	0.9992	0.8848	0.7772	0.6975	0.6488	0.5111	0.4003	0.3268	0.2726	0.2325
49	0.9992	0.8848	0.7772	0.6975	0.6488	0.5111	0.4003	0.3268	0.2726	0.2325
50	0.9992	0.8848	0.7771	0.6975	0.6488	0.5111	0.4003	0.3268	0.2726	0.2325
51	0.9988	0.8847	0.7771	0.6974	0.6488	0.5111	0.4003	0.3268	0.2726	0.2325
52	0.9982	0.8844	0.7771	0.6974	0.6488	0.5111	0.4003	0.3268	0.2726	0.2325
53	0.9970	0.8835	0.7766	0.6974	0.6487	0.5111	0.4003	0.3268	0.2726	0.2325
54	0.9946	0.8825	0.7760	0.6972	0.6487	0.5111	0.4003	0.3268	0.2726	0.2325
55	0.9910	0.8812	0.7754	0.6968	0.6486	0.5111	0.4002	0.3268	0.2726	0.2325
56	0.9832	0.8780	0.7738	0.6959	0.6480	0.5109	0.4002	0.3268	0.2726	0.2325
57	0.9718	0.8724	0.7712	0.6943	0.6469	0.5102	0.4000	0.3267	0.2726	0.2325
58	0.9530	0.8625	0.7667	0.6923	0.6454	0.5096	0.3998	0.3266	0.2726	0.2325
59	0.9330	0.8491	0.7596	0.6884	0.6430	0.5083	0.3992	0.3264	0.2725	0.2325
60	0.9063	0.8313	0.7486	0.6818	0.6386	0.5066	0.3983	0.3262	0.2725	0.2325
61	0.8696	0.8057	0.7325	0.6711	0.6296	0.5028	0.3972	0.3257	0.2722	0.2324
62	0.8304	0.7758	0.7132	0.6569	0.6162	0.4976	0.3954	0.3251	0.2720	0.2322
63	0.7762	0.7398	0.6872	0.6391	0.6032	0.4903	0.3929	0.3244	0.2718	0.2321
64	0.7225	0.6940	0.6578	0.6158	0.5844	0.4807	0.3896	0.3233	0.2714	0.2318
65	0.6601	0.6365	0.6107	0.5833	0.5554	0.4675	0.3854	0.3218	0.2708	0.2314

RETIREES' BENEFITS BY:
PERCENT OF RETIREE PAYROLL ELIGIBLE FOR
POST RETIREMENT BENEFIT ENHANCEMENT
(Identifies when they will reach what age and be retired n years)
(Page 2 of 2)

TABLE 9
TOTAL RETIREES COUNTED = 29,055

AGE	NUMBER OF YEARS RETIRED 0	1	2	3	4	5	6	7	8	9+
66	0.5954	0.5809	0.5604	0.5407	0.5226	0.4494	0.3789	0.3192	0.2695	0.2306
67	0.5290	0.5198	0.5089	0.4939	0.4811	0.4290	0.3688	0.3169	0.2685	0.2300
68	0.4639	0.4589	0.4526	0.4446	0.4337	0.3958	0.3558	0.3112	0.2674	0.2292
69	0.4048	0.4018	0.3980	0.3934	0.3878	0.3594	0.3322	0.3046	0.2639	0.2282
70	0.3565	0.3546	0.3520	0.3488	0.3453	0.3280	0.3074	0.2874	0.2597	0.2258
71	0.3096	0.3088	0.3070	0.3045	0.3020	0.2916	0.2805	0.2639	0.2439	0.2216
72	0.2685	0.2681	0.2675	0.2656	0.2639	0.2569	0.2495	0.2409	0.2258	0.2089
73	0.2296	0.2294	0.2291	0.2287	0.2275	0.2231	0.2181	0.2137	0.2063	0.1931
74	0.1973	0.1973	0.1971	0.1969	0.1967	0.1936	0.1904	0.1878	0.1845	0.1782
75	0.1658	0.1658	0.1657	0.1655	0.1654	0.1647	0.1627	0.1610	0.1593	0.1570
76	0.1402	0.1402	0.1401	0.1400	0.1399	0.1397	0.1391	0.1383	0.1370	0.1360
77	0.1185	0.1185	0.1185	0.1184	0.1183	0.1182	0.1178	0.1176	0.1168	0.1159
78	0.1003	0.1002	0.1002	0.1001	0.1001	0.0999	0.0997	0.0996	0.0992	0.0985
79	0.0830	0.0830	0.0830	0.0829	0.0829	0.0827	0.0825	0.0825	0.0823	0.0819
80	0.0685	0.0685	0.0685	0.0684	0.0684	0.0683	0.0682	0.0681	0.0680	0.0678
81	0.0557	0.0557	0.0556	0.0556	0.0556	0.0555	0.0554	0.0553	0.0553	0.0551
82	0.0440	0.0440	0.0440	0.0440	0.0440	0.0439	0.0438	0.0438	0.0438	0.0436
83	0.0346	0.0346	0.0346	0.0346	0.0346	0.0345	0.0344	0.0344	0.0344	0.0343
84	0.0274	0.0274	0.0274	0.0273	0.0273	0.0273	0.0272	0.0272	0.0272	0.0271
85	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0213	0.0213	0.0213	0.0212
86	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0162	0.0162	0.0162	0.0161
87	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0124
88	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0097
89	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0077
90	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0062	0.0062	0.0062	0.0062
91	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047
92	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034
93	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022
94	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0015
95	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0009
96	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0006
97	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
98	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001
99	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

RETIREES' BENEFITS BY:
YEAR ELIGIBLE FOR
POST RETIREMENT BENEFIT ENHANCEMENT
(Identifies when they will reach age 65 and be retired 3 years)

TABLE 10

TOTAL RETIREES COUNTED = 29,065

YEAR	% OF TOTAL	* * * * "AVERAGE MONTHLY BENEFIT AMOUNT" * * * * CURRENT W/COLAS	NORMAL-IZED ORIGINAL W/COLAS	NORMAL-IZED CURRENT W/COLAS	ORIGINAL	NORMAL-IZED ORIGINAL	ORIGINAL MONTHLY BENEFIT'S % INCREASE	ORIGINAL MONTHLY BENEFIT'S DOLLAR INCREASE
1990	82.086	$484	$518	$526	$369	$401	31	$115
1991	6.594	718	796	800	688	764	4	30
1992	2.619	799	929	939	751	878	6	48
1993	2.378	820	980	992	775	930	6	45
1994	1.635	833	1023	1034	794	980	5	39
1995	1.394	788	1000	1010	753	960	5	35
1996	1.077	892	1188	1201	860	1149	4	32
1997	0.740	782	1101	1115	751	1063	4	31
1998	0.516	796	1177	1189	767	1139	4	29
1999	0.303	570	862	864	555	840	3	15
2000	0.217	562	919	920	545	894	3	17
2001	0.165	396	698	699	386	681	3	10
2002	0.100	305	574	574	295	559	3	10
2003	0.062	307	443	443	294	427	4	13
2004	0.007	308	308	308	296	296	4	12
2006	0.003	158	159	158	50	50	216	108
2007	0.010	207	207	207	198	198	5	9
2008	0.003	96	96	96	82	82	17	14
2009	0.007	663	663	663	650	650	2	13
2011	0.003	1499	1499	1499	1470	1470	2	29
2015	0.003	755	755	755	392	392	93	363
2016	0.003	234	234	234	127	127	84	107
2026	0.007	283	289	283	164	164	73	119
2037	0.003	178	178	178	48	48	271	130
2038	0.003	547	547	547	265	265	106	282
2039	0.003	314	314	314	202	202	55	112
2042	0.007	373	373	373	231	231	61	142
2043	0.007	226	226	226	106	106	113	120
2044	0.003	492	492	492	330	330	49	162
2046	0.003	115	115	115	18	18	539	97
2048	0.007	566	566	566	316	316	79	250
2050	0.007	908	1005	1011	573	667	58	335
2052	0.007	223	249	236	56	59	298	167
2053	0.003	678	819	831	599	734	13	79
2054	0.010	589	601	597	327	329	80	262
AVERAGE	100	$534	$591	$598	$433	$487	23	$101

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND FUNDING PROJECTION # 1

(Includes the calculation of the PRBE at 65 and retired 3 years rule, which is 58.33% of the Retiree Payroll dollars.)

Table 11-1 – Page 1 of 2

YEAR	PRINCIPAL Start of Year (in $Mill)	INCOME RETURN RATE	GROSS INCOME Year End	ACTUARIAL LIABILITY PAST PRBE's Start of Year	ACTUARIAL SURPLUS Year End	TARGET PRBE INCREASE RATE	***PRBE PAYMENTS*** CURRENT YEAR's PRBE	CURRENT COST OF PAST PRBE's	RETIREE PAYROLL WITHOUT PRBE Year-start Pd-Yr-End	RETIREE PAYROLL INCREASE RATE
START:	$400	8.5%	$34	$0.0000	$434	1.0%	$0	$0	$300	6.8%
1992	434	8.5%	37	0.0000	471	1.0%	2	0	320	6.8%
1993	469	8.5%	40	15.6139	493	1.0%	2	2	342	6.8%
1994	505	8.5%	43	31.7200	516	1.0%	2	4	365	6.8%
1995	542	8.5%	46	48.3344	540	1.0%	2	6	390	6.8%
1996	580	8.5%	49	65.4758	564	1.0%	2	8	417	6.8%
1997	619	8.5%	53	83.1656	588	1.0%	3	10	445	6.8%
1998	659	8.5%	56	101.4286	613	1.0%	3	12	475	6.8%
1999	699	8.5%	59	120.2935	639	1.0%	3	15	508	6.8%
2000	741	8.5%	63	139.7935	664	1.0%	3	18	542	6.8%
2001	783	8.5%	67	159.9665	690	1.0%	3	20	579	6.8%
2002	826	8.5%	70	180.8656	715	1.0%	4	23	619	6.8%
2003	869	8.5%	74	202.5093	741	1.0%	4	26	661	6.8%
2004	913	8.5%	78	224.9820	766	1.0%	4	29	706	6.8%
2005	958	8.5%	81	248.3347	791	1.0%	5	32	754	6.8%
2006	1002	8.5%	85	272.6356	815	1.0%	5	36	805	6.8%
2007	1047	8.5%	89	297.9613	838	1.0%	5	39	860	6.8%
2008	1091	8.5%	93	324.3971	859	1.0%	6	43	918	6.8%
2009	1136	8.5%	96	352.0385	879	1.0%	6	47	980	6.8%
2010	1178	8.5%	100	380.9914	898	1.0%	6	51	1047	6.8%
2011	1221	8.5%	104	411.3725	913	1.0%	7	56	1118	6.8%
2012	1262	8.5%	107	443.3099	926	1.0%	7	60	1194	6.8%
2013	1302	8.5%	111	476.9430	936	1.0%	8	65	1276	6.8%
2014	1340	8.5%	114	512.4226	942	1.0%	8	70	1362	6.8%
2015	1376	8.5%	117	549.9118	943	1.0%	9	75	1455	6.8%
2016	1409	8.5%	120	589.5857	939	1.0%	10	81	1554	6.8%
2017	1438	8.5%	122	631.6306	929	1.0%	10	87	1659	6.8%
2018	1463	8.5%	124	676.2447	912	1.0%	11	93	1772	6.8%
2019	1484	8.5%	126	723.6382	886	1.0%	12	100	1893	6.8%
2020	1499	8.5%	127	774.0338	852	1.0%	12	107	2022	6.8%
2021	1507	8.5%	128	827.6675	807	1.0%	13	114	2159	6.8%
2022	1507	8.5%	128	884.7865	751	1.0%	14	122	2306	6.8%
2023	1499	8.5%	127	945.6598	681	1.0%	15	131	2463	6.8%
2024	1481	8.5%	126	1010.5592	596	1.0%	16	140	2630	6.8%
2025	1451	8.5%	123	1079.7800	494	1.0%	17	149	2809	6.8%
2026	1407	8.5%	120	1153.6319	373	1.0%	18	160	3000	6.8%
2027	1349	8.5%	115	1232.4433	231	1.0%	20	171	3204	6.8%
2028	**1273**	**8.5%**	**108**	**1316.5620**	**65**	**1.0%**	**7**	**182**	**3422**	**6.8%**
2029	1192	8.5%	101	1292.8672	0	1.0%	0	181	3655	6.8%
2030	1111	8.5%	94	1205.9389	0	1.0%	0	173	3903	6.8%
2031	1033	8.5%	88	1120.7426	0	1.0%	0	164	4168	6.8%
SUB-TOTALS							$288	$2,902	$81,057	

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND FUNDING PROJECTION # 1

(Includes the calculation of the PRBE at 65 and retired 3 years rule, which is 58.33% of the Retiree Payroll dollars.)

Table 11-1 – Page 2 of 2

YEAR	PRINCIPAL Start of Year (in $Mill)	INCOME RETURN RATE	GROSS INCOME Year End	ACTUARIAL LIABILITY PAST PRBE's Start of Year	ACTUARIAL SURPLUS Year End	TARGET PRBE INCREASE RATE	***PRBE PAYMENTS*** CURRENT YEAR's PRBE	CURRENT COST OF PAST PRBE's	RETIREE PAYROLL WITHOUT PRBE Year-start Pd-Yr-End	RETIREE PAYROLL INCREASE RATE
2032	956	8.5%	81	1037.5292	0	1.0%	0	156	4452	6.8%
2033	882	8.5%	75	956.5478	0	1.0%	0	147	4755	6.8%
2034	809	8.5%	69	878.0406	0	1.0%	0	139	5078	6.8%
2035	739	8.5%	63	802.2411	0	1.0%	0	130	5423	6.8%
2036	672	8.5%	57	729.3688	0	1.0%	0	121	5792	6.8%
2037	608	8.5%	52	659.6287	0	1.0%	0	113	6186	6.8%
2038	547	8.5%	46	593.2094	0	1.0%	0	104	6606	6.8%
2039	489	8.5%	42	530.2834	0	1.0%	0	96	7056	6.8%
2040	434	8.5%	37	471.0046	0	1.0%	0	88	7536	6.8%
2041	383	8.5%	33	415.5059	0	1.0%	0	80	8048	6.8%
2042	335	8.5%	29	363.8946	0	1.0%	0	72	8596	6.8%
2043	291	8.5%	25	316.2472	0	1.0%	0	65	9180	6.8%
2044	251	8.5%	21	272.6033	0	1.0%	0	58	9804	6.8%
2045	215	8.5%	18	232.9605	0	1.0%	0	51	10471	6.8%
2046	182	8.5%	15	197.2718	0	1.0%	0	45	11183	6.8%
2047	152	8.5%	13	165.4444	0	1.0%	0	39	11943	6.8%
2048	127	8.5%	11	137.3431	0	1.0%	0	33	12755	6.8%
2049	104	8.5%	9	112.7944	0	1.0%	0	28	13622	6.8%
2050	84	8.5%	7	91.5905	0	1.0%	0	24	14549	6.8%
2051	68	8.5%	6	73.4914	0	1.0%	0	20	15538	6.8%
2052	54	8.5%	5	58.2327	0	1.0%	0	16	16595	6.8%
2053	42	8.5%	4	45.5365	0	1.0%	0	13	17723	6.8%
2054	32	8.5%	3	35.1213	0	1.0%	0	11	18928	6.8%
2055	25	8.5%	2	26.7070	0	1.0%	0	8	20215	6.8%
2056	18	8.5%	2	20.0183	0	1.0%	0	6	21590	6.8%
2057	14	8.5%	1	14.7894	0	1.0%	0	5	23058	6.8%
2058	10	8.5%	1	10.7702	0	1.0%	0	4	24626	6.8%
2059	7	8.5%	1	7.7323	0	1.0%	0	3	26301	6.8%
2060	5	8.5%	0	5.4734	0	1.0%	0	2	28089	6.8%
2061	4	8.5%	0	3.8200	0	1.0%	0	1	29999	6.8%
2062	2	8.5%	0	2.6283	0	1.0%	0	1	32039	6.8%
2063	2	8.5%	0	1.7818	0	1.0%	0	1	34218	6.8%
2064	1	8.5%	0	1.1892	0	1.0%	0	0	36545	6.8%
2065	1	8.5%	0	0.7800	0	1.0%	0	0	39030	6.8%
2066	0	8.5%	0	0.5013	0	1.0%	0	0	41684	6.8%
2067	0	8.5%	0	0.3141	0	1.0%	0	0	44518	6.8%
2068	0	8.5%	0	0.1903	0	1.0%	0	0	47545	6.8%
2069	0	8.5%	0	0.1100	0	1.0%	0	0	50778	6.8%
2070	0	8.5%	0	0.0590	0	1.0%	0	0	54231	6.8%
2071	0	8.5%	0	0.0280	0	1.0%	0	0	57919	6.8%
2072	0	8.5%	0	0.0104	0	1.0%	0	0	61858	6.8%
2073	0	8.5%	0	0.0020	0	1.0%	0	0	66064	6.8%
2074	0	8.5%	0	0.0000	0	1.0%	0	0	70556	6.8%
2075	0	8.5%	0	0.0000	0	1.0%	0	0	75354	6.8%
2076	0	8.5%	0	0.0000	0	1.0%	0	0	80478	6.8%
2077	0	8.5%	0	0.0000	0	1.0%	0	0	85951	6.8%
2078	0	8.5%	0	0.0000	0	1.0%	0	0	91795	6.8%
2079	0	8.5%	0	0.0000	0	1.0%	0	0	98037	6.8%
2080	0	8.5%	0	0.0000	0	1.0%	0	0	104704	6.8%
2081	0	8.5%	0	0.0000	0	1.0%	0	0	111824	6.8%
2082	0	8.5%	0	0.0000	0	1.0%	0	0	119428	6.8%
2083	0	8.5%	0	0.0000	0	1.0%	0	0	127549	6.8%
2084	0	8.5%	0	0.0000	0	1.0%	0	0	136222	6.8%
2085	0	8.5%	0	0.0000	0	1.0%	0	0	145485	6.8%
TOTALS							$286	$4,585	$2,280,563	

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND FUNDING PROJECTION # 2

(Includes the calculation of the PRBE at 65 and retired 3 years rule, which is 58.33% of the Retiree Payroll dollars.)

Table 11-2 – Page 1 of 2

YEAR	PRINCIPAL Start of Year (in $Mill)	INCOME RETURN RATE	GROSS INCOME Year End	ACTUARIAL LIABILITY PAST PRBE's Start of Year	ACTUARIAL SURPLUS Year End	TARGET PRBE INCREASE RATE	***PRBE PAYMENTS*** CURRENT YEAR's PRBE	CURRENT COST OF PAST PRBE's	RETIREE PAYROLL WITHOUT PRBE Year-start Pd-Yr-End	RETIREE PAYROLL INCREASE RATE
START:	$400	8.5%	$34	$0.0000	$434	2.0%	$0	$0	$300	6.8%
1992	434	8.5%	37	0.0000	471	2.0%	4	0	320	6.8%
1993	467	8.5%	40	31.2279	476	2.0%	4	4	342	6.8%
1994	499	8.5%	42	63.6184	478	2.0%	4	8	365	6.8%
1995	530	8.5%	45	97.2078	479	2.0%	5	12	390	6.8%
1996	558	8.5%	47	132.0367	474	2.0%	5	16	417	6.8%
1997	585	8.5%	50	168.1515	466	2.0%	5	20	445	6.8%
1998	609	8.5%	52	205.6049	455	2.0%	6	25	475	6.8%
1999	629	8.5%	53	244.4576	438	2.0%	6	30	508	6.8%
2000	646	8.5%	55	284.7786	416	2.0%	7	36	542	6.8%
2001	659	8.5%	56	326.6468	388	2.0%	7	41	579	6.8%
2002	666	8.5%	57	370.1509	353	2.0%	8	47	619	6.8%
2003	668	8.5%	57	415.3909	309	2.0%	8	53	661	6.8%
2004	663	8.5%	56	462.4784	257	2.0%	9	60	706	6.8%
2005	651	8.5%	55	511.5385	195	2.0%	10	67	754	6.8%
2006	630	8.5%	54	562.7107	121	2.0%	10	74	805	6.8%
2007	**600**	**8.5%**	**51**	**616.1513**	**34**	**2.0%**	**4**	**81**	**860**	**6.8%**
2008	565	8.5%	48	613.4407	0	2.0%	0	82	918	6.8%
2009	531	8.5%	45	576.2711	0	2.0%	0	79	980	6.8%
2010	497	8.5%	42	539.2487	0	2.0%	0	76	1047	6.8%
2011	463	8.5%	39	502.5183	0	2.0%	0	73	1118	6.8%
2012	430	8.5%	37	466.2320	0	2.0%	0	69	1194	6.8%
2013	397	8.5%	34	430.5461	0	2.0%	0	66	1276	6.8%
2014	365	8.5%	31	395.6183	0	2.0%	0	62	1362	6.8%
2015	333	8.5%	28	361.6060	0	2.0%	0	59	1455	6.8%
2016	303	8.5%	26	328.6633	0	2.0%	0	55	1554	6.8%
2017	274	8.5%	23	296.9383	0	2.0%	0	51	1659	6.8%
2018	246	8.5%	21	266.5715	0	2.0%	0	47	1772	6.8%
2019	219	8.5%	19	237.6941	0	2.0%	0	44	1893	6.8%
2020	194	8.5%	16	210.4263	0	2.0%	0	40	2022	6.8%
2021	170	8.5%	14	184.8735	0	2.0%	0	36	2159	6.8%
2022	148	8.5%	13	161.1224	0	2.0%	0	33	2306	6.8%
2023	128	8.5%	11	139.2369	0	2.0%	0	29	2463	6.8%
2024	110	8.5%	9	119.2548	0	2.0%	0	26	2630	6.8%
2025	93	8.5%	8	101.1653	0	2.0%	0	23	2809	6.8%
2026	78	8.5%	7	85.0091	0	2.0%	0	20	3000	6.8%
2027	65	8.5%	6	70.6798	0	2.0%	0	17	3204	6.8%
2028	54	8.5%	5	58.1269	0	2.0%	0	15	3422	6.8%
2029	44	8.5%	4	47.2584	0	2.0%	0	12	3655	6.8%
2030	35	8.5%	3	37.9621	0	2.0%	0	10	3903	6.8%
2031	28	8.5%	2	30.1108	0	2.0%	0	8	4168	6.8%
SUB-TOTALS							$102	$1,608	$61,057	

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND FUNDING PROJECTION # 2

(Includes the calculation of the PRBE at 65 and retired 3 years rule, which is 58.33% of the Retiree Payroll dollars.)

Table 11-2 - Page 2 of 2

YEAR	PRINCIPAL Start of Year (in $Mill)	INCOME RETURN RATE	GROSS INCOME Year End	ACTUARIAL LIABILITY PAST PRBE's Start of Year	ACTUARIAL SURPLUS Year End	TARGET PRBE INCREASE RATE	***PRBE PAYMENTS*** CURRENT YEAR's PRBE	CURRENT COST OF PAST PRBE's	RETIREE PAYROLL WITHOUT PRBE Year-start Pd-Yr-End	RETIREE PAYROLL INCREASE RATE
2032	22	8.5%	2	23.5677	0	2.0%	0	7	4452	6.8%
2033	17	8.5%	1	18.1927	0	2.0%	0	5	4755	6.8%
2034	13	8.5%	1	13.8451	0	2.0%	0	4	5078	6.8%
2035	10	8.5%	1	10.3852	0	2.0%	0	3	5423	6.8%
2036	7	8.5%	1	7.6776	0	2.0%	0	3	5792	6.8%
2037	5	8.5%	0	5.5943	0	2.0%	0	2	6186	6.8%
2038	4	8.5%	0	4.0181	0	2.0%	0	1	6606	6.8%
2039	3	8.5%	0	2.8465	0	2.0%	0	1	7056	6.8%
2040	2	8.5%	0	1.9868	0	2.0%	0	1	7536	6.8%
2041	1	8.5%	0	1.3675	0	2.0%	0	1	8048	6.8%
2042	1	8.5%	0	0.9275	0	2.0%	0	0	8595	6.8%
2043	1	8.5%	0	0.6193	0	2.0%	0	0	9180	6.8%
2044	0	8.5%	0	0.4064	0	2.0%	0	0	9804	6.8%
2045	0	8.5%	0	0.2614	0	2.0%	0	0	10471	6.8%
2046	0	8.5%	0	0.1639	0	2.0%	0	0	11183	6.8%
2047	0	8.5%	0	0.0994	0	2.0%	0	0	11943	6.8%
2048	0	8.5%	0	0.0575	0	2.0%	0	0	12755	6.8%
2049	0	8.5%	0	0.0309	0	2.0%	0	0	13622	6.8%
2050	0	8.5%	0	0.0147	0	2.0%	0	0	14549	6.8%
2051	0	8.5%	0	0.0065	0	2.0%	0	0	15538	6.8%
2052	0	8.5%	0	0.0011	0	2.0%	0	0	16595	6.8%
2053	**0**	**8.5%**	**0**	**0.0000**	**0**	**2.0%**	**0**	**0**	**17723**	**6.8%**
2054	0	8.5%	0	0.0000	0	2.0%	0	0	18928	6.8%
2055	0	8.5%	0	0.0000	0	2.0%	0	0	20215	6.8%
2056	0	8.5%	0	0.0000	0	2.0%	0	0	21590	6.8%
2057	0	8.5%	0	0.0000	0	2.0%	0	0	23058	6.8%
2058	0	8.5%	0	0.0000	0	2.0%	0	0	24626	6.8%
2059	0	8.5%	0	0.0000	0	2.0%	0	0	26301	6.8%
2060	0	8.5%	0	0.0000	0	2.0%	0	0	28089	6.8%
2061	0	8.5%	0	0.0000	0	2.0%	0	0	29999	6.8%
2062	0	8.5%	0	0.0000	0	2.0%	0	0	32039	6.8%
2063	0	8.5%	0	0.0000	0	2.0%	0	0	34218	6.8%
2064	0	8.5%	0	0.0000	0	2.0%	0	0	36545	6.8%
2065	0	8.5%	0	0.0000	0	2.0%	0	0	39030	6.8%
2066	0	8.5%	0	0.0000	0	2.0%	0	0	41684	6.8%
2067	0	8.5%	0	0.0000	0	2.0%	0	0	44518	6.8%
2068	0	8.5%	0	0.0000	0	2.0%	0	0	47545	6.8%
2069	0	8.5%	0	0.0000	0	2.0%	0	0	50778	6.8%
2070	0	8.5%	0	0.0000	0	2.0%	0	0	54231	6.8%
2071	0	8.5%	0	0.0000	0	2.0%	0	0	57919	6.8%
2072	0	8.5%	0	0.0000	0	2.0%	0	0	61858	6.8%
2073	0	8.5%	0	0.0000	0	2.0%	0	0	66064	6.8%
2074	0	8.5%	0	0.0000	0	2.0%	0	0	70556	6.8%
2075	0	8.5%	0	0.0000	0	2.0%	0	0	75354	6.8%
2076	0	8.5%	0	0.0000	0	2.0%	0	0	80478	6.8%
2077	0	8.5%	0	0.0000	0	2.0%	0	0	85951	6.8%
2078	0	8.5%	0	0.0000	0	2.0%	0	0	91795	6.8%
2079	0	8.5%	0	0.0000	0	2.0%	0	0	98037	6.8%
2080	0	8.5%	0	0.0000	0	2.0%	0	0	104704	6.8%
2081	0	8.5%	0	0.0000	0	2.0%	0	0	111824	6.8%
2082	0	8.5%	0	0.0000	0	2.0%	0	0	119428	6.8%
2083	0	8.5%	0	0.0000	0	2.0%	0	0	127549	6.8%
2084	0	8.5%	0	0.0000	0	2.0%	0	0	136222	6.8%
2085	0	8.5%	0	0.0000	0	2.0%	0	0	145485	6.8%
TOTALS							$102	$1,637	$2,280,563	

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND
FUNDING PROJECTION # 3

(Includes the calculation of the PRBE at 65 and retired 3 years rule, which is 58.33% of the Retiree Payroll dollars.)

Table 11-3 - Page 1 of 2

YEAR	PRINCIPAL Start of Year (In $Mill)	INCOME RETURN RATE	GROSS INCOME Year End	ACTUARIAL LIABILITY PAST PRBE's Start of Year	ACTUARIAL SURPLUS Year End	TARGET PRBE INCREASE RATE	***PRBE PAYMENTS*** CURRENT YEAR's PRBE	CURRENT COST OF PAST PRBE's	RETIREE PAYROLL WITHOUT PRBE Year-start Pd-Yr-End	RETIREE PAYROLL INCREASE RATE
START:	$400	8.5%	$34	$0.0000	$434	3.0%	$0	$0	$300	6.8%
1992	434	8.5%	37	0.0000	471	3.0%	6	0	320	6.8%
1993	465	8.5%	40	46.8418	458	3.0%	6	5	342	6.8%
1994	493	8.5%	42	95.6952	439	3.0%	7	11	365	6.8%
1995	517	8.5%	44	146.6231	415	3.0%	7	18	390	6.8%
1996	537	8.5%	46	199.6950	382	3.0%	8	24	417	6.8%
1997	550	8.5%	47	254.9885	342	3.0%	8	31	445	6.8%
1998	558	8.5%	47	312.5909	293	3.0%	9	38	475	6.8%
1999	558	8.5%	47	372.6008	233	3.0%	10	46	508	6.8%
2000	549	8.5%	47	435.1296	161	3.0%	10	54	542	6.8%
2001	**531**	**8.5%**	**45**	**500.3026**	**76**	**3.0%**	**9**	**63**	**579**	**6.8%**
2002	504	8.5%	43	547.2378	0	3.0%	0	70	619	6.8%
2003	477	8.5%	41	518.0239	0	3.0%	0	68	661	6.8%
2004	450	8.5%	38	488.6447	0	3.0%	0	65	706	6.8%
2005	423	8.5%	36	459.1957	0	3.0%	0	63	754	6.8%
2006	396	8.5%	34	429.7802	0	3.0%	0	61	805	6.8%
2007	369	8.5%	31	400.5089	0	3.0%	0	58	860	6.8%
2008	342	8.5%	29	371.4987	0	3.0%	0	55	918	6.8%
2009	316	8.5%	27	342.8726	0	3.0%	0	53	980	6.8%
2010	290	8.5%	25	314.7587	0	3.0%	0	50	1047	6.8%
2011	265	8.5%	23	287.2894	0	3.0%	0	47	1118	6.8%
2012	240	8.5%	20	260.6001	0	3.0%	0	44	1194	6.8%
2013	216	8.5%	18	234.8276	0	3.0%	0	41	1276	6.8%
2014	194	8.5%	16	210.1082	0	3.0%	0	38	1362	6.8%
2015	172	8.5%	15	186.5749	0	3.0%	0	35	1455	6.8%
2016	151	8.5%	13	164.3519	0	3.0%	0	32	1554	6.8%
2017	132	8.5%	11	143.5484	0	3.0%	0	29	1659	6.8%
2018	115	8.5%	10	124.2530	0	3.0%	0	26	1772	6.8%
2019	98	8.5%	8	106.5307	0	3.0%	0	23	1893	6.8%
2020	83	8.5%	7	90.4207	0	3.0%	0	20	2022	6.8%
2021	70	8.5%	6	75.9356	0	3.0%	0	18	2159	6.8%
2022	58	8.5%	5	63.0615	0	3.0%	0	15	2306	6.8%
2023	48	8.5%	4	51.7591	0	3.0%	0	13	2463	6.8%
2024	39	8.5%	3	41.9638	0	3.0%	0	11	2630	6.8%
2025	31	8.5%	3	33.5870	0	3.0%	0	9	2809	6.8%
2026	24	8.5%	2	26.5221	0	3.0%	0	7	3000	6.8%
2027	19	8.5%	2	20.6508	0	3.0%	0	6	3204	6.8%
2028	15	8.5%	1	15.8480	0	3.0%	0	5	3422	6.8%
2029	11	8.5%	1	11.9847	0	3.0%	0	4	3655	6.8%
2030	8	8.5%	1	8.9303	0	3.0%	0	3	3903	6.8%
2031	6	8.5%	1	6.5575	0	3.0%	0	2	4168	6.8%
SUB-TOTALS							$79	$1,265	$61,057	

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND FUNDING PROJECTION # 3

(Includes the calculation of the PRBE at 65 and retired 3 years rule, which is 58.33% of the Retiree Payroll dollars.)

Table 11-3 – Page 2 of 2

YEAR	PRINCIPAL Start of Year (in $Mill)	INCOME RETURN RATE	GROSS INCOME Year End	ACTUARIAL LIABILITY PAST PRBE's Start of Year	ACTUARIAL SURPLUS Year End	TARGET PRBE INCREASE RATE	***PRBE PAYMENTS*** CURRENT YEAR's PRBE	CURRENT COST OF PAST PRBE's	RETIREE PAYROLL WITHOUT PRBE Year-start Pd-Yr-End	RETIREE PAYROLL INCREASE RATE
2032	4	8.5%	0	4.7460	0	3.0%	0	2	4452	6.8%
2033	3	8.5%	0	3.3864	0	3.0%	0	1	4755	6.8%
2034	2	8.5%	0	2.3824	0	3.0%	0	1	5078	6.8%
2035	2	8.5%	0	1.6524	0	3.0%	0	1	5423	6.8%
2036	1	8.5%	0	1.1295	0	3.0%	0	0	5792	6.8%
2037	1	8.5%	0	0.7601	0	3.0%	0	0	6186	6.8%
2038	0	8.5%	0	0.5025	0	3.0%	0	0	6606	6.8%
2039	0	8.5%	0	0.3260	0	3.0%	0	0	7056	6.8%
2040	0	8.5%	0	0.2067	0	3.0%	0	0	7536	6.8%
2041	0	8.5%	0	0.1272	0	3.0%	0	0	8048	6.8%
2042	0	8.5%	0	0.0752	0	3.0%	0	0	8595	6.8%
2043	0	8.5%	0	0.0418	0	3.0%	0	0	9180	6.8%
2044	0	8.5%	0	0.0210	0	3.0%	0	0	9804	6.8%
2045	0	8.5%	0	0.0088	0	3.0%	0	0	10471	6.8%
2046	0	8.5%	0	0.0024	0	3.0%	0	0	11183	6.8%
2047	0	8.5%	0	0.0000	0	3.0%	0	0	11943	6.8%
2048	0	8.5%	0	0.0000	0	3.0%	0	0	12755	6.8%
2049	0	8.5%	0	0.0000	0	3.0%	0	0	13622	6.8%
2050	0	8.5%	0	0.0000	0	3.0%	0	0	14549	6.8%
2051	0	8.5%	0	0.0000	0	3.0%	0	0	15538	6.8%
2052	0	8.5%	0	0.0000	0	3.0%	0	0	16595	6.8%
2053	0	8.5%	0	0.0000	0	3.0%	0	0	17723	6.8%
2054	0	8.5%	0	0.0000	0	3.0%	0	0	18928	6.8%
2055	0	8.5%	0	0.0000	0	3.0%	0	0	20215	6.8%
2056	0	8.5%	0	0.0000	0	3.0%	0	0	21590	6.8%
2057	0	8.5%	0	0.0000	0	3.0%	0	0	23058	6.8%
2058	0	8.5%	0	0.0000	0	3.0%	0	0	24626	6.8%
2059	0	8.5%	0	0.0000	0	3.0%	0	0	26301	6.8%
2060	0	8.5%	0	0.0000	0	3.0%	0	0	28089	6.8%
2061	0	8.5%	0	0.0000	0	3.0%	0	0	29999	6.8%
2062	0	8.5%	0	0.0000	0	3.0%	0	0	32039	6.8%
2063	0	8.5%	0	0.0000	0	3.0%	0	0	34218	6.8%
2064	0	8.5%	0	0.0000	0	3.0%	0	0	36545	6.8%
2065	0	8.5%	0	0.0000	0	3.0%	0	0	39030	6.8%
2066	0	8.5%	0	0.0000	0	3.0%	0	0	41684	6.8%
2067	0	8.5%	0	0.0000	0	3.0%	0	0	44518	6.8%
2068	0	8.5%	0	0.0000	0	3.0%	0	0	47545	6.8%
2069	0	8.5%	0	0.0000	0	3.0%	0	0	50778	6.8%
2070	0	8.5%	0	0.0000	0	3.0%	0	0	54231	6.8%
2071	0	8.5%	0	0.0000	0	3.0%	0	0	57919	6.8%
2072	0	8.5%	0	0.0000	0	3.0%	0	0	61858	6.8%
2073	0	8.5%	0	0.0000	0	3.0%	0	0	66064	6.8%
2074	0	8.5%	0	0.0000	0	3.0%	0	0	70556	6.8%
2075	0	8.5%	0	0.0000	0	3.0%	0	0	75354	6.8%
2076	0	8.5%	0	0.0000	0	3.0%	0	0	80478	6.8%
2077	0	8.5%	0	0.0000	0	3.0%	0	0	85951	6.8%
2078	0	8.5%	0	0.0000	0	3.0%	0	0	91795	6.8%
2079	0	8.5%	0	0.0000	0	3.0%	0	0	98037	6.8%
2080	0	8.5%	0	0.0000	0	3.0%	0	0	104704	6.8%
2081	0	8.5%	0	0.0000	0	3.0%	0	0	111824	6.8%
2082	0	8.5%	0	0.0000	0	3.0%	0	0	119428	6.8%
2083	0	8.5%	0	0.0000	0	3.0%	0	0	127549	6.8%
2084	0	8.5%	0	0.0000	0	3.0%	0	0	136222	6.8%
2085	0	8.5%	0	0.0000	0	3.0%	0	0	145485	6.8%
TOTALS							$79	$1,270	$2,280,563	

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND FUNDING PROJECTION # 4

(Includes the calculation of the PRBE at 65 and retired 3 years rule, which is 58.33% of the Retiree Payroll dollars.)

Table 11-4 – Page 1 of 2

YEAR	PRINCIPAL Start of Year (in $Mill)	INCOME RETURN RATE	GROSS INCOME Year End	ACTUARIAL LIABILITY PAST PRBE's Start of Year	ACTUARIAL SURPLUS Year End	TARGET PRBE INCREASE RATE	***PRBE PAYMENTS*** CURRENT YEAR's PRBE	CURRENT COST OF PAST PRBE's	RETIREE PAYROLL WITHOUT PRBE Year-start Pd-Yr-End	RETIREE PAYROLL INCREASE RATE
START:	$400	8.5%	$34	$0.0000	$434	4.0%	$0	$0	$300	6.8%
1992	434	8.5%	37	0.0000	471	4.0%	7	0	320	6.8%
1993	463	8.5%	39	62.4557	440	4.0%	8	7	342	6.8%
1994	487	8.5%	41	127.9504	401	4.0%	9	15	365	6.8%
1995	505	8.5%	43	196.5834	351	4.0%	10	23	390	6.8%
1996	514	8.5%	44	268.4630	290	4.0%	10	32	417	6.8%
1997	515	8.5%	44	343.7078	215	4.0%	11	42	445	6.8%
1998	506	8.5%	43	422.4494	126	4.0%	12	52	475	6.8%
1999	**485**	**8.5%**	**41**	**504.8341**	**21**	**4.0%**	**2**	**63**	**508**	**6.8%**
2000	461	8.5%	39	500.0696	0	4.0%	0	63	542	6.8%
2001	437	8.5%	37	473.9657	0	4.0%	0	61	579	6.8%
2002	413	8.5%	35	447.6667	0	4.0%	0	59	619	6.8%
2003	388	8.5%	33	421.2581	0	4.0%	0	57	661	6.8%
2004	364	8.5%	31	394.8312	0	4.0%	0	55	706	6.8%
2005	340	8.5%	29	368.4823	0	4.0%	0	53	754	6.8%
2006	315	8.5%	27	342.3111	0	4.0%	0	51	805	6.8%
2007	292	8.5%	25	316.4218	0	4.0%	0	48	860	6.8%
2008	268	8.5%	23	290.9239	0	4.0%	0	46	918	6.8%
2009	245	8.5%	21	265.9332	0	4.0%	0	43	980	6.8%
2010	223	8.5%	19	241.5726	0	4.0%	0	41	1047	6.8%
2011	201	8.5%	17	217.9711	0	4.0%	0	38	1118	6.8%
2012	180	8.5%	15	195.2603	0	4.0%	0	35	1194	6.8%
2013	160	8.5%	14	173.5703	0	4.0%	0	33	1276	6.8%
2014	141	8.5%	12	153.0249	0	4.0%	0	30	1362	6.8%
2015	123	8.5%	10	133.7373	0	4.0%	0	27	1455	6.8%
2016	107	8.5%	9	115.8036	0	4.0%	0	24	1554	6.8%
2017	92	8.5%	8	99.2964	0	4.0%	0	22	1659	6.8%
2018	78	8.5%	7	84.2621	0	4.0%	0	19	1772	6.8%
2019	65	8.5%	6	70.7210	0	4.0%	0	17	1893	6.8%
2020	54	8.5%	5	58.6694	0	4.0%	0	14	2022	6.8%
2021	44	8.5%	4	48.0788	0	4.0%	0	12	2159	6.8%
2022	36	8.5%	3	38.8960	0	4.0%	0	10	2306	6.8%
2023	29	8.5%	2	31.0411	0	4.0%	0	9	2463	6.8%
2024	23	8.5%	2	24.4235	0	4.0%	0	7	2630	6.8%
2025	17	8.5%	1	18.9361	0	4.0%	0	6	2809	6.8%
2026	13	8.5%	1	14.4629	0	4.0%	0	4	3000	6.8%
2027	10	8.5%	1	10.8808	0	4.0%	0	3	3204	6.8%
2028	7	8.5%	1	8.0638	0	4.0%	0	3	3422	6.8%
2029	5	8.5%	0	5.8684	0	4.0%	0	2	3655	6.8%
2030	4	8.5%	0	4.2379	0	4.0%	0	1	3903	6.8%
2031	3	8.5%	0	3.0070	0	4.0%	0	1	4168	6.8%
SUB-TOTALS							$71	$1,130	$61,057	

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND FUNDING PROJECTION # 4

(Includes the calculation of the PRBE at 65 and retired 3 years rule, which is 58.33% of the Retiree Payroll dollars.)

Table 11–4 – Page 2 of 2

YEAR	PRINCIPAL Start of Year (in $Mil)	INCOME RETURN RATE	GROSS INCOME Year End	ACTUARIAL LIABILITY PAST PRBE's Start of Year	ACTUARIAL SURPLUS Year End	TARGET PRBE INCREASE RATE	***PRBE PAYMENTS*** CURRENT YEAR's PRBE	CURRENT COST OF PAST PRBE's	RETIREE PAYROLL WITHOUT PRBE Year-start Pd-Yr-End	RETIREE PAYROLL INCREASE RATE
2032	2	8.5%	0	2.1038	0	4.0%	0	1	4452	6.8%
2033	1	8.5%	0	1.4513	0	4.0%	0	1	4755	6.8%
2034	1	8.5%	0	0.9869	0	4.0%	0	0	5078	6.8%
2035	1	8.5%	0	0.6608	0	4.0%	0	0	5423	6.8%
2036	0	8.5%	0	0.4348	0	4.0%	0	0	5792	6.8%
2037	0	8.5%	0	0.2799	0	4.0%	0	0	6186	6.8%
2038	0	8.5%	0	0.1747	0	4.0%	0	0	6606	6.8%
2039	0	8.5%	0	0.1053	0	4.0%	0	0	7056	6.8%
2040	0	8.5%	0	0.0602	0	4.0%	0	0	7536	6.8%
2041	0	8.5%	0	0.0318	0	4.0%	0	0	8048	6.8%
2042	0	8.5%	0	0.0146	0	4.0%	0	0	8595	6.8%
2043	0	8.5%	0	0.0050	0	4.0%	0	0	9180	6.8%
2044	0	8.5%	0	0.0007	0	4.0%	0	0	9804	6.8%
2045	**0**	**8.5%**	**0**	**0.0000**	**0**	**4.0%**	**0**	**0**	**10471**	**6.8%**
2046	0	8.5%	0	0.0000	0	4.0%	0	0	11183	6.8%
2047	0	8.5%	0	0.0000	0	4.0%	0	0	11943	6.8%
2048	0	8.5%	0	0.0000	0	4.0%	0	0	12755	6.8%
2049	0	8.5%	0	0.0000	0	4.0%	0	0	13622	6.8%
2050	0	8.5%	0	0.0000	0	4.0%	0	0	14549	6.8%
2051	0	8.5%	0	0.0000	0	4.0%	0	0	15538	6.8%
2052	0	8.5%	0	0.0000	0	4.0%	0	0	16595	6.8%
2053	0	8.5%	0	0.0000	0	4.0%	0	0	17723	6.8%
2054	0	8.5%	0	0.0000	0	4.0%	0	0	18928	6.8%
2055	0	8.5%	0	0.0000	0	4.0%	0	0	20215	6.8%
2056	0	8.5%	0	0.0000	0	4.0%	0	0	21590	6.8%
2057	0	8.5%	0	0.0000	0	4.0%	0	0	23058	6.8%
2058	0	8.5%	0	0.0000	0	4.0%	0	0	24626	6.8%
2059	0	8.5%	0	0.0000	0	4.0%	0	0	26301	6.8%
2060	0	8.5%	0	0.0000	0	4.0%	0	0	28089	6.8%
2061	0	8.5%	0	0.0000	0	4.0%	0	0	29999	6.8%
2062	0	8.5%	0	0.0000	0	4.0%	0	0	32039	6.8%
2063	0	8.5%	0	0.0000	0	4.0%	0	0	34218	6.8%
2064	0	8.5%	0	0.0000	0	4.0%	0	0	36546	6.8%
2065	0	8.5%	0	0.0000	0	4.0%	0	0	39030	6.8%
2066	0	8.5%	0	0.0000	0	4.0%	0	0	41684	6.8%
2067	0	8.5%	0	0.0000	0	4.0%	0	0	44518	6.8%
2068	0	8.5%	0	0.0000	0	4.0%	0	0	47545	6.8%
2069	0	8.5%	0	0.0000	0	4.0%	0	0	50778	6.8%
2070	0	8.5%	0	0.0000	0	4.0%	0	0	54231	6.8%
2071	0	8.5%	0	0.0000	0	4.0%	0	0	57919	6.8%
2072	0	8.5%	0	0.0000	0	4.0%	0	0	61858	6.8%
2073	0	8.5%	0	0.0000	0	4.0%	0	0	66064	6.8%
2074	0	8.5%	0	0.0000	0	4.0%	0	0	70556	6.8%
2075	0	8.5%	0	0.0000	0	4.0%	0	0	75354	6.8%
2076	0	8.5%	0	0.0000	0	4.0%	0	0	80478	6.8%
2077	0	8.5%	0	0.0000	0	4.0%	0	0	85951	6.8%
2078	0	8.5%	0	0.0000	0	4.0%	0	0	91795	6.8%
2079	0	8.5%	0	0.0000	0	4.0%	0	0	98037	6.8%
2080	0	8.5%	0	0.0000	0	4.0%	0	0	104704	6.8%
2081	0	8.5%	0	0.0000	0	4.0%	0	0	111824	6.8%
2082	0	8.5%	0	0.0000	0	4.0%	0	0	119428	6.8%
2083	0	8.5%	0	0.0000	0	4.0%	0	0	127549	6.8%
2084	0	8.5%	0	0.0000	0	4.0%	0	0	136222	6.8%
2085	0	8.5%	0	0.0000	0	4.0%	0	0	145486	6.8%
TOTALS							$71	$1,133	$2,280,563	

Attachment G

Comments
on the
Post Retirement Benefit Enhancement Concept
prepared by the
Wyatt Company

Comments on Post-Retirement Benefit Enhancement Concept from the Legislative Council Study

November 16, 1990

THE *Wyatt* COMPANY

ACTUARIAL SERVICES
COMPENSATION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

SUITE 2400, LOCK BOX 58
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DALLAS, TEXAS 75201
214 978-3400
FAX: 214 978-3650

EMPLOYEE BENEFITS
EMPLOYEE COMMUNICATIONS
RISK MANAGEMENT
INSURANCE CONSULTING
HEALTH CARE CONSULTING

November 16, 1990

Retirement Board
Arizona State Retirement System
3815 North Black Canyon Highway
Phoenix, Arizona 85067

Dear Retirement Board Members:

Comments on Post-Retirement Benefit
Enhancement Concept from the Legislative Council Study

As requested, we have reviewed the Post-Retirement Benefit Enhancement Concept contained in the final report on the study of the Arizona State Retirement System for the Legislative Council. This report provides our understanding of the concept, our comments on this concept, and our analysis of its impact on the Arizona State Retirement Plan.

We look forward to discussing this report with you at the Retirement Board meeting to be held November 16, 1990.

Sincerely,

THE WYATT COMPANY

W Michael Carter

W. Michael Carter
Actuary

mdl
Enclosure

Table of Contents

Section I

Executive Summary

Our report commenting on the post-retirement benefit enhancement (PRBE) approach recommended in the "Final Report on the Study of the Arizona State Retirement System" prepared for the Legislative Council Study Committee by Kaufmann and Goble Associates in association with Cyberserv International Co. (the "Study") may be summarized as follows:

Wyatt's Understanding of the PRBE Concept

- All future COLAs would be provided from a new, separate account
  - future adjustments are called PRBEs
- Intent of approach
  - ASRS employee/employer contribution rate will not be affected by PRBEs
  - funding and cost of PRBEs will be self-supporting
- PRBE fund established by $400 million transfer from ASRS general fund
  - additional transfers whenever ASRS "Actuarial Value Funding Ratio" exceeds 105%
- Maximum of 70% of PRBE fund's "gross income" may be used for current PRBE benefit payments
  - other 30% must increase corpus of PRBE account
  - current PRBE benefits are to be reduced or eliminated to meet the 70% restriction
- Additional PRBEs can be granted only if funding available within PRBE assets
- ASRS Board would set PRBE distribution mechanism
  - formulas
  - no flat dollar increases
  - payment frequency
  - assets managed by IAC
- First PRBE not available until age 65 and 3 years of retirement
- Study recommends structuring PRBE mechanism as a separate trust fund

Wyatt's Observations on the PRBE Concept

- PRBE concept is a funding methodology for future non-guaranteed COLAs
  - it isolates COLA funding within the PRBE account
  - additional COLAs possible only if actuarial value of prior and proposed PRBEs is less than assets in PRBE account
  - also, only if total annual PRBE payout is less than 70% of PRBE gross income
  - PRBEs are not guaranteed because of the 70% limitation

- PRBE funding approach has an indirect impact on ASRS contribution rates
  - cost impact is less than shown in Wyatt's 12-15-89 report on automatic COLAs
    - 12-19-89 report reflects guaranteed adjustments
    - 12-19-89 report reflects liability for current retirees and for current actives who are projected to retire in future
    - 12-19-89 report uses COLA that starts after 3 years of retirement instead of after later of age 65 and 3 years
  - transfers from ASRS to PRBE account whenever actuarial value funding ratio exceeds 105% means all future actuarial gains are taken out of ASRS
    - thus ASRS contribution rates will not be able to decrease due to favorable experience *
    - so PRBE approach is not a free ride or a no cost item
  - gains from ASRS active member funds will be used to finance retiree PRBEs
  - * future benefit improvements in ASRS may become almost impossible due to interaction of PRBE funding mechanism and the Study's Statement of Primary Intent
    - certainly more expensive since accumulated gains will not be available to absorb part of the cost of ASRS changes

- Initial $400 million transfer from ASRS to PRBE fund has significant impact on ASRS statutory contribution rates
  - if it had been done as of June 30, 1989, 1990/91 contribution rate would be 4.73% instead of 3.82% and funding period would be 45 years instead of 14 years
    - requires 0.91% added to both employees and employers
    - 1.82% added to total contribution rate
    - a 24% increase in cost

- if implemented as of June 30, 1990, the impact on 1991/92 contribution rates would be
  - 1.01% added to employer and employee rates
  - a 28% increase in ASRS cost
  - an increase in the funding period to 45 years

• Study's four examples of PRBE forecast
- assumes PRBE benefits paid in lump sum on June 30
  - if paid more frequently, PRBE gross income will be less
- apparently assumes no administrative expenses to be paid by PRBE account
- projected payouts apparently ignore the 70% limitation
  - 1% PRBE scenario exceeds 70% limit after 23 years
  - 2% PRBE scenario exceeds 70% limit after 8 years
  - 3% PRBE scenario exceeds 70% limit after 5 years
  - 4% PRBE scenario exceeds 70% limit after 3 years

• Outstanding questions
- should clearly define actuarial value funding ratio
- "gross income" needs to be defined
  - interest and dividends only?
  - realized gains?
  - unrealized gains?
  - accrual of discount/amortization of premium?
- investments limited primarily to fixed income?
- what about System retirees?
- possible IRS exclusive benefit problems if an actual trust fund created:
  - Wyatt would prefer to see it set up as a separate account within ASRS in order to minimize IRS scrutiny

Concluding Remarks

- Comments not intended to imply that PRBE concept is a bad idea

- It may provide a less-painful way to consistently provide post-retirement increases

- but it is not a no-cost item
  - employe/employer rates will be almost 1% higher after the $400 million transfer
  - future decreases in contribution rate will be harder to achieve because of the 105% transfer mechanism

- future changes to ASRS will be much more difficult to achieve since virtually all gains will be transferred to PRBE account.

Section II

Introduction

The Retirement Board of the Arizona State Retirement System has requested that The Wyatt Company review and provide comments on the post-retirement benefit enhancement concept proposed in the "Final Report on the Study of the Arizona State Retirement System" prepared for the Legislative Council Study Committee by Kaufmann and Goble Associates in association with Cyberserv International Company. Throughout our report, the post-retirement benefit enhancement concept will be referred to as "PRBE". We will refer the overall study as simply the "Study".

This report summarizes Wyatt's understanding of the PRBE concept as proposed in the Study and offers comments on this concept.

Section III

Wyatt's Understanding of the PRBE Concept

As Wyatt understands the concept presented in the Study, a separate account would be established to fund all future cost-of-living adjustments granted to ASRS retired members. These future COLAs are referred to as PRBEs.

The intent of this approach is that the cost of future PRBEs (i.e., future COLA adjustments) would not be reflected in the employee/employer contribution rate of ASRS.

The PRBE account would be funded by an initial transfer of $400 million from the main ASRS account, and this new account would receive additional transfers from ASRS whenever the "Actuarial Value Funding Ratio" exceeds 105%.

A maximum of 70% of PRBE "gross income" for any given year would be available for payout in actual benefits during a year. The other 30% must increase the corpus of the account.

The first PRBE increase should, if feasible, be used to "catch-up" those retirees who retired before the current 2% formula became law. In other words, those retirees' benefits should be recalculated under the 2% formula and compared to their current benefit (including all subsequent ad hoc COLAs) and increased if appropriate.

An additional PRBE adjustment can be made in any future year only if the benefit being granted will not cause the present value of total PRBE benefits to exceed the value of assets in the PRBE account. In other words, no unfunded liability can be created in the PRBE account due to granting of additional increases. Thus once the present value of future payments of prior granted PRBEs equal the account's assets, no new PRBEs can be granted irrespective of the change in the CPI or other inflation index.

PRBE benefits are not guaranteed into the future. The benefits will be reduced or eliminated whenever the 70% constraint comes into play.

The ASRS Board apparently would be given authority to determine the distribution formula for each new year's addition to prior PRBEs. The Study recommends against allowing flat dollar increases. It strongly encourages uniform percentage increases.

The first PRBE granted for any retired member would not be available until the retiree had reached the later of age 65 or been retired 3 years. The PRBE benefits could be paid as additional monthly income or as periodic lump sums.

The assets in the PRBE account would be managed by the Investment Advisory Council, but the investment policy apparently would emphasize income production rather than capital appreciation.

Finally, the Study would structure the PRBE account as a separate trust fund in addition to structuring the Arizona State Retirement Plan as a trust fund.

Section IV

Observations on the PRBE Concept

Based on Wyatt's understanding of the PRBE concept, the following observations and issues are provided.

Funding Method for Future Non-Guaranteed COLAs

The PRBE approach is essentially a method to isolate funding for post-retirement increases. If implemented, all future post-retirement adjustments and benefits would be financed through the mechanism of the PRBE account.

Additional PRBE increases would be possible as long as the present value of the desired increase does not cause the actuarial value of future benefits from all prior PRBEs including the additional PRBE to exceed the assets held in the PRBE account and (as Wyatt interprets the maximum income distribution provision) as long as the total annual cashflow requirement for the year is not in excess of 70% of the PRBE account's total "gross income".

In essence, an automatic mechanism would be established to provide future non-guaranteed COLA adjustments. These adjustments would be non-guaranteed because the PRBE can be reduced or eliminated if the sum of all PRBE payments in a given year exceeds 70% of gross income.

PRBE Funding Approach and Indirect Impact on ASRS

Section 3.2 of the Study references Wyatt's report on the cost of a COLA (dated December 15, 1989), and says that the cost of this PRBE program is significantly less than the quoted 7.24% to 7.41% shown in that report.

It is important to understand why that report shows a higher cost than the PRBE approach. In that report, each COLA increase is guaranteed into the future. The COLA cost reflects not only the liabilities for current retirees but also the future liabilities for those active members who are projected to retire in the future.

In addition, the 1989 report starts the first COLA after three years of retirement whereas this Study would delay the first PRBE increase until the later of age 65 or 3 years of retirement. Given the recent improvements in early retirement and normal retirement in ASRS, the delay to age 65 would further reduce the cost of an automatic COLA provision. The age 65 start date represents anywhere from 5 to 10 years until the first PRBE adjustment if retirement takes place between ages 55 and 60. Thus the cost figures from the 1989 COLA report would be significantly reduced under the 65 and 3 eligibility feature.

Since the PRBE account receives a transfer from the main ASRS account whenever the ASRS "actuarial value funding ratio" exceeds 105%, this means that virtually all future actuarial gains generated during a year by ASRS will be transferred to the PRBE account. This transfer is what is required in order for the PRBE account to be "self perpetuating and self funding" as the Study refers to it.

Wyatt is assuming that the phrase "actuarial value funding ratio" means the ratio of the actuarial value of assets to the actuarial accrued liability under the current actuarial valuation method (projected unit credit under the current statutes).

To say that the PRBE account eliminates ad hoc COLAs increasing the contribution rates to ASRS is true only in the strictest sense. The transfer of gains from ASRS to the PRBE account has the indirect effect of not letting contribution rates decrease during a year as a result of those gains. So the mechanism indirectly guarantees that the ASRS contribution rates will be greater than they would have been in the absence of the PRBE account.

The PRBE approach is therefore still not a "free ride". It is in essence a variation on the excess interest approach to providing COLAs, although a conceptually better variation.

The funding approach also uses gains from active member results to finance these COLAs (or PRBEs) for present retirees. The fact that gains from current active members are being used to finance benefits for current retired members instead of being used to reduce active member contribution rates is perhaps justified by the fact that at least theoretically some of those gains will be available when those active members become retirees.

Since the 105% cap will result in accumulated gains no longer being available under this procedure, the cost of any additional changes to ASRS will be more expensive, inasmuch as there are no gains available to offset the cost of those changes. Some of the changes themselves might not be permitted at all under the Study's Statement of Primary Intent. Specifically, it may make it impossible to ever implement a true automatic COLA.

Cost Impact on ASRS of the $400 Million Transfer to the PRBE Account

The Study says that the transfer of $400 million to the PRBE account would have a minimal impact on ASRS. It cites the impact as not in excess of 6/10% of pay.

Our calculations show that if the transfer had been made as of June 30, 1989, the current statutory funding requirements would have resulted in a 1990/91 fiscal year ASRS contribution rate of 4.73% instead of the actual 3.82%, and that the statutory funding period would have been increased from 14 years to 45 years. The 0.91% addition to the contribution rate would apply to both employees and employers, for an overall 1.82% addition to the total contribution rate. This would represent a 24% increase in the cost of ASRS and in excess of an additional $55 million in contribution dollars.

For the 1990 actuarial valuation currently in process, the estimates would be an additional 1.01% in contribution rates for both employees and employers, or a 28% increase in the cost of ASRS. The funding period would again be increased to 45 years.

The Need for an Automatic COLA

The Study questions the necessity for an automatic COLA based on its analysis of two isolated examples. The actual necessity for an automatic COLA feature is directly tied to the unpredictable nature of the ad hoc increases that are included in the Study's comparison. Favorable experience has made possible the ad hoc increases reference by the Study. There is absolutely no guarantee that such increases will continue to be the case. In addition, the non-guaranteed nature of the PRBE further illustrates the value to retired members of an automatic COLA feature.

The Study's Forecast of PRBEs

Wyatt has reviewed the four forecast examples contained in Appendix 10 of the Study. Several comments seem appropriate concerning these examples.

1. The calculation of gross income assumes that the PRBE benefit for the year will be paid as a lump sum on June 30 of each year.

   — If the PRBE is paid monthly, gross income each year will be less.

2. The calculation of the PRBE account balance assumes that this account will absorb no administrative expenses, since reference is made to gross income, not net income.

   — It would hardly seem appropriate to have the main portion of ASRS absorb all of the additional expenses associated with the new PRBE feature.

3. The projected payout under the PRBE apparently ignores the 70% of gross income limitation in the intended plan design.

   — A review of the numbers in the 1% scenario shows that after 23 years the projected PRBE payout exceeds 70% of gross income.

      —— If Wyatt's understanding of the proposal is correct (i.e., that at least 30% of gross income must be added to the corpus of the account), PRBE benefits would start being reduced after 23 years.

   — For the 2% scenario, the decreases in PRBE benefits would begin after 8 years.

   — For the 3% scenario, PRBE benefits will begin to be decreased after 5 years.

   — In the 4% scenario, the reductions begin after 3 years.

4. If the understanding of the 70% limitation is correct, this approach hardly represents a long term solution to post-retirement adjustments if ASRS does not generate enough gains to keep adding new dollars to the program.

Other Questions and Comments

The "actuarial value funding ratio" needs to be clearly defined. As previously indicated, it presumably equals the ratio of the actuarial value of assets to the actuarial accrued liability under the actuarial valuation method. This should be clarified if legislation is introduced.

The term "gross income" needs to be clarified. Does it represent interest and dividends only? Does it also include realized gains? Does it include unrealized gains? What about accrual of discounts and amortization of premiums for fixed income securities? Finally, how are investment and administrative expenses to be reflected?

The Study seems to imply that this fund would be invested primarily in fixed income assets and accounted for on a book value basis, based on the "primary objective" statement on page 9-5 of the Study. There needs to be a clarification if this is the intended limitation. If it is, the IAC and the Board may very well wish to evaluate whether it is in the best long term interest of plan members to restrict investments for this fund to fixed income securities.

The Study talks in terms of a separate trust fund and a physical transfer of assets between the ASRS trust fund and the PRBE trust fund. Any such implementation should be approached carefully because of IRS tax qualification considerations. There may be some adverse "exclusive benefit" implications with IRS if separate trusts are established and physical transfers are made.

Wyatt would prefer to see the PRBE approach implemented as a separate account within ASRS rather than as a second distinct 401(a) trust. There would be far fewer questions raised by IRS in this way.

Finally, the Study is silent on how current System retirees should be handled. Any implementation of the program needs to specify exactly how this group fits into the PRBE concept.

Section V

Concluding Comments

The observations raised in the prior section are not intended to imply that the PRBE concept is a bad idea. It may, in fact, provide a less-painful way to make available consistent increases for ASRS retirees.

The important thing to understand, however, is that this approach is not a no-cost item. The employee/employer contribution rate would increase by 1% immediately due to the proposed $400 million transfer. In addition, it will become much more difficult to provide other benefit changes in ASRS since virtually all actuarial gains will be transferred from the general ASRS account to the PRBE account.

Attachment H

General comments
on the
Kaufmann/Cyberserv Study
prepared by the
Wyatt Company

ATTACHMENT H

THE Wyatt COMPANY

ACTUARIAL SERVICES
COMPENSATION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

SUITE 2400, LOCK BOX 58
2121 SAN JACINTO STREET
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EMPLOYEE BENEFITS
EMPLOYEE COMMUNICATIONS
RISK MANAGEMENT
INSURANCE CONSULTING
HEALTH CARE CONSULTING

November 29, 1990

Mr. Ed Gallison
Director
Arizona State Retirement System
P. O. Box 33910
Phoenix, Arizona 85067

Dear Ed:

General Comments on the Kaufmann/Cyberserv Study

Following the ASRS Board meeting on November 16, Paul Felix asked that I furnish him a copy of my comments on all of the items covered in the Kaufmann/-Cyberserv Study of ASRS for the Legislative Council. Accordingly, attached you will find those comments.

The attached information, along with the report on the Post-Retirement Benefit Enhancement Concept from that study that I presented at the Board meeting will probably form the basis for my comments at the Legislative Council's committee meeting on Wednesday, December 5. As such, Paul Felix and any other board members attending that committee hearing may find the attached comments helpful.

My comments are organized in columnar format. Column 1 is the page number from the study. Column 2 is the item on that page for which a comment is being made. Column 3 is our comment on that item.

Should you have any questions concerning the attached, please contact me.

Sincerely,

THE WYATT COMPANY

W. Michael Carter
mdl

W. Michael Carter
Actuary

mdl
Enclosure

Comments on the Final Report
on the Study of the Arizona State Retirement System

Study Page Number (1)	Study Item (2)	Comment (3)
2	We prepared a "rank scoring" analysis of the Arizona State Retirement System's overall retirement benefits, ... The Arizona State Retirement System ranks number 1	While the ranking is number 1 based upon the Study's approach to evaluating retirement benefits, we believe the overall conclusion may be biased by the ranking system being used. See our additional comments in a later section.
Section 1, Page 1	1.1 Recommendation 4 - Eliminate the option to revoke the joint and survivor annuity option under certain circumstances and replace with a pop-up option	We concur with this recommendation. It is our understanding that the current statute (38-781.10(B)(1)) is interpreted to allow a participant to revoke a joint and survivor option by only showing evidence of good health on the participant and not on the joint pensioner. The current statute therefore allows for possible adverse selection on the part of the participant. In other words, a subsidized "pop-up option" is in essence available. This is probably not the intent of the statute. Therefore it would be far better to include a formal, actuarially equivalent pop-up option to preserve the integrity of the System.
Section 1, Page 1	1.1 Recommendation 6 - ASRS should keep members informed about supplemental, optional employee benefit programs through their employers	While the intent of this recommendation is good, it should be recognized that such a responsibility would result in a significant increase in ASRS administrative effort and expense because of the large number of participating employers and the multitude of plans that would be available from those employers.
Section 1, Page 2	1.2 Findings - the inclusion of the employer contribution rate in the rank scoring analysis of ASRS retirement benefits	We do not believe that it is proper in evaluating the adequacy of benefits or the level of the benefits to include the employer contribution rate. While the employer contribution rate is a function of the level of benefits being provided, it is also very much impacted by prior contribution levels, investment performance, and actuarial methods and assumptions. Therefore its use in ranking the adequacy or attractiveness of the level of benefits distorts any such comparison.
Section 1, Page 2	1.2 Findings - the retirement benefit amount provided by ASRS equals or exceeds 73% of the surveyed systems	While the ASRS benefit amount equals or exceeds 73% of the surveyed systems, it should also be noted that it exceeds only 57% of the surveyed systems. It equals the benefit provided by 18% of the surveyed systems. The ASRS benefit amount is, in fact, the most common benefit amount found among the 67 surveyed systems. Finally, it is important to note that this is a comparison of the amount of the benefit only at the time of retirement. A number of the systems, both with greater amounts, equal amounts, and lesser amounts at retirement, have guaranteed automatic COLAs. This means that several years into retirement, the benefits provided by these other systems will be larger unless there are a continuation of ad hoc COLAs granted for ASRS retirees.

Comments on the Final Report
on the Study of the Arizona State Retirement System
(Continued)

Study Page Number (1)	Study Item (2)	Comment (3)
Section 1, Page 2	1.2 Findings - ASRS's employer contribution rate is less than about 90% of the surveyed systems	This is a true statement. The reasons for this condition should be noted, however. The current low state employer contribution rate results from a combination of employer contribution rates prior to 1984 being higher than actuarially required, the successful investment performance of the System, and the legislation of the projected unit credit actuarial valuation method for determination of the contribution rate.
Section 1, Page 2	1.2 Findings - the ASRS retirement formula percentage multiplier equals or exceeds about 77% of the surveyed systems	As with the above comment concerning the amount of the benefit, while the 2% formula may equal or exceed 77% of the surveyed systems, it is greater than only 54% of the surveyed systems and it is equal to 25% of the surveyed systems. It is, in fact, the most common multiplier percentage found among state systems. As with the earlier comments, making judgements based only on the multiplier ignores the importance of the guaranteed automatic COLAs.
Section 1, Page 3	1.2 Findings - using a "cost/benefit" index to measure the value of the retirement benefit	The report equates this index with the benefit adequacy of the System. We would suggest it is more a measure of how well the System has been run rather than how adequate the benefits are that are being delivered to the participants.
Section 1, Page 4	1.2 Findings - private sector plans do not typically include any type of COLA	We agree with this conclusion. Both guaranteed COLAs and ad hoc COLAs are much less frequently encountered in private sector retirement plans than they are in public sector retirement plans. While there was a great deal of interest in ad hoc COLAs among private sector employers during the high inflation years of the late 1970s, there has been much less interest in adopting ad hoc COLAs during the last 5 to 8 years.
Section 1, Page 4	1.2 Findings - the need to have a greater awareness of the excellence of ASRS	We would agree with the statement that the members, participating employers, and legislators need to have a greater awareness of how well ASRS is managed and how well it delivers the benefits that are promised to its members. Members, participating employers, and legislators should take pride in how good a job ASRS does in fulfilling its responsibilities.
Section 2, Page 5	2.1 Recommendation 6 - ASRS should have greater flexibility over its annual budget determination and expenditures	We concur with this recommendation. ASRS's ability to provide adequate services to its members and to respond to the needs of its members would be enhanced if the System is given greater flexibility in meeting its expenses from its operating income.

Comments on the Final Report
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Study Page Number (1)	Study Item (2)	Comment (3)
Section 2, Page 6	2.1 Recommendation 8 - ASRS should have an ongoing program for active participation in various professional and trade organizations	We concur with the intent of the recommendation. It should be noted, however, that both the director and members of the Board currently participate in the two best educational organizations for public sector retirement systems. These are the National Council on Teacher Retirement (NCTR) and the National Association of State Retirement Administrators (NASRA). The board members attending the annual meeting of these organizations will certainly attest to the value of their attendance at those meetings.
Section 2, Page 7	2.2 Findings - "there is no ongoing professional development and educational program for the members of the retirement board."	As noted in the previous comment, board members have been attending the annual NCTR conference. It is our opinion that this annual conference consistently provides a high level of professional development and education for public retirement system investments, benefits, and administration.
Section 3, Pages 10-15	Post-retirement benefit increases	See our "Comments on Post-Retirement Enhancement Concept", dated November 16, 1990.
Section 4, Page 16	4.1 Recommendation 1 - Early retirement incentives should be statutorily prohibited unless savings can be quantified	Quantifying the savings from early retirement windows is very difficult, if not impossible, since it involves calculations outside the retirement system such as rates of replacement of retiring personnel, salary adjustments for those replacing employees, associated cost changes in other employee benefits (such as group life, group health, workers compensation, sick leave, etc.). Requiring a quantification of savings could very well result in the inability to pass future early retirement windows. This may or may not be the desired effect from the Legislature's point of view.
Section 4, Page 16	4.1 Recommendation 2 - Reduce early retirement factors to more closely approximate actuarial equivalencies	Removing the subsidies in early retirement benefits would certainly be contrary to general trends within the benefits industry. It may result in the inability of public employers to provide encouragement for retirement of those older employees whose productivity may have declined.
Section 4, Page 16	4.2 Findings - 84% of surveyed systems do not have an early retirement incentive	It is important to understand that the phrase "early retirement incentive" is intended to imply a currently active early retirement window. Numerous states have had windows in the past. They may not, however, have had a window within the last few years, so as to have responded no to the issue in the survey. The study does correctly point out that almost all state systems have some type of actuarial subsidy for regular early retirement.

Comments on the Final Report
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Study Page Number (1)	Study Item (2)	Comment (3)
Section 4, Page 16	4.2 Findings - subsidized early retirement is "at the expense of the Arizona State Retirement System, its active members and the participating employers ... the early retirement benefits are worth more than normal retirement ... since normal retirement is effectively penalized ..."	We are not sure what the phrase "at the expense of" is intended to imply, nor what the term "penalized" is intended to mean. Early retirement subsidies are generally intended to encourage those older workers who might be less productive to retire, in order to make room for younger workers to advance. The subsidized early retirement benefits are, in a sense, worth more than normal retirement. Otherwise, these benefits would not be known as subsidized early retirement benefits. The subsidized early retirement factors are fully reflected in the actuarial cost of a retirement system, along with the relevant probabilities that early retirement will occur. Therefore the total cost has a component that includes both the cost of expected normal retirements and the cost of expected subsidized early retirements. It is true that if the present early retirement subsidies could be eliminated prospectively, then the current cost of ASRS would go down. Before such action is taken, however, it is important that the Legislature fully evaluate the long range impact and implications of eliminating the incentive for workers to retire early.
Section 5, Page 19	5.1 Recommendation 1 - the ASRS primary funding objectives should be incorporated into the statutes	See our following comments on those funding objectives.

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Study Page Number (1)	Study Item (2)	Comment (3)
Section 5, Page 19	5.1 Recommendation 2 - establish a funding objective in statutes that the Actuarial Value Funding Ratio is a minimum of 1.05	No place in the study do we find a formal definition of the term "Actuarial Value Funding Ratio". We assume from the discussion in the report that this item is intended to be the ratio of the actuarial value of assets to the GASB 5 Pension Benefit Obligation. Before incorporating this requirement in the statutes, it is important to clarify the exact nature of the definition. The recommendation speaks in terms of a minimum funding level of 1.05. When taken in conjunction with the recommendations for the PRBE, however, the ratio will actually become a maximum funding level rather than a minimum funding level since the intent of the PRBE mechanism is to transfer any assets in excess of the 1.05 ratio to the PRBE account.
Section 5, Page 19	5.1 Recommendation 3 - constitutionally shield the actuarially determined contribution rate	This would certainly be a very well received change. It would definitely strengthen the System.
Section 5, Page 19	5.1 Recommendation 4 - transfer assets in excess of the 1.05 Actuarial Value Funding Ratio to the PRBE account	See our comments on the PRBE concept in our November 16, 1990 report. Also, with reference to Recommendation 2 above, this recommendation has the effect of establishing the Actuarial Value Funding Ratio at a maximum of 1.05 rather than a minimum.
Section 5, Page 19	5.1 Recommendation 5 - statutorily require an experience study every four years beginning June 30, 1991	We certainly concur with the suggestion that actuarial assumptions be changed based on experience studies. For a large system such as ASRS, with adequate experience data, credible experience rates can be developed. A modified experience study was utilized to establish select and ultimate withdrawal and retirement rates beginning with the actuarial valuation as of June 30, 1988. The current contract with the actuary contemplates an experience study. It is more normal, however, to use a 5-year period between experience studies rather than a 4-year period. The reason for the 5-year period is generally to allow for a development of more statistically credible data.

Comments on the Final Report
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Study Page Number (1)	Study Item (2)	Comment (3)
Section 5, Page 19	5.1 Recommendation 6 - require an independent actuarial review any time a change in actuarial assumptions results in an increase in the contribution rate of more than ± 30%	If this is to be implemented, there should be exceptions provided if the change is the result of the experience study itself, or if the change is the result of a modification in the investment return assumption, salary scale, or actuarial method change. Finally, it should not include changes in assumptions that are a direct result of legislative changes in the benefits or benefit eligibility (such changes may require modifications to assumptions). The items in these exceptions can often result in changes in the contribution rate of the magnitude specified by the recommendation. However, the whole point of making these changes is often to incorporate newly determined realistic assumptions or to incorporate legislated changes.
Section 5, Page 20	5.1 Recommendation 7 - require an independent actuarial review whenever changes in assumptions cause the actuarial accrued liability to change by more than ± 20%	The same exception as cited for Recommendation 6 should apply here.
Section 5, Page 20	5.1 Recommendation 8 - consider a study to determine the feasibility and cost effectiveness of developing contribution rates by participating employer	It is important to understand that this would be a major change in actuarial methodology and plan administration. As such it will greatly increase administrative expense and substantially increase the time required to produce an actuarial valuation, given the number of participating employers. It would dramatically change almost all administrative recordkeeping systems of ASRS and, taken to the extreme, could involve maintaining some type of allocation of assets. It would also change ASRS from a "cost-sharing PERS" to an "agent PERS". This has significant implications for both ASRS and all financial reporting entities participating in ASRS as it relates to required financial disclosures under GASB.

Comments on the Final Report
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Study Page Number (1)	Study Item (2)	Comment (3)
Section 5, Page 20	5.1 Recommendation 9 - consider an actuarial study to determine the feasibility of an employer paid-all system	This an extremely complex task, with many equity implications and many benefit formula questions. It would be neither a simple nor quick task to perform. Many issues relating to the nature of the employment contract for public employees in Arizona would have to be investigated. This is not to say it is not a good idea. Rather, the comment on this as well as the comment on the preceding recommendation is to emphasize that either undertaking is not a simple, quick, uncomplicated study to perform. There are significant implications for either recommendation far beyond just the apparent result or intent of the outcome.
Section 5, Page 20	5.2 Findings - present ASRS funding is on a sound actuarial basis. However, this situation will be placed at material risk if the statutory, actuarially determined contribution rate continues to be legislatively reduced	We very much agree with this statement. The quickest way to undermine the actuarial soundness of a system is to ignore the actuarial cost and to let the contribution to the retirement system become the budget balancing item.
Section 5, Page 20	5.2 Findings - constitutionally shield the assets from both wide swings in the marketplace and from capricious reductions in the actuarially determined contribution rate	We are not sure what the intent is of the phrase "shield the assets from wide swings in the investment marketplace". If it is to have the effect of restricting the System's ability to invest in equity markets, the asset/liability study completed in 1989 would suggest that constitutional limitations on the ability to invest in equities could result in a long-range increase in the cost of the System.
Section 5, Page 21	5.2 Findings - the assumed rates used by ASRS appear to be reasonable and reflect sound and prudent actuarial principles	We thank the authors of the study for their complimentary comments on our actuarial methodology.
Section 5, Page 22	5.2 Findings - investment should not be made in the name of other interests except that of beneficiaries of ASRS	We are in complete agreement with this opinion. It supports the "exclusive benefit" concept for qualified retirement plans. It is important for the long-term protection of the retirees to emphasize that the System's assets should not be used for social purposes at the expense of the members of the System.

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Study Page Number (1)	Study Item (2)	Comment (3)
Figure 1	1(b) - provide a total compensation package that is generally equivalent to comparable employment in other public and private organizations in the State	If the primary intent includes a requirement to be generally equivalent to private sector benefits, a movement for a true, guaranteed COLA would all but be precluded, since almost no private sector employers in Arizona would have such a provision.
Figure 1	1(c) - provide a retirement system that encourages employees to remain in service for such periods of time as to provide a public employer full benefit of the training and experience gained by these employees	From time to time, there will be cases that arise in which it is to the public employer's benefit to have an employee retire earlier rather than later. Therefore this intent could conceivably conflict with Primary Intent Number 2 of Figure 1 which recommends discouraging early retirement.
Figure 1	1(e) - provide a retirement benefit as of January 1, 1993 that meets certain conditions	There seems to be no clear explanation of what the meaning of this Primary Intent item is. It needs to be clarified so that proper evaluation of this item can be made.
Figure 1	Primary Intent 2 - discourage early retirement prior to 30 years of service, and encourage extended employment	It needs to be noted that the implementation of this intent would eliminate early retirement subsidies. It is important for the legislature and the System's members to fully understand the implications of such a dramatic change. In addition, it would help if the term "extended employment" is clarified. Does it mean employment for 30 or more years?
Figure 1	Primary Intent 3 - not meet 100% of a member's post-retirement income requirements	This intent needs to be clarified as to whether it means that a service limit be placed on the benefit formula. In addition, it needs to be clarified how ancillary benefits such as the health insurance premium supplement fit into this statement.
Figure 2	Funding Objective 2 - maintain an Actuarial Value Funding Ratio at 1.05 or greater	See our earlier discussion of this concept. The term Actuarial Value Funding Ratio needs to be clearly defined. We suggest that the 1.05 threshold becomes a maximum rather than a minimum if the PRBE concept is also adopted.

Comments on the Final Report
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Study Page Number (1)	Study Item (2)	Comment (3)
Figure 3	Trust fund nature of ASRS Item 1 - establish that ASRS is a trust fund and establish that the assets of ASRS shall not be used for any purpose which is incompatible with the ASRS Statement of Intent	It has been pointed out to us that no place in current statutes is it clearly stated that ASRS is a trust fund. Therefore we wholeheartedly agree with the recommendation that the statutes clearly identify ASRS as a retirement trust. This is also important from a continued plan qualification standpoint. As to the requirement that no assets of the fund be used for any purpose that is incompatible with the Statement of Intent, given the nature of the Statement of Intent this is a very tough, restrictive requirement. It might very well preclude many if not most benefit enhancements. In addition, the nature of the restriction could possibly encourage legal challenges any time benefit changes are implemented.

ATTACHMENT Ia

RAUSCHER PIERCE REFSNES, INC.

January 8, 1991

Representative Jane Dee Hull, Co-Chairman
Senator Doug Todd, Co-Chairman
Members Legislative Council Study Committee
on the Arizona State Retirement System

Dear Fellow Committee Members:

At our December 5, 1990 meeting, it was proposed that the Committee adopt the Statement of Primary Intent included within the draft report of Kaufmann and Goble Associates.

While I believe it is appropriate that the State Retirement System should have a mission statement or explicit policy directive, established by the Legislature, to assist the Board and the employees of the System in understanding its long-term objectives, I do not feel that the statement of "Primary Intent" contained within the Report is in the appropriate form.

First, the statement includes a number of subjects clearly beyond the responsibility or purview of the retirement system. For example, the development of an appropriate total compensation package for public employees covered by the retirement system is a shared responsibility of the executive and legislative branches within each of the individual political subdivisions employing individuals within the System. Furthermore, the comparability of those jurisdictions' employment compensation to that of other organizations, while a laudable goal, is certainly not an issue of primary concern or relevance to the retirement system.

Second, the responsibility for the establishment of retirement system policy is vested in the Arizona Legislature as the representatives of both the active and retired employees as well as the taxpayers of the State of Arizona. To the extent that the conditions and circumstances surrounding the retirement system changeover time, the goals and objectives of the system may be modified by the Legislature to meet such changing circumstances. This is an entirely appropriate exercise of legislative prerogative and should not be unduly impeded.

In summary, while the overall concept of a mission statement for the retirement system is useful, the proposed "Statement of Primary Intent" is over-reaching and contains a number of significant long-term commitments that should be more thoroughly discussed and considered prior to their adoption.

Sincerely,

Alan E. Maguire
Vice President

AEM/cm

ATTACHMENT Ib

RPR

RAUSCHER PIERCE REFSNES, INC.

January 8, 1991

Representative Jane Dee Hull, Co-Chairman
Senator Doug Todd, Co-Chairman
Members Legislative Council Study Committee
on the Arizona State Retirement System

Dear Fellow Committee Members:

At our December 5, 1990 meeting, it was proposed that the Committee adopt the Definition of the Trust Fund Nature of the Arizona State Retirement System included within the draft report of Kaufmann and Goble Associates.

Although the apparent motivation for the proposed statement -- that the permanent funds of the retirement system should not be casually redirected for other purposes -- is appropriate, the proposed statement should be carefully reworded prior to its adoption.

First, the statement fails to recognize that the permanent funds of the retirement system serve not only as a "trust fund" for the employee and employers covered by the System, but also for the taxpayers of those political subdivisions. All covered employees are guaranteed a fixed benefit, by statute, regardless of the availability of monies within the retirement system is permanent funds. The liability for meeting that defined, fixed benefit obligation ultimately rests with the taxpayers of the State and its political subdivisions. The contributions paid into the permanent funds serve to protect future taxpayers from this significant liability.

Second, it is unclear what, if any, effect changing the permanent funds of the retirement system into a "trust fund" would have. Without a complete understanding of the implications of such an action, it should not be recommended by our committee.

In summary, while I recognize the underlying motivation for the proposed language, I cannot support it in its present form.

Sincerely,

Alan E. Maguire
Vice President

AEM/cm

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