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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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Ilene L. Abraham
Kenneth M. de Cesare
Ronald A. Goble
Sidney T. Kaufmann
Paul J. Pratico

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Kaufmann and Goble
Associates
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.

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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.**

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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 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.

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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

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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

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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.

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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 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).

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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.

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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.

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, their retirement boards have no administrative or policy setting responsibilities. The Director of the Department is appointed by the

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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

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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.

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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.*

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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

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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 %).** Amortized over 30 years at 8%, the $400 million endowment is equivalent to an annuity of $35.5 million. **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*

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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 3% COLA. **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**

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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. 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.

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- 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.

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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

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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 1979-80 US LIFE TABLE	STATUTORY REDUCTIONS
50	.210	.35
51	.231	.40
52	.254	.45
53	.280	.50
54	.308	.55
55	.340	.60
56	.376	.65
57	.416	.70
58	.462	.75
59	.512	.80
60	.570	.85
61	.635	.88
62	.709	.91
63	.793	.94
64	.890	.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%.** These figures assume the 1979-80 US Life Table and 8% interest. Higher mortality or higher interest would provide

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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.

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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.

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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

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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

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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.**

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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

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$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.**

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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

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consider completely recodifying and simplifying the present retirement statutes.

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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.

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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.

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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.

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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.* 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*

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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.

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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.*

   e. *provide a* ***retirement benefit,*** *as of January first 1993 for all retirees who have met other retirement tenure and eligibility rules, that shall be* ***no less than the purchasing power*** *equivalent of an unreduced normal retirement benefit* ***equal to a designated dollar amount in 1993 dollars per month per year of service.***

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.*

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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.*

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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.***

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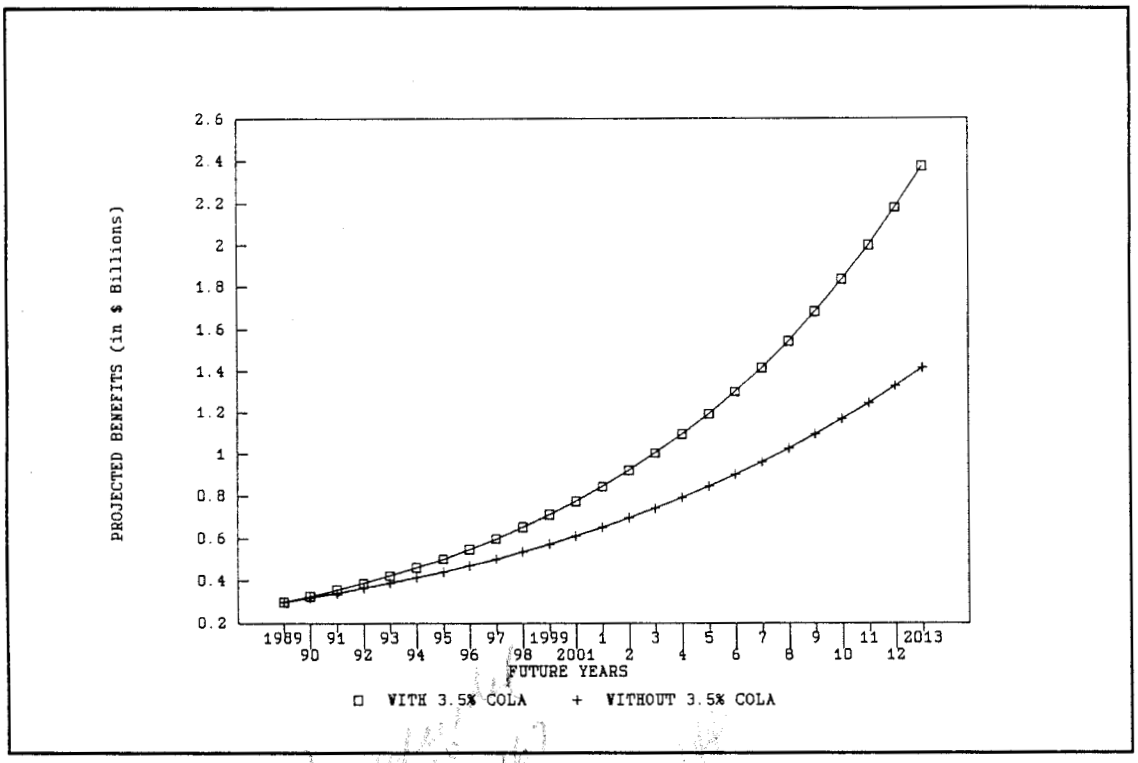
FIGURE 4

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 - 4

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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 $1,000 per month.
- The initial benefit equals $450/month (.015 x 30 x $1,000)

YEAR	AD-HOC COLA LEGISLATION	ACTUAL BENEFIT AMOUNT	CPI IN PRIOR YEAR	½ OF CPI UP TO 3%	BENEFIT AMOUNT 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

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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 percentage multiplier factor now equals 2.0%).
- The member had only 10 years of service.
- The member's final average salary equalled $1,250 per month.
- The initial benefit equals $250/month (.02 x 10 x $1,250)

YEAR	AD-HOC COLA LEGISLATION	ACTUAL BENEFIT AMOUNT	CPI IN PRIOR YEAR	½ OF CPI UP TO 3%	BENEFIT AMOUNT 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

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FIGURE 6

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND INCOME DISTRIBUTION CONCEPT

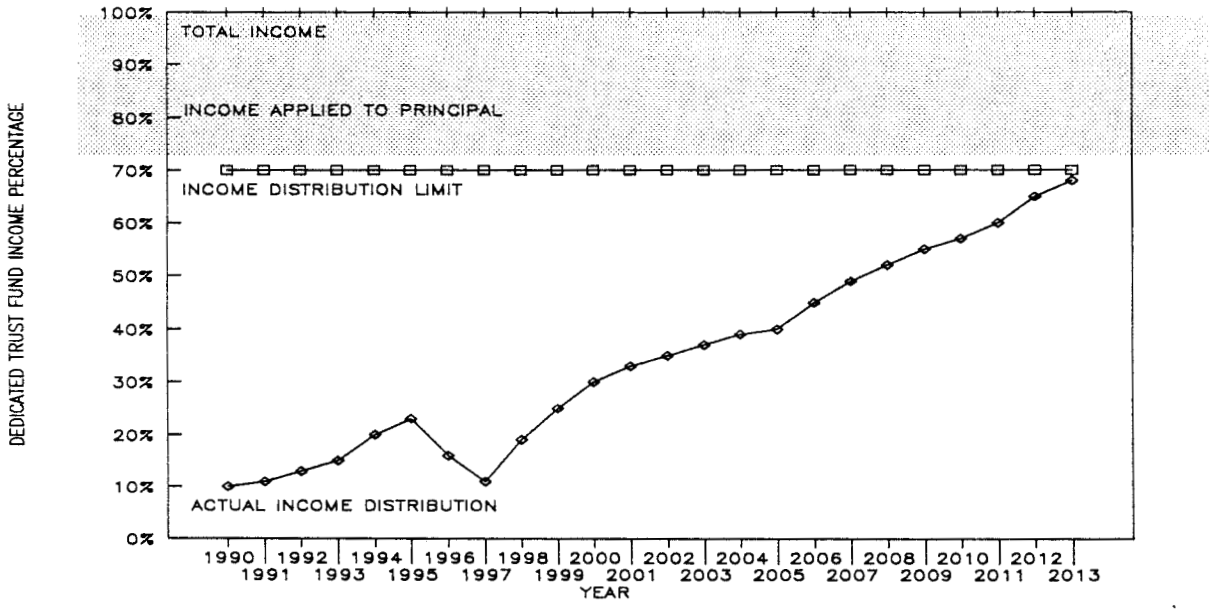

Figure - 7

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APPENDIX 1

LIST OF OTHER SURVEY DATA SOURCES

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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

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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

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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

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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

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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

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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

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RETIREMENT SYSTEM State	PERS	Teacher	NOTES	CONTRIBUTION RATE Member %	Employer %	BENEFIT AMOUNT 30 YRS. OF SERVICE $15,000/Ann	$30,000/Ann	COLA Auto.	Invest. Return Related	Ad Hoc	EARLY RETIREMENT Incentive Yes	No	Reduction Option Yes	No	No Reduc. Option Yes	No	COORD. WITH SOC.SEC. Yes	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		*	5.560	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	8,840	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	13	50
% TTL.SURVEYED								48.8%	6.3%	45.0%	7.9%	92.1%	96.8%	3.2%	27.4%	72.6%	20.6%	79.4%
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											

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RETIREMENT SYSTEM State	PERS	Teacher	NOTES	RETIRED MEMBERS (Inc.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	366
Alaska	1			4,633	13,097	13,665	1,805,900	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	9,839	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	1,388
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	2,416
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	98.84	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			81,219	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	64,997	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	1,951
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			60			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	48,675		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	5,706	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			8,600	35,000		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	366
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

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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=5%; 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)

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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	7,314,715,626	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		2,798,932,658	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	1,408,551,957	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	758,496,644	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	10,478,234,000	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	4,106,284,000	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	1,363,085,600	115.42%	98.63%	16,121,673
So.Dakota/Opt	1		06/30/89	1,181,000,000	1,164,878,327	1,363,085,600	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	11,776,500,000	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	$4,870,833,427	87.38%	80.82%	$1,278,998,551

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RETIREMENT SYSTEM State	PERS	Teacher		FORMULA %	AVG.PD YRS.	"ECON.ASSUMPTIONS/ANNUAL" Invest.Ret. Int.Rate	Sal. Inf./ Incr. Merit (" = Notes)		"BASIS/ACTUARIAL" VALUATION OF ASSETS Cost	Market	Other	VALUATION METHODOLOGY Entry Age PUC	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		5.63			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	6.50		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							

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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 yrs; 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.
Missippi 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.

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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/l 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. -6% 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 .0150 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 annly. 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 [illegible] .025 x [illegible] serv.
Wyoming	1		

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

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

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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.
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

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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

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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	$12,228
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

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APPENDIX 3

PRIVATE PENSION SYSTEMS SURVEY DATA

CONTENTS:

- Sample Survey Letter
- Summary of Survey Data

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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

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

(Page 1 of 3)

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%

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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	Valuation Method PUC	Entry Age Normal	Entry Age Other	Funding Ratio	% Assumed Invest.Ret. Int. Rate	% Assumed Salary Increase	Prudent Person Rule? Yes	Prudent Person Rule? No	Invest. Restrictions (See notes page 3) Incr.	Lees.	No.Chg.	Total For Yr.	% Ttl. Assets	Per Member	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.																							
Gosnell 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.										1				1	$65,000	4.06%	$78		1		1	1	
CyCare Systems, Inc."			1												$23,190	0.24%	$30		1		1	1	
Del E. Webb Corp.	6		1							1		1			$535,773	0.41%	$41		1		1	1	
Greyhound Corp.	3		1	1				8.25%	5.50%	1			1		$6,167,000	0.34%	$100		1		1	1	
Motorola Inc.	11		1	1				10.44%	6.60%	1				1	$20,000	0.57%	$66		1		1	1	
Pinnacle West Cap Corp	5		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						

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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.

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APPENDIX 4

PUBLIC EMPLOYEES RETIREMENT SYSTEMS BENEFITS RANKINGS AND ANALYSIS

CONTENTS:

- Rank Scoring Data - Summary of Retirement Systems' Composite Ranking
- Rank Scoring Data - Overall Ranking of Retirement Benefits Factors
- Rank Scoring Data - 30 Year, $15,000 FYS Benefit Amount Ranking
- Rank Scoring Data - 30 Year, $30,000 FYS Benefit Amount Ranking
- Rank Scoring Data - Employer Contribution Rate Ranking
- Rank Scoring Data - Member Contribution Rate Ranking
- Rank Scoring Data - Retirement Formula Percentage Multiplier Ranking
- Rank Scoring Data - Benefit Dollars Per % of Member Contribution
- Rank Scoring Data - Benefit Dollars Per % of Employer Contribution

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SUMMARY OF RETIREMENT SYSTEMS COMPOSITE RANKING

L. D.	State	PERS	Teacher	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
4	ARIZONA	1		1		
43	New Mexico		1	2	1	
60	Utah-Contrib.	1		3	2	
51	Oklahoma	1		4	3	
69	Wyoming	1		4	4	
1	Alabama		1	5	5	
39	Nevada	1		6	6	
25	Louisiana		1	7	7	
3	Alaska	1		8	8	
26	Louisiana	1		9	9	
67	West Virginia		1	10	10	
55	So. Carolina	1		11	11	
66	Washington-I	1		11	12	
7	California	1		12	13	
29	Massachusetts		1	13	14	
6	Arkansas	1		14	15	
40	New Hampshire	1		14	16	
59	Texas		1	15	17	
42	New Jersey	1		16	18	
54	Rhode Island	1		17	19	
8	Colorado	1		18	20	
57	So.Dakota/Opt.	1		19	21	
23	Kentucky		1	20	22	
24	Kentucky	1		20	23	
38	Montana	1		20	24	
2	Alaska		1	21	25	
16	Idaho	1		21	26	
13	Georgia		1	22	27	
47	No. Dakota	1		22	28	
53	Pennsylvannia	1		22	29	
31	Michigan	1		23	30	
50	Oklahoma		1	23	31	
68	Wisconsin	1		23	32	
22	Kansas	1		24	33	
35	Missouri		1	24	34	
44	New York	1		24	35	
34	Mississippi	1		25	36	
48	Ohio		1	25	37	
11	Delaware	1		26	38	
37	Montana		1	27	39	
58	Tennessee	1		28	40	
17	Illinois		1	29	41	
65	Washington-I		1	29	42	
49	Ohio	1		30	43	
12	Florida	1		31	44	
5	Arkansas		1	32	45	
33	Minnesota	1		32	46	
62	VA Supplemtl.	1		33	47	
56	So. Dakota	1		34	48	
9	Connecticut		1	35	49	
61	Utah-Noncon.	1		36	50	
52	Oregon	1		37	51	
15	Hawaii	1		38	52	
18	Illinois	1		39	53	
45	No. Carolina	1		40	54	
46	No. Dakota		1	40	55	
36	Missouri	1		41	56	
27	Maine	1		42	57	
14	Georgia	1		43	58	
19	Indiana		1	44	59	
20	Indiana	1		44	60	
32	Minnesota		1	44	61	
64	Vermont	1		44	62	
28	Maryland	1		45	63	98.44%
10	Connecticut	1		NO/RA		
21	Iowa	1		NO/RA		
30	Massachusetts	1		NO/RA		
41	New Jersey		1	NO/RA		
63	Vermont		1	NO/RA		
TOTAL/RANKED		47	22	64	64	
MINIMUM				1		
MAXIMUM				45		
AVERAGE				24		

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I. D.	RETIREMENT SYSTEM State:	PERS	Teacher	****CONTRIBUTION RATE*** Member %	R	Employer %	R	********BENEFIT AMOUNT******** 30 YRS. OF SERVICE $15,000/FYS	R	$30,000/FYS	R	AUTO COLA R	SOC. SEC. R	PERCENTAGE MULTIPLIER FACTOR	R	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	2	1	2.000	8	54		
43	New Mexico		1	7.600	31	7.600	21	9,675	3	19,350	4	1	2	2.150	4	66	1	
60	Utah-Contrib.	1		6.000	21	5.330	8	8,578	15	17,156	14	1	1	2.000	8	68	2	
51	Oklahoma	1		2.508	5	8.000	23	8,578	15	17,156	14	2	2	2.000	8	69	3	
69	Wyoming	1		5.570	19	5.680	10	8,578	15	17,156	14	1	2	2.000	8	69	4	
1	Alabama		1	5.000	15	7.570	20	8,632	13	17,264	12	2	2	2.013	7	71	5	
39	Nevada	1		9.125	35	9.125	30	10,723	2	21,445	2	1	2	2.500	1	73	6	
25	Louisiana		1	7.000	26	10.300	39	10,723	2	21,445	2	2	2	2.500	1	74	7	
3	Alaska	1		6.830	25	9.230	33	9,650	4	19,301	5	1	2	2.143	5	75	8	
26	Louisiana	1		7.300	28	12.000	43	11,023	1	21,745	1	2	2	2.500	1	78	9	
67	West Virginia		1	6.000	21	6.000	11	8,183	18	16,365	18	2	2	2.000	8	80	10	
55	So. Carolina	1		6.000	21	7.550	19	8,840	11	16,380	17	1	2	1.820	10	81	11	
66	Washington-I	1		6.000	21	6.280	12	8,183	18	16,365	18	2	2	2.000	8	81	12	
7	California	1		6.000	21	13.200	46	9,210	8	19,581	3	1	1	2.418	2	82	13	
29	Massachusetts		1	5.900	20	16.200	54	10,723	2	21,445	2	2	2	2.500	1	83	14	
6	Arkansas	1		0.400	3	5.400	9	6,751	27	13,502	28	1	1	1.650	16	85	15	
40	New Hampshire	1		5.560	18	3.500	2	7,120	23	14,240	23	2	2	1.660	15	85	16	
59	Texas		1	6.400	22	8.000	23	8,578	15	17,156	14	2	2	2.000	8	86	17	
42	New Jersey	1		2.950	7	6.970	16	7,120	23	14,240	23	1	2	1.660	15	87	18	
54	Rhode Island	1		7.500	29	12.100	44	9,436	7	18,872	8	1	2	2.300	3	94	19	
8	Colorado	1		8.000	33	8.500	25	8,936	10	17,871	10	1	2	1.667	14	95	20	
57	So.Dakota/Opt.	1		8.000	33	8.000	23	8,578	15	17,156	14	1	2	2.000	8	96	21	
24	Kentucky	1		5.000	15	7.450	17	7,569	20	15,138	20	1	1	1.190	25	99	22	
23	Kentucky		1	9.855	38	13.105	45	9,438	6	18,975	6	1	2	2.500	1	99	23	
38	Montana	1		6.000	21	6.417	13	7,120	23	14,240	23	2	2	1.660	15	99	24	
2	Alaska		1	7.530	30	9.140	31	8,578	15	17,156	14	2	2	2.000	8	102	25	
16	Idaho	1		5.430	16	8.890	27	7,501	21	15,003	21	1	2	1.667	14	102	26	
13	Georgia		1	6.000	21	13.630	48	8,786	12	17,571	11	1	2	2.000	8	103	27	
47	No. Dakota	1		4.000	12	5.120	7	6,137	32	12,274	32	2	2	1.650	16	103	28	
53	Pennsylvannia	1		5.000	15	13.220	47	8,578	15	17,156	14	2	2	2.000	8	103	29	
31	Michigan	1		0.000	1	8.040	24	6,750	28	13,500	29	1	2	1.500	19	104	30	
50	Oklahoma		1	5.500	17	13.200	46	8,578	15	17,156	14	2	2	2.000	8	104	31	
68	Wisconsin	1		6.000	21	6.000	11	6,863	25	13,725	25	2	2	1.600	18	104	32	
22	Kansas	1		4.000	12	3.070	1	5,864	34	11,728	33	2	2	1.400	21	105	33	
35	Missouri		1	9.200	36	9.200	32	8,592	14	17,184	13	2	2	2.100	6	105	34	
44	New York	1		3.000	8	16.700	56	8,578	15	17,156	14	2	2	2.000	8	105	35	
34	Mississippi	1		6.500	23	9.750	36	8,438	17	16,875	16	1	2	1.758	11	106	36	
48	Ohio		1	8.770	34	14.000	51	9,450	5	18,900	7	1	2	2.100	6	106	37	
11	Delaware	1		3.000	8	9.000	29	6,792	26	13,583	26	2	1	1.660	15	107	38	
37	Montana		1	7.044	27	7.459	18	7,120	23	14,240	23	2	2	1.667	14	109	39	
58	Tennessee	1		0.000	1	6.850	15	6,137	32	7,896	41	1	1	1.500	19	110	40	
17	Illinois		1	6.000	33	9.510	35	8,505	16	17,010	15	1	2	1.890	9	111	41	
65	Washington-I		1	6.000	21	11.800	42	8,183	18	16,365	18	2	2	2.000	8	111	42	
49	Ohio	1		9.500	37	13.710	49	9,007	9	18,014	9	1	2	2.100	6	113	43	
12	Florida	1		0.000	1	13.900	50	6,874	24	13,747	24	1	2	1.680	12	114	44	
5	Arkansas		1	6.000	21	12.000	43	7,875	19	15,570	19	1	2	1.750	11	116	45	
33	Minnesota	1		3.730	10	3.900	4	5,455	38	10,910	37	2	2	1.250	23	116	46	
62	VA Supplemtl.	1		5.000	15	8.556	26	6,483	31	13,560	27	1	2	1.650	16	118	47	
56	So. Dakota	1		5.000	15	5.000	5	5,625	37	11,250	36	1	2	1.250	23	119	48	
9	Connecticut		1	6.000	21	25.500	59	8,578	15	17,156	14	1	2	2.000	8	120	49	
61	Utah-Noncon.	1		0.000	1	9.880	37	6,525	30	13,050	31	1	1	1.450	20	121	50	
52	Oregon	1		6.000	21	11.300	41	7,163	22	14,326	22	1	2	1.670	13	122	51	
15	Hawaii	1		7.800	32	15.000	53	8,578	15	17,156	14	1	1	2.000	8	124	52	
18	Illinois	1		4.909	14	5.117	6	5,100	39	10,200	38	1	1	1.145	27	126	53	
45	No. Carolina	1		6.000	21	9.350	34	6,618	29	13,236	30	2	1	1.630	17	134	54	
46	No. Dakota		1	6.750	24	6.750	14	5,736	35	11,472	34	2	1	1.220	24	134	55	
36	Missouri	1		0.000	1	9.900	38	5,704	36	11,409	35	1	2	1.330	22	135	56	
27	Maine	1		6.500	23	17.030	57	5,878	33	17,156	14	1	2	2.000	8	138	57	
14	Georgia	1		0.250	2	17.110	58	6,750	28	13,500	29	1	2	1.500	19	139	58	
20	Indiana	1		3.000	8	8.000	23	4,501	40	9,001	40	2	2	1.100	28	143	59	
19	Indiana		1	3.000	8	8.000	23	4,501	40	9,001	40	2	2	1.100	28	143	60	
32	Minnesota		1	4.500	13	8.980	28	5,455	38	10,910	37	2	2	1.250	23	143	61	
64	Vermont	1		0.530	4	10.740	40	5,625	37	11,250	36	1	2	1.250	23	143	62	
28	Maryland	1		3.050	9	16.520	55	3,431	41	9,591	39	1	2	1.150	26	173	63	98.44%
10	Connecticut	1						5,704	36	11,409	35	1	1	1.330	22	95	NO/RA	
21	Iowa	1						7,163	22	14,326	22	2	2	1.670	13	61	NO/RA	
30	Massachusetts	1		7.000	26			10,723	2	21,445	2	2	2	2.500	1	35	NO/RA	
41	New Jersey		1	2.780	6	14.370	52					1	2			61	NO/RA	
63	Vermont		1	5.500	17	7.840	22					1	2			42	NO/RA	
TOTAL/RANKED		47	22	67		66		67		67		69	69	67		64	63	
	MINIMUM			0.000		3.070		$3,431		$7,896				1.100		54		
	MAXIMUM			9.855		25.500		$11,023		$21,745				2.500		173		
	AVERAGE			5.195		9.702		$7,687		$15,430				1.795		104		

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

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	RETIREMENT SYSTEM SORTED BY BENFIT AMOUNT				R	NUMBER & %
	30 YRS. OF SERVICE			$15,000/Ann	A	OF STATES
					N	OVER/UNDER
I.	RETIREMENT SYSTEM				K	ARIZONA
D.	State	PERS	Teacher			
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	8,505	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	

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SUMMARY OF RESULTS – FIN-RPTWEN-RANKWK1

RETIREMENT SYSTEM SORTED BY BENFIT AMOUNT						NUMBER & %
30 YRS. OF SERVICE				$30,000/Ann	R	OF STATES
					A	OVER/UNDER
I.	RETIREMENT SYSTEM				N	ARIZONA
D.	State	PERS	Teacher		K	
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	

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SUMMARY OF RESULTS - VIN-RETCON-RANKWK1

I. D.	RETIREMENT SYSTEM SORTED BY EMPLOYER CONTRIBUTION RATE — State	PERS	Teacher	%	RANK	NUMBER & % OF STATES OVER/UNDER ARIZONA	
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			

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SUMMARY OF RESULTS - FIN-RPCOB-RANK.WK1

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			

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SUMMARY OF RESULTS - FIN-RP\FRN_RANK.WK1

I. D.	RETIREMENT SYSTEM SORTED BY PERCENTAGE MULTIPLIER FACTOR 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			

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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	8,505	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	55	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			

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

I. D.	RETIREMENT SYSTEM State	PERS	Teacher	EMPLOYER CONTRIBUTION RATE %	R A N K	BENEFIT 30 YRS' SERVICE $15,000/Ann	R A N K	DOLLARS PER % OF EMPLOYER CONTRIBUTION	R A N K	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	Pennsylvannia	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			

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APPENDIX 5

ACTUARIAL VALUATION RANKINGS AND ANALYSIS

CONTENTS:

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

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SUMMARY OF RESULTS – FIN-RPTMVF-RANK.WK1

I.D.	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	
65	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%			

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

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		

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APPENDIX 6

ADMINISTRATIVE COSTS RANKINGS AND ANALYSIS

CONTENTS:

- Rank Scoring Data - Administrative Cost Per Total Active + Retired Members
- Rank Scoring Data - Administrative Budget Per Staff Position
- Rank Scoring Data - Administrative Cost as a Percent of Market Value of Assets
- Rank Scoring Data - Total Number of Active + Retired Members Per Staff Position

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SUMMARY OF RESULTS - ADMINISTRATIVE COSTS PER MEMBER \FIN-RPT\ADMIN$.WK1

I. D.	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/MEMBER Staff Size	Cost Per Member	R A N K	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	1,795	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		23,952	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	148,873	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	13,426,968	231	32.98	33	19	
54	Rhode Island	1		10,476	14,406	10,276	1,165,000	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		21,985	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		9,155	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	85,108	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	85	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	5,705	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	3,501	1,405,800	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	269,285	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							55			
MINIMUM				2,098	1,795	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			

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SUMMARY OF RESULTS - ADMINISTRATIVE 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	$2,032,800	8	$12,375	1	1	
59	Texas		1	108,545	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	125,018,809	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		8,305	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	4,196	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	148,873	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		8,500	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	63,035	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			

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

I. D.	RETIREMENT SYSTEM State	PERS	Teacher	MARKET VALUE (In Bill)	****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	
26	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	3,066,314	3,066,314	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		2.735	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	7.055	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	1,165,000	1,640,000	0.075%	21	16	
38	Montana	1		0.758	610,126	610,126	0.080%	22	17	
22	Kansas	1		3.185	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	42,624,000	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	1,809,878	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	2,823,858	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	3,575,064	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	3,235,831	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	$42,624,000	$238,052,000	0.505%			
AVERAGE				$4.951	$4,609,092	$13,939,883	0.117%			

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

I. 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	1,998	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	1,485	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			

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APPENDIX 7

RETIREMENT BOARD COMPOSITION DATA

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SURVEY OF PUBLIC SECTOR RETIREMENT SYSTEMS \DATA\COL\SUR-PUB3.WK1

(Page 1 of 2)

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
				BREAKDOWN OF BOARD MEMBERS BY CATEGORY														
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

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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 apptmt. 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		

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APPENDIX 8

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

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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.

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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.

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APPENDIX 9

POST-RETIREMENT BENEFIT ENHANCEMENT DEDICATED TRUST FUND CONCEPT

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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

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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 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

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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.

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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.

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APPENDIX 10

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

CONTENTS:

- Table 1: Retirees' Benefits By - Total Years of Service
- Table 2: Retirees' Benefits By - Age At Retirement
- Table 3: Retirees' Benefits By - Present Age
- Table 4: Retirees' Benefits By - Final Average Salary Level
- Table 5: Retirees' Benefits By - Retirement Formula Percentage Multiplier
- Table 6: Retirees' Benefits By - Retirement Plan Option
- Table 7: Retirees' Benefits By - Years of Service Grouped by Final Average Salary Level
- Table 8: Retirees' Benefits By - Year of Retirement
- Table 9: Retirees' Benefits By - Percentage of Payroll Eligible for Post-Retirement Benefit Enhancement
- Table 10: Retirees' Benefits By - Year Eligible for Post-Retirement Benefit Enhancement
- Table 11: Post-Retirement Benefit Enhancement Dedicate Trust Fund Funding Projections (four variations)

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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

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RETIREES' BENEFITS BY:
AGE AT RETIREMENT

TABLE 2
TOTAL RETIREES COUNTED = 29,055

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	266	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	286	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

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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	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	388	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	0.485	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	0.065	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

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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	1.835	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	1008	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

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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	80
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
80-80,990	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	3612	3612	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

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RETIREES' BENEFITS BY:
RETIREMENT FORMULA PERCENTAGE MULTIPLIER

TABLE 5
TOTAL RETIREES COUNTED = 29,055

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

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RETIREES' BENEFITS BY:
RETIREMENT PLAN OPTION

TABLE 6
TOTAL RETIREES COUNTED = 29,055

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

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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	388	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	76	$119

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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	445	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	645	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	987	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	9	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

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RETIREES' BENEFITS BY:
YEAR OF RETIREMENT

TABLE 8
TOTAL RETIREES COUNTED = 29,055

YEAR	% OF TOTAL	****AVERAGE MONTHLY BENEFIT AMOUNT**** CURRENT W/COLAS	NORMALIZED ORIGINAL W/COLAS	NORMALIZED CURRENT W/COLAS	ORIGINAL	NORMALIZED 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

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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 1 of 2)

TABLE 9

TOTAL RETIREES COUNTED = 29,055

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	0.7485	0.6818	0.6385	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

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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	0.3486	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

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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 = 29,055

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
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

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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	180.8556	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	1135	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	884.7885	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	$61,057	

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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	956.5476	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	8595	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	

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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	8595	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	

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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	478	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	101.1853	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	

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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	2.8455	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	0.0055	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	

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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	435.1295	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	459.1967	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	234.6276	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	

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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	

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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	62.4567	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	38.8950	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	5.8884	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	

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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 $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	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	36545	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	145485	6.8%
TOTALS							$71	$1,133	$2,280,563	

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