State of Minnesota \ LEGISLATIVE COMMISSION ON PENSIONS AND RETIREMENT

09 - 0385

TO: Members of the House Committee on Governmental Operations and Veterans Affairs Policy

FROM: Lawrence A. Martin, Executive Director

RE: Informational Items Concerning the Legislative Commission on Pensions and Retirement and Minnesota Public Pensions Generally

DATE: January 31, 2001

Introduction

Attached are several informational items prepared by the staff of the Minnesota Legislative Commission on Pensions and Retirement which relate to the organization and operation of the Pension Commission and to the establishment, the administration, the benefit coverage, and the funding of Minnesota public pension plans generally.

Minnesota Public Pensions and the Legislature

There have been public employee pension plans and public employee pension coverage in Minnesota since at least the 1860's. The earliest Minnesota public pension plans were local pension plans. Minnesota currently has the second largest number of public pension plans among the various states, with approximately 800 public pension plans. The number is imprecise in any year because the number of volunteer firefighter relief associations operating in the state is fluid. Nationally, there are estimated to be approximately 9,000 public pension plans in the country, so Minnesota has approximately nine percent of the nationwide total. The various states range considerably in the number of their public pension plans, from the state with the largest number, Pennsylvania, with approximately 2,500 public employee pension plans, to the state with the fewest number, Hawaii, with a single public employee pension plan. States which have a large number of local public pension plans are Pennsylvania, Minnesota, Florida, Georgia, Massachusetts, California, and Texas.

As a state function, Minnesota has had statewide public pension plans since 1915. Specialized legislative attention to Minnesota public pension plan issues dates back to 1943, with the creation of an interim commission to study the various Minneapolis pension and retirement systems, and to 1955, with the creation of the predecessor to the Legislative Commission on Pensions and Retirement as an interim legislative commission to address a funding crisis in the Public Employees Retirement Association. Since 1955, the Pension Commission has been transformed from an interim biennial commission, primarily functioning to prepare a report and set of recommendations for the Legislature, to a permanent commission, primarily functioning to prepare, gather, or process the regular pension plan actuarial and financial reporting, to be the initial legislative entity to deliberate on proposed pension legislation, and to develop recommendations on pension law changes.

Because state law either contains the benefit plan of the various Minnesota public pension plans or regulates the major elements of those benefit plans and other facets of public pension plan administration, the Legislature deals with a considerable body of proposed pension legislation during each legislative session. The general practice of the legislative committees with jurisdiction over public

pension issues, the House Committee on Governmental Operations and Veterans Affairs Policy and the Senate Committee on State and Local Governmental Operations, is to informally refer proposed public pension legislation to the Pension Commission for its review and to await a recommendation of the Pension Commission before undertaking further action on those initiatives. In recommending proposed pension legislation, the Pension Commission rules require bicameral support for any proposal, necessitating affirmative support from a majority of both House and Senate Commission members. The Pension Commission staff, in addition to its Commission staffing functions, also is available to assist other legislative committees and non-Commission legislators on pension-related topics and issues. To assist the Commission and the Legislature, the Pension Commission retains a consulting actuarial firm, the Milwaukee, Wisconsin, office of Milliman & Robertson, Inc., to perform the regular annual actuarial valuations of the various statewide and major local pension plans and to prepare actuarial cost estimates for pending pension legislation.

Attachments

The Commission staff has prepared various attachments relating to the Legislative Commission on Pensions and Retirement and to the administration, development, benefit coverage, investment performance, and funding of Minnesota public pension plans. Those attachments are:

1. Legislative Commission on Pensions and Retirement Function, Creation, Composition, Operation, and Principles of Pension Policy (pages 3-11);
2. Establishment of Minnesota Public Pension Plans (pages 12-15);
3. Local Police and Salaried Fire Relief Association Consolidations (pages 16-17);
4. Minnesota Public Pension Plans, Funds and Administrative Entities (page 18);
5. Plan Demographics (pages 19-24);
6. Actuarial Reporting on Minnesota Public Pension Plans (page 25);
7. Nature of Actuarial Funding (page 26);
8. 2000 Minnesota Public Pension Plan Actuarial Valuation Results (pages 27-32);
9. Funding Progress of Minnesota Public Pension Plans 1957-2000 (page 33);
10. Major Statewide Plans: Funding Ratios, Contributions and Administrative Expenses Over Time (pages 34-36);
11. Actuarial Experience Gains and Losses Over Time (pages 37-39);
12. Glossary of Minnesota Public Pension Terminology (pages 40-46);
13. Investment Performance of Various Minnesota Public Pension Funds (pages 47-61);
14. Historic Purposes for and Types of Public Pension Plans (pages 62-63); and
15. PERA Funding Problem and Options For Resolution (pages 64-68).

Conclusion

The attached materials are intended to provide a sense of the nature of public pension coverage in Minnesota. If you have questions about the attachments or if you desire additional background information about any particular Minnesota public pension issue, please contact a member of the Commission staff (Larry Martin, Ed Burek, Lisa Diesslin, or Lecia Churchill) at 651-296-2750.

Minnesota Legislative Commission on Pensions and Retirement
Function and Creation

- **Function of the Pension Commission**
  - The Pension Commission is a Joint Agency of the Minnesota Legislature
  - The Pension Commission Performs Five Major Functions
    - i) reviews and makes recommendations on pending proposed public pension legislation;
    - ii) conducts ongoing research on pension policy issues;
    - iii) provides legislative oversight for Minnesota's system of over 700 public employee pension plans;
    - iv) arranges for the preparation of regular actuarial valuations and periodic experience studies of the statewide and major local public pension plans; and
    - v) assesses the sufficiency of current public pension plan funding and recommends required modifications.
  - The Minnesota Pension Commission is One of Almost Two Dozen State Pension Commissions Nationwide
- **Creation of the Pension Commission**
  - Initially Established as an Interim Commission
    1943 (Laws 1943, Chapter 449)
    1955 (Laws 1955, Chapter 829)
    1957 (Extra Session Laws 1957, Chapter 13)
    1959 (Extra Session Laws 1959, Chapter 82)
    1963 (Laws 1963, Chapter 888, Section 9)
    1965 (Laws 1965, Chapter 888, Section 5)
  - No Pension Commission Was Established During the 1961-1963 Biennium
  - Pension Commission Established as a Permanent Entity in 1967
    (Laws 1967, Chapter 549; Coded as Minnesota Statutes, Section 3.85)
  - Pension Commission is the Oldest Minnesota Legislative Commission Remaining In Existence

Composition of the Legislative Commission on Pensions and Retirement

♦ Composition of the Pension Commission

- The Commission Consists of Five Members of the House of Representatives and Five Members of the Senate

- The House Members of the Commission Are Appointed By the Speaker of the House

- The Senate Members of the Commission Are Appointed By the Subcommittee on Committees of the Senate Rules Committee

- 96 Legislators Have Served on the Commission 1943-2001, During 232 Two Year Terms*
  (* includes mid-term vacancies that were filled)

- Length of Service By Commission Members 1943-2001:

1 Year	3 Members	1.29%
2 Years	36 Members	15.52
4 Years	22 Members	9.48
6 Years	19 Members	8.19
7 Years	1 Member	0.43
8 Years	5 Members	2.16
10 Years	3 Members	1.29
12 Years	3 Members	1.29
14 Years	0 Members	0.00
16 Years	2 Members	0.86
18 Years	1 Member	0.43
20 Years	1 Member	0.43

- Geographical Distribution By Commission Membership Term 1943-2001

Duluth	1	0.43%
St. Paul	31	13.36
Minneapolis	60	25.86
Suburban Twin Cities	41	17.67
Greater Minnesota	99	42.67

Pension Commission Operation and Resources

♦ Operation of the Pension Commission

- The Commission Chair Sets the General Direction of the Commission
- The Commission Chair Has a Two Year Term
- The Commission Chair Alternates Between the House and Senate Membership; the Chair and Other Commission Officers are Elected From and By the Commission Membership
- After Appointment, the Commission Typically Meets Weekly During the Legislative Session Until the Initial Committee Bill Hearing Deadline
- During the Interim, the Commission Typically Meets Monthly
- By Longstanding Agreement, the Governmental Operations Committees Refrain From Hearing Proposed Pension Legislation Until Receiving a Recommendation from The Commission
- The Commission Recommendation of Proposed Pension Legislation Requires a Majority Vote of the Total Commission Membership of Both the House and the Senate; All Other Commission Actions Require Simple Majority Vote of Commission Members In Attendance
- The Commission Recommendation on Proposed Pension Legislation Is Typically Accompanied By Commission Approved Amendments
- Commission Recommended Proposed Pension Legislation Is Typically Consolidated Into One or a Small Number of "Omnibus" Pension Bills
- Commission Recommended Proposed Pension Legislation Affecting Pension Benefits Is Typically Accompanied By An Actuarial Cost Estimate, Generally Prepared By Commission-Retained Actuary

♦ Staffing and Resources of the Commission

- The Commission Employs a Permanent Staff of 3.5 Positions
- The Commission Retains a Consulting Actuarial Firm for the Performance of Regular Actuarial Valuations and Related Actuarial Work
- The Commission-retained Consulting Actuarial Firm Is Selected Using a Periodic Competitive Bid Process
- Approximately Two-Thirds of the Pension Commission's Budget For Actuarial Services Is Recouped From the Statewide and Major Local Public Pension Plans and Redeposited In the State's General Fund

Level Of Proposed Public Pension Legislation

- **General Level of Public Pension Legislation**

  - An Average of 78 Public Pension Bills are Introduced Annually

  - Commission Typically Reviews 85 Percent of Proposed Pension Legislation Introduced

  - Typically 40 Introduced Public Pension Bills Annually are Ultimately Heard In Some Form by Standing Committees

  - Proposed Pension Legislation Typically Covers a Broad Range of Plans and Circumstances:

    25 Percent Related to Major Statewide Plans
    13 Percent Related to Minor Statewide Plans
    6 Percent Related to Local General Employee Plans
    15 Percent Related to Police and Paid Fire Pension Plans
    8 Percent Related to Volunteer Fire Relief Associations
    20 Percent Related to Individual or Small Group Requests
    13 Percent Related to Miscellaneous Pension Topics

I. Preamble

The Legislative Commission on Pensions and Retirement recommends the following statement of principles, which have been developed since 1955, as the basis for evaluating proposed public pension legislation. Problems can be avoided or minimized if a sound set of principles are used as a guideline in developing the various public pension funds and plans.

II. Substantive Principles

A. Purpose of Minnesota Public Pension Plans

1. Minnesota public pension plans exist to augment the Minnesota public employer's personnel and compensation system by assisting in the recruitment of new qualified public employees, the retention of existing qualified public employees, and the systematic out-transitioning of existing public employees at the normally expected conclusion of their working careers by providing, in combination with federal Social Security coverage, personal savings and other relevant financial sources, retirement income that is adequate and affordable.

2. Minnesota public pension plans should play their appropriate role in providing financial security to public employees in retirement.

3. As Minnesota public employee workforce trends develop, Minnesota public pension plans should be sufficiently flexible to make necessary adaptations.

B. Structure of Minnesota Public Pension Coverage

1. Creation of New Pension Plans

   a. Minnesota public employers, on their own initiative, without legislative authorization, should not be permitted to establish or maintain new public pension plans, except for volunteer firefighter relief associations.

   b. New pension plans for volunteer firefighters should be organized on a county or comparable regional basis if possible.

2. Mandatory Public Pension Plan Membership
   To the extent possible, membership in a public pension plan should be mandatory for the personnel employed on a recurring or regular basis.

3. Consolidation of Public Pension Plans by a Minnesota public employer.

   a. The State, with the second largest number of public employee pension plans in the nation, would benefit from a more rational public pension plan structure.

   b. The voluntary consolidation of smaller public pension plans should be encouraged, with the development of county or comparable regional public employee pension plans in place of a large number of small local plans to assist in this consolidation if a statewide public pension plan is deemed to be inappropriate.

C. Pension Benefit Coverage

1. General Preference For Defined Benefit Plans Over Defined Contribution Plans

   a. Defined benefit plans, where they currently exist, should remain as the primary retirement coverage for Minnesota public employees.

   b. Defined contribution plans are particularly appropriate where interstate portability or private sector-public sector portability is a primary consideration of the public employee group, where the public employee group lacks civil service or analogous employment protections, or where the defined contribution plan is a supplemental pension plan.

2. Social Security Coverage
   Except for public employees who are police officers or firefighters, coverage by the federal Old Age, Survivors, Disability and Health Insurance (Social Security) Program should be part of the retirement coverage for Minnesota public employees.

3. Equal Treatment Within Pension Plans
   There should be equal pension treatment of public employees in terms of the relationship between benefits and contributions.

4. Appropriate Normal Retirement Ages
   The normal retirement age should be set in a reasonable relationship to the employability limits of the average public employee and should differentiate between regular public employees and protective and public safety employees.

5. Appropriate Early Retirement Reductions
   Public employee pension plans should not subsidize early retirement benefits and, except for appropriately designed early retirement incentive programs, retirement benefits should be actuarially reduced for retirement before any applicable normal retirement age.

6. Uniformity and Equal Benefit Treatment Among Plans
   There should be equal pension treatment in terms of the relationship between benefits and contributions among the various plans and, as nearly as practicable, within the confines of plan demographics, retirement benefits and member contributions should be uniform.

7. Adequacy of Benefits at Retirement
   a. Benefit adequacy requires that retirement benefits respond to changes in the economy.
   b. The retirement benefit should be adequate at the time of retirement.
   c. Except for local police or firefighter relief associations, the retirement benefit should be related to an individual's final average salary, determined on the basis of the highest five successive years average salary unless a different averaging period is designated by the Legislature.
   d. Except for local police or firefighter relief associations, the measure of retirement benefit adequacy should be at a minimum of thirty years service, which would be a reasonable public employment career, and at the generally applicable normal retirement age.
   e. Retirement benefit adequacy must be a function of the Minnesota public pension plan benefit and any Social Security benefit payable on account of Minnesota public employment.

8. Postretirement Benefit Adequacy
   a. The retirement benefit should be adequate during the period of retirement.
   b. Postretirement benefit adequacy should function to replace the impact of economic inflation over time in order to maintain a retirement benefit that was adequate at the time of retirement.
   c. The system of periodic post retirement increases should be funded on an actuarial basis.
   d. In order to replace inflation, the post retirement adjustment system should follow a valid recognized economic indicator.

9. Portability
   To the extent feasible, portability should be established as broadly as possible for employment mobile public employees.

10. Purchases of Prior Service Credit
    Purchases of public pension plan credit for periods of prior service should be permitted only if, on a case-by-case basis, it is determined that the period to be purchased is public employment or substantially akin to public employment, that the prior service period must have a significant connection to Minnesota, that the purchase payment from the member or from a combination of the member and the employer must equal the actuarial liability to be incurred by the pension plan for the benefit associated with the purchase, appropriately calculated, without the provision of a subsidy from the pension plan, and that the purchase must not violate notions of equity.

11. Deadline Extensions and Waivers
    Deadline extensions or waivers should be permitted only if, on a case-by-case basis, it is determined that there is a sufficient equitable basis for the extension or waiver, the extension or waiver does not involve broader applicability than the pension plan members making the request, and that the extension or waiver is unlikely to constitute an inappropriate precedent for the future.

12. Vesting Requirement Waivers
    Waivers of vesting requirements should be permitted only if, on a case-by-case basis, it is determined that there is a strong equitable argument to grant the waiver for the requesting public employees.

13. Reopening Optional Annuity Elections
    Reopenings of optional annuity elections should not be permitted.

14. Benefit Increase Retroactivity
    Retroactivity of benefit increases for retirees and other benefit recipients should not be permitted.

15. Repayment of Previously Paid Benefits and Resumptions of Active Member Status
    Repayments of previously paid benefits and resumptions of active member status should not be permitted.

16. Duplicate Public Pension Coverage For the Same Employment
    Unless supplemental pension plan coverage is involved, public employees should not have coverage by more than one Minnesota public pension plan for the same period of service with the same public employer.

17. Reemployed Annuitant Earnings Limitations
    a. Limitations on the earnings by reemployed annuitants should apply only to the reemployment of an annuitant by an employing unit that is a participating employer in the same public pension plan from which the annuitant is receiving a pension benefit.
    b. Reemployed annuitant earnings limitations should be standardized to the extent possible among the various Minnesota public pension plans.

18. Disability Definitions
    The definitions of what constitutes a disability giving rise to a disability benefit should be standardized to the extent possible, recognizing the differences in the hazards inherent in various types of employment.

19. Design of Early Retirement Incentive Programs
    a. Early retirement incentive programs can have a valid role to play in the public sector personnel system.
    b. Early retirement incentive programs should be targeted to situations when a public employer needs to reduce staffing levels beyond normal attrition.
    c. Early retirement incentive programs should be financed appropriately, with the cost of the benefits provided under the early retirement incentive program borne wholly by the same public employer that gains any compensation savings from a staffing level reduction, without any subsidy from the affected public pension plan.

20. Future Pension Coverage For Privatized Public Employees
    Because of applicable federal regulation, employees of public employers that are privatized should not be allowed to continue public pension plan coverage in the future. Privatized public employees should receive adequate replacement pension coverage and a better resolution of this topic should be raised with appropriate federal government officials.

21. Supplemental Pension Plans
    a. Public employees should be encouraged to engage in personal savings for their retirement.
    b. The State should assist this process by making personal retirement savings opportunities available to public employees.
    c. Public employers should have an opportunity to elect to provide financial support to established supplemental pension arrangements for their employees.

22. No Intended Ultimate Benefit Diminutions
    a. In recommending benefit plan modifications, the imposition of reductions in overall benefit coverage for existing pension plan members should not be recommended.
    b. The imposition of a reduction in overall benefit coverage may be imposed for new pension plan members in order to achieve sound pension policy goals.
    c. A reduction in some aspect or aspects of benefit coverage may be recommended in combination with a proposed benefit increase or benefit increases in implementing sound pension policy goals.

D. Pension Plan Funding

1. Equal Pension Financing Burden For Generations of Taxpayers
   There should be utilized a financing method that will distribute total pension costs fairly among the current and future generations of taxpayers and that will discourage unreasonable benefit demands.

2. Actuarial Funding of Pension Benefits
    a. Retirement benefits in Minnesota defined benefit plans should be funded on an actuarial basis.
    b. Currently earned pension plan service credit, as measured by the actuarially determined entry age normal cost of the defined benefit pension plan, should be funded on a current basis.
    c. The administrative expenses of the defined benefit pension plan should be funded on a current basis.
    d. Existing unfunded actuarial accrued liabilities of the defined benefit pension plan should be amortized over a reasonable period of time, and that amortization period should be related to the average working career of the membership of the pension plan, but not to exceed forty years.

3. Allocation of Funding Burden Between Members and Employers
    a. Retirement benefits should be financed on a shared basis between the public employee and the public employer.
    b. For general public employees, the employee and employer should make matching contributions to meet the normal cost and the administrative expenses of the defined benefit pension plan and both the employee and the employer may be required to share some financial responsibility for funding the amortization requirement of the defined benefit pension plan.
    c. For protective and public safety employees covered by a statewide public pension plan, the employee should pay forty percent of the total actuarial costs of the defined benefit pension plan and the employer should pay sixty percent of the total actuarial costs of the defined benefit pension plan.
    d. For protective and public safety employees covered by a local relief association, employee and employer contributions should be considered in light of the special circumstances and history unique to that association. Employees should pay an appropriate portion of the normal cost and administrative expenses of the relief association.

4. Funding of Postretirement Adjustments
   a. Ad hoc postretirement adjustments should be funded separately from the regular defined benefit public pension plan financing and should not be added to the unfunded actuarial accrued liability of the defined benefit public pension plan.
   b. Automatic postretirement adjustment mechanisms should be funded on an actuarial basis as part of the actuarial requirements and contribution structure of the defined benefit public pension plan.

5. Appropriate Basis For Actuarial Assumption Changes
   a. Actuarial assumption changes should only be based on the results of the gain and loss analyses in the regular actuarial valuation reports and the results of a periodic experience study.
   b. Actuarial assumption changes should stand on their own merit, and should not be changed solely to improve benefits or to lower contribution rates.

6. Appropriate Basis For Modifying Contribution Rates
   Member and employer contribution rates should only be modified based on the trend in total support rate deficiency or sufficiency revealed in the regular actuarial valuation reports.

E. Pension Plan Investments

1. Appropriate Investment of Public Pension Assets
   a. Public pension plan investment authority should be as uniform as is practicable.
   b. Public pension plan investments should be made in accord with the prudent person rule.
   c. Public pension plan investment authority should be further regulated by a list of authorized investment types, which should appropriately differentiate between pension plans based on asset size and investment expertise.
   d. Written investment policies should be maintained for the investment of public pension plan assets.
   e. Public pension plans should regularly report on their investments, including performance.

2. Sole Membership Benefit Dedication of Plan Assets
   Recognizing that public pension plan assets exist to defray current and future pension benefit payments, public pension plan assets should be dedicated to the sole benefit of the plan membership in their investment and expenditure.

F. Compliance With Federal Pension Plan Regulation

Consistent with the principles of federalism, dual sovereignty, and comity among governmental entities, public pension plan provisions and administrative operations and activities should attempt to comply with applicable federal pension plan regulation in order to maintain the tax qualified status of public pension plans.

G. Public Pension Plan Fiduciary Responsibility

1. Strong Fiduciary Responsibility Standards
   Public pension plan activities should be conducted in accord with strong fiduciary responsibility standards and regulation.

2. Remedies For Fiduciary Breach
   Failures to conduct public pension plan activities in accord with the applicable fiduciary responsibility standards and regulation should be subject to appropriate fiduciary breach remedies.

III. Procedural Principles of Pension Policy

A. Adequate Pension Funding

1. Pre-Existing Funding
   No proposed increase in pension benefits for any public pension plan should be recommended by the Legislative Commission on Pension and Retirement until there is established adequate financing to cover the pre-increase normal cost, administrative expense, and amortization contribution requirements of the defined benefit public pension plan calculated according to the applicable actuarial reporting law.

2. Funding Increase
   No proposed increase in pension benefits for any defined benefit public pension plan should be recommended by the Legislative Commission on Pensions and Retirement unless there is included, in the proposal, adequate financing to meet any resulting increase in the normal cost and amortization contribution requirements of the defined benefit public pension plan that are estimated by the applicable actuary to result from adopting the proposed benefit increase.

B. Preference For General Legislation

No pension legislation of local or special limited application should be recommended by the Legislative Commission on Pensions and Retirement if the purpose and the intent of the proposed legislation would be better served by legislation of general statutory application or if the proposed legislation constitutes a significant departure from previously established uniform pension policy. Pension legislation affecting local police or salaried firefighters may

be recommended by the Legislative Commission on Pensions and Retirement in light of any special circumstances that are unique to the relief association.

C. Explicit Application of Principles of Pension Policy

1. Measurement Against Principles
   Each proposed change in retirement benefits or financing should be measured by the Legislative Commission on Pension and Retirement against the current principles of pension policy as part of its consideration to insure that there is adherence to sound pension policy.

2. Formal Reporting of Consistency
   The Commission's determination concerning compliance with the principles of pension policy should be a part of the Commission's formal report of its recommendations on proposed public pension legislation.

Establishment of Minnesota Public Pension Plans

Statewide Pension Plans	Establishment Date
General State Employees Retirement Plan (MSRS-General)	1929
Correctional Employees Retirement Plan (MSRS-Correctional) [1]	1973
Game Wardens Retirement Plan [2]	1955
State Police Retirement Plan [3]	1961
State Patrol Retirement Plan	1943
Legislators Retirement Plan [4]	1965
Attorney General Retirement Plan [5]	1953
State Auditor Retirement Plan [5]	1955
Elective State Officers Retirement Plan (ESO) [53]	1967
Supreme Court Justices Retirement Plan [6]	1943
District Court Judges Retirement Plan [6]	1949
Probate and County Court Judges Retirement Plan [6]	1931
Uniform Judicial Retirement Plan [54]	1973
Supreme Court Clerk Retirement Plan [7]	1953
Military Affairs Department Personnel Retirement Plan [8]	1980
Transportation Department Pilots Retirement Plan [8]	1982
State fire Marshal Division Arson Investigator Retirement Plan [8]	1999
Unclassified State Employees Retirement Program (MSRS-Unclassified) [9]	1971
Metropolitan Transit Commission-Transit Operating Division Retirement Plan [10]	1944
Public Employees Retirement Plan (PERA-General)	1931
Public Employees Police and Fire Retirement Plan (PERA-P&F) [11]	1959
Local Government Correctional Employees Retirement Plan [12]	1987/1999
PERA Defined Contribution Retirement Plan [13]	1987
University of Minnesota Police Retirement Plan [14]	1969
Teachers Insurance and Retirement Plan [15]	1915
Teachers Retirement Plan (TRA)	1931
State University and Community College Supplemental Retirement Plan	1965
Individual Retirement Account Plan (IRAP) [16]	1988
Local General Employee Pension Plans	
Minneapolis Employees Retirement Plan (MERF) [17]	1919
St. Paul Bureau of Health Relief Association [18]	1919
Hennepin County Supplemental Retirement Plan [19]	1969
Duluth Teachers Retirement Plan (DTRFA) [20]	1910
Minneapolis Teachers Retirement Plan (MTRFA) [20]	1910
St. Paul Teachers Retirement Plan (StPTRFA) [20]	1910
Local Police and Salaried Firefighters Pension Plans	
Albert Lea Firefighters Relief Association [21]	1895
Albert Lea Police Relief Association [22]	1943
Anoka Police Relief Association [23]	1948
Austin Firefighters Relief Association [24]	1909
Austin Police Relief Association [49]	1943
Bloomington Firefighters Relief Association [55]	1947
Bloomington Police Relief Association [21]	1960
Brainerd Police Relief Association [47]	1952
Brooklyn Center Police Relief Association [25]	1967
Buhl Police Relief Association [26]	1957
Chisholm Firefighters Relief Association [27]	1907
Chisholm Police Relief Association [27]	1931
Cloquet Fire Department Relief Association [28]	1941
Columbia Heights Fire Department Relief Association [29]	1923
Columbia Heights Police Relief Association [30]	1957

Crookston Fire Department Relief Association [31]	1902
Crookston Police Relief Association [52]	1948
Crystal Police Relief Association [32]	1961
Duluth Firefighters Relief Association [32]	1887
Duluth Police Relief Association [33]	1905
Eveleth Firefighters Relief Association [34]	1935
Eveleth Police Relief Association [34]	1935
Fairmont Police Relief Association [48]	1949
Faribault Fire Department Relief Association [22]	1897
Faribault Police Relief Association [47]	1948
Fridley Firefighters Relief Association [35]	N/A
Fridley Police Relief Association [50]	1966
Gilbert Supplemental Police Pension Plan [36]	1957
Hibbing Firefighters Relief Association [37]	1914
Hibbing Police Relief Association [37]	1930
Mankato Fire Department Relief Association [38]	1895
Mankato Police Relief Association [52]	1947
Minneapolis Fire Department Relief Association [52]	1868
Minneapolis Police Relief Association [52]	1890
Moorhead Firefighters Relief Association [39]	1955
Moorhead Police Relief Association [39]	1945
Nashwauk Police Relief Association [40]	1943
New Ulm Police Relief Association [41]	1949
Red Wing Fire Department Relief Association [23]	1892
Red Wing Police Relief Association [27]	1948
Richfield Fire Department Relief Association [52]	1942
Richfield Police Relief Association [22]	1965
Rochester Fire Department Relief Association [42]	1891
Rochester Police Relief Association [38]	1939
St. Cloud Fire Department Relief Association [43]	1906
St. Cloud Police Relief Association [44]	1939
St. Louis Park Fire Department Relief Association [37]	1948
St. Louis Park Police Relief Association [42]	1955
St. Paul Fire Department Relief Association [32]	1885
St. Paul Police Relief Association [21]	1903
South St. Paul Firefighters Relief Association [21]	1943
South St. Paul Police Relief Association [52]	1941
Thief River Falls Police Relief Association [45]	1941
Virginia Fire Department Relief Association [51]	1931
Virginia Police Relief Association [47]	1935
West St. Paul Fire Department Relief Association [46]	1947
West St. Paul Police Relief Association [21]	1967
Winona Fire Department Relief Association [37]	1887
Winona Police Relief Association [42]	1914

Local Volunteer Firefighters Pension Plans

700 volunteer firefighter relief associations as of 12/31/1999	various years

Employer-Funded Deferred Compensation and Related Plans

State Deferred Compensation Plan	1971
Prior Lake School District Supplemental Retirement Plan	1967
Bloomington School District Supplemental Retirement Plan	N/A
Edina School District Supplemental Retirement Plan	N/A
Hopkins School District Supplemental Retirement Plan	N/A
Minnetonka School District Supplemental Retirement Plan	N/A
Richfield School District Supplemental Retirement Plan	N/A
St. Louis Park School District Supplemental Retirement Plan	N/A
Wayzata School District Supplemental Retirement Plan	N/A

N/A Means Establishment year is not available

[1] Before the 1973 creation of the Correctional Employees Retirement Plan, coverage was provided by the General State Employees Retirement Plan.

[2] Game Wardens Retirement Plan was replaced by the State Police Retirement Plan in 1961.

[3] State Police Retirement Plan consolidated with the State Patrol Retirement Plan in 1969.

[4] Before the 1965 creation of the Legislators Retirement Plan, coverage was provided by the Public Employees Retirement Plan. The plan was closed to new interests as of July 1, 1997, and existing members were permitted to elect coverage by the Unclassified State Employees Retirement Program.

[5] Coverage was shifted to the Elective State Officers Retirement in 1967.

[6] Coverage limited to judges who first assumed judicial officer before January 1, 1974.

[7] Plan was repealed in 1980. Coverage for the membership of the prior plan was transferred to the Unclassified State Employees Retirement Program in 1981, retroactive to the date of initial appointment to employment position.

[8] Before creation of the plan, coverage was provided by the General State Employees Retirement Plan.

[9] Before creation of the program, coverage was provided by the General State Employees Retirement Plan. Program members retain the option to select General State Employees Retirement Plan benefits if the member has at least ten years of state service.

[10] The plan was acquired by the metropolitan Transit Commission from the prior employer, the Twin City Rapid Transit Co. in 1970. The plan consolidated with the General State Employees Retirement Plan in 1978.

[11] Before creation of the Public Employees Police and Fire Retirement Plan in 1959, coverage was provided by the Public Employees Retirement Plan. In 1999, the various police and salaried firefighter consolidation accounts were merged into this plan.

[12] The 1987 plan was not implemented by any of the counties authorized to do so by 1997 and was repealed. A replacement plan was enacted in 1999.

[13] For local government elected officials added to eligibility for coverage by the plan in 1990, coverage is optional and prior coverage, if any, was by the Public Employees Retirement Plan.

[14] Before creation of the plan, prior coverage was by the General State Employees Retirement Plan. Plan consolidated into the Public Employees Police and Fire Retirement Plan in 1978.

[15] Plan was replaced by the Teachers Retirement Plan.

[16] Before creation of the Individual Retirement Account Plan in 1988, coverage was provided by the Teachers Retirement Plan.

[17] Plan was closed to new entrants as of June 30, 1979. Coverage for applicable employees initially hired after June 30, 1979 is provided by the Public Employees Retirement Plan.

[18] Plan was closed to new entrants as of December 31, 1969, in favor of the Public Employees Retirement Plan, and short service members and members opting for Social Security coverage were transferred to the Public Employees Retirement Plan. Plan was consolidated into the Public Employees Retirement Plan in 1973.

[19] Plan was closed to new entrants and reemployed former members as of April 14, 1982.

[20] Plan was authorized in 1909, but not implemented until 1910.

[21] Plan was closed to new entrants as of June 15, 1980 and consolidated into the Public Employees Police and Fire Plan in 1993.

[22] Plan was closed to new entrants as of June 15, 1980 and consolidated into the Public Employees Police and Fire Plan in 1991.

[23] Plan was closed to new entrants in 1973 and consolidated into the Public Employees Police and Fire Plan in 1989.

[24] Plan was closed to new entrants in 1976 and consolidated into the Public Employees Police and Fire Plan in 1998.

[25] Plan consolidated into the Public Employees Police and Fire Plan in 1978.

[26] Plan was closed to new entrants in 1976 and consolidated into the Public Employees Police and Fire Plan in 1987.

[27] Plan was closed to new entrants in 1973, and consolidated into the Public Employees Police and Fire Plan in 1990.

[28] Plan consolidated into the Public Employees Police and Fire Plan in 1973.

[29] Plan was closed to new entrants in 1975 and consolidated into the Public Employees Police and Fire Plan in 1994.

[30] Plan was closed to new entrants in 1977 and consolidated into the Public Employee Police and Fire Plan in 1994.

[31] Plan consolidated into the Public Employees Police and Fire Plan in 1990.

[32] Plan was closed to new entrants as of June 15, 1980 and consolidated into the Public Employees Police and Fire Plan in 1992.

[33] Plan was closed to new entrants as of June 15, 1980 and consolidated into the Public Employees Police and Fire Plan in 1987.

[34] Coverage for active members was transferred to the Public Employees Police and Fire Plan in 1977 and plan was converted to city-operated trust fund for benefit recipients.

[35] Coverage for salaried firefighters was transferred to the Public Employees Police and Fire Plan in 1973; Plan continues as volunteer firefighters relief association.

[36] Plan coverage was terminated in 1973.

[37] Plan was closed to new entrants as of June 15, 1980 and consolidated into the Public Employees Police and Fire Plan in 1989.

[38] Plan was closed to new entrants in 1971 and consolidated into the Public Employees Police and Fire Plan in 1990.

[39] Plan was closed to new entrants as of June 15, 1980 and consolidated into the Public Employees Police and Fire Plan in 1985.

[40] Coverage for active members was transferred to the public Employees Police and Fire Plan in 1969 and plan operates as trust fund for benefit recipients.

[41] Plan was closed to new entrants in 1974 and consolidated into the Public Employee Police and Fire Plan in 1994.

[42] Plan was closed to new entrants as of June 15, 1980 and consolidated into the Public Employees Police and Fire Plan in 1990.

[43] Plan was closed to new entrants in 1974 and consolidated into the Public Employees Police and Fire Plan in 1989.

[44] Plan was closed to new entrants in 1973 and consolidated into the Public Employees Police and Fire Plan in 1997.

[45] Coverage for active members was transferred to the Public Employees Police and Fire Plan in 1978 and plan was converted to city-operated trust fund for benefit recipients.

[46] Plan was closed to new entrants as of June 15, 1980, and consolidated into the Public Employees Police and Fire Plan in 1988.

[47] Plan was closed to new entrants as of June 15, 1980 and consolidated into the Public Employees Police and Fire Plan in 1996.

[48] Plan was closed to new entrants in 1977.

[49] Plan was closed to new entrants in 1976 and consolidated into the Public Employees Police and Fire Plan in 1993.

[50] Plan was closed to new entrants in 1977 and consolidated into the Public Employees Police and Fire Plan in 1993.

[51] Plan was closed to new entrants in 1974.

[52] Plan was closed to new entrants as of June 15, 1980.

[53] Plan was closed to new entrants as of July 1, 1997. Existing members were permitted to elect coverage by the Unclassified State Employees Retirement Program.

[54] Judges who reach the service credit maximum in the Judges Retirement Plan are covered by the Unclassified State Employees Retirement Program for future service (employee contribution only).

[55] The plan covers volunteer firefighters, but because it provides benefits based on the salary of a top grade Bloomington police officer, with post retirement escalation, the plan is considered to be a salaried firefighter pension plan.

LOCAL POLICE AND PAID FIRE RELIEF ASSOCIATIONS

Phase-out or Consolidation into the Public Employees Police and Fire Fund (PERA-P&F)

Updated Through December 31, 2000

Relief Associations		Phase-Out Into PERA-P&F	Consolidation Into PERA-P&F	Merged Into PERA-P&F
Albert Lea	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1993)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1991)	Laws 1999, Chap. 222, Art. 4
Anoka	Police	Laws 1973, Chap. 587	MN Statutes, Chap. 353A (1989)	Laws 1999, Chap. 222, Art. 4
Austin	Fire	Laws 1976, Chap. 36	MN Statutes, Chap. 353A (1998)	Laws 1999, Chap. 222, Art. 4
	Police	Laws 1976, Chap. 36	MN Statutes, Chap. 353A (1993)	Laws 1999, Chap. 222, Art. 4
Bloomington	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1993)	Laws 1999, Chap. 222, Art. 4
Brainerd	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1996)	Laws 1999, Chap. 222, Art. 4
Brooklyn Center	Police	--	Laws 1978, Chap. 684	Laws 1978, Chap. 684
Buhl	Police	Laws 1976, Chap. 247	MN Statutes, Chap. 353A (1987)	Laws 1999, Chap. 222, Art. 4
Chisholm	Fire	Laws 1973, Chap. 433	MN Statutes, Chap. 353A (1990)	Laws 1999, Chap. 222, Art. 4
	Police	Laws 1973, Chap. 433	MN Statutes, Chap. 353A (1990)	Laws 1999, Chap. 222, Art. 4
Cloquet	Fire	--	Laws 1973, Chap. 563	Laws 1973, Chap. 563
Columbia Heights	Fire	Laws 1975, Chap. 424	MN Statutes, Chap. 353A (1994)	Laws 1999, Chap. 222, Art. 4
	Police	Laws 1977, Chap. 374	MN Statutes, Chap. 353A (1994)	Laws 1999, Chap. 222, Art. 4
Crookston	Fire	--	MN Statutes, Chap. 353A (1990)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1998)	Laws 1999, Chap. 222, Art. 4
Crystal	Police	Ordinance, Ratified by Laws 1980, Chap. 607, Art. XV, Sec. 23	MN Statutes, Chap. 353A (1992)	Laws 1999, Chap. 222, Art. 4
Duluth	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1992)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1987)	Laws 1999, Chap. 222, Art. 4
Eveleth	Fire	--	Laws 1977, Chap. 61	--
	Police	--	Laws 1977, Chap. 61	--
Fairmont	Police	Laws 1977, Chap. 100	--	--
Faribault	Fire	Laws 1985, Chap. 259, Sec. 5	MN Statutes, Chap. 353A (1991)	Laws 1999, Chap. 222, Art. 4
	Police	Laws 1985, Chap. 259, Sec. 5	MN Statutes, Chap. 353A (1996)	Laws 1999, Chap. 222, Art. 4
Fridley	Fire	--	Laws 1973, Chap. 594	Laws 1973, Chap. 594
	Police	Laws 1977, Chap. 83	MN Statutes, Chap. 353A (1993)	Laws 1999, Chap. 222, Art. 4
Gilbert	Police	Laws 1973, Chap. 382	--	--
Hibbing	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1989)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1989)	Laws 1999, Chap. 222, Art. 4
Mankato	Fire	Laws 1971, Chap. 407	MN Statutes, Chap. 353A (1990)	Laws 1999, Chap. 222, Art. 4
	Police	Laws 1971, Chap. 407	MN Statutes, Chap. 353A (1997)	Laws 1999, Chap. 222, Art. 4
Minneapolis	Fire	MN Statutes, Sec. 423A.01 (1980)	--	--
	Police	MN Statutes, Sec. 423A.01 (1980)	--	--

Relief Associations		Phase-Out Into PERA-P&F	Consolidation Into PERA-P&F	Merged Into PERA-P&F
Moorhead	Fire	MN Statutes, Sec. 423A.01 (1980)	Laws 1985, Chap. 261, Secs. 25-31	Laws 1985, Chap. 261, Secs. 25-31
	Police	MN Statutes, Sec. 423A.01 (1980)	Laws 1985, Chap. 261, Secs. 25-31	Laws 1985, Chap. 261, Secs. 25-31
Nashwauk	Police	Laws 1969, Chap. 569	--	--
New Ulm	Police	Laws 1974, Chap. 251	MN Statutes, Chap. 353A (1994)	Laws 1999, Chap. 222, Art. 4
Red Wing	Fire	Laws 1973, Chap. 359	MN Statutes, Chap. 353A (1989)	Laws 1999, Chap. 222, Art. 4
	Police	Laws 1973, Chap. 346	MN Statutes, Chap. 353A (1990)	Laws 1999, Chap. 222, Art. 4
Richfield	Fire	Ordinance, Ratified by Laws 1980, Chap. 607, Art. XV, Sec. 23	MN Statutes, Chap. 353A (1997)	Laws 1999, Chap. 222, Art. 4
	Police	Ordinance, Ratified by Laws 1980, Chap. 607, Art. XV, Sec. 23	MN Statutes, Chap. 353A (1991)	Laws 1999, Chap. 222, Art. 4
Rochester	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1990)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1989)	Laws 1999, Chap. 222, Art. 4
St. Cloud	Fire	Laws 1974, Chap. 382	MN Statutes, Chap. 353A (1989)	Laws 1999, Chap. 222, Art. 4
	Police	Laws 1973, Chap. 432	MN Statutes, Chap. 353A (1997)	Laws 1999, Chap. 222, Art. 4
St. Louis Park	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1989)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1990)	Laws 1999, Chap. 222, Art. 4
St. Paul	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1992)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1993)	Laws 1999, Chap. 222, Art. 4
South St. Paul	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1993)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1997)	Laws 1999, Chap. 222, Art. 4
Thief River Falls	Police	--	Laws 1978, Chap. 689	--
Virginia	Fire	Laws 1974, Chap. 183	--	--
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1996)	Laws 1999, Chap. 222, Art. 4
West St. Paul	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1988)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1993)	Laws 1999, Chap. 222, Art. 4
Winona	Fire	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1989)	Laws 1999, Chap. 222, Art. 4
	Police	MN Statutes, Sec. 423A.01 (1980)	MN Statutes, Chap. 353A (1990)	Laws 1999, Chap. 222, Art. 4

Major and Statewide Minnesota Public Pension Plans

Plan, Fund and Administration

Benefit Plan	Benefit Plan Administration	Pension Fund	Investment Authority
General State Employees Retirement Plan	Minnesota State Retirement System	State Employees Retirement Fund	State Board of Investment
Military Affairs Personnel Retirement Plan	Minnesota State Retirement System	State Employees Retirement Fund	State Board of Investment
Transportation Dept. Pilots Retirement Plan	Minnesota State Retirement System	State Employees Retirement Fund	State Board of Investment
State Fire Marshal Division Arson Investigators Retirement Plan	Minnesota State Retirement System	State Employees Retirement Fund	State Board of Investment
Correctional Employees Retirement Plan	Minnesota State Retirement System	Correctional Employees Retirement Fund	State Board of Investment
State Patrol Retirement Plan	Minnesota State Retirement System	State Patrol Retirement Fund	State Board of Investment
Elective State Officers Retirement Plan	Minnesota State Retirement System	None (State General Fund)	N/A
Unclassified State Employees Retirement Program	Minnesota State Retirement System	Minnesota Supplemental Investment Fund	State Board of Investment
Legislators Retirement Plan	Minnesota State Retirement System	None (Minnesota Post Retirement Investment Fund; State General Fund)	State Board of Investment
Judges Retirement Plan	Minnesota State Retirement System	Judges Retirement Fund	State Board of Investment
Public Employees Retirement Plan	Public Employees Retirement Association	Public Employees Retirement Fund	State Board of Investment
Public Employees Police and Fire Plan	Public Employees Retirement Association	Public Employees Police and Fire Fund	State Board of Investment
Consolidating Local Relief Association Plans	Public Employees Retirement Association	Local Relief Association Consolidation Accounts of the Public Employees Police and Fire Fund	State Board of Investment
Public Employees Local Government Correctional Service Retirement Plan (authorized)	Public Employees Retirement Association	Local Government Correctional Service Retirement Fund	State Board of Investment
Ambulance Service Personnel Retirement Plan	Emergency Medical Services Regulatory Board	Minnesota Supplemental Investment Fund	State Board of Investment
Teachers Retirement Plan	Teachers Retirement Association	Teachers Retirement Fund	State Board of Investment
MNSCU Supplemental Retirement Plan	Minnesota State Colleges and Universities Board	Minnesota Supplemental Investment Fund and outside investment vehicles	State Board of Investment/ Outside Vendors
MNSCU Individual Retirement Account Plan	Minnesota State Colleges and Universities Board	Minnesota Supplemental Investment Fund and outside investment vehicles	State Board of Investment/ Outside Vendors
Duluth Teachers Retirement Plan	Duluth Teachers Retirement Fund Association	Duluth Teachers Retirement Fund	Duluth Teachers Retirement Fund Association
Minneapolis Teachers Retirement Plan	Minneapolis Teachers Retirement Fund Association	Minneapolis Teachers Retirement Fund	Minneapolis Teachers Retirement Fund Association
St. Paul Teachers Retirement Plan	St. Paul Teachers Retirement Fund Association	St. Paul Teachers Retirement Fund	St. Paul Teachers Retirement Fund Association
Minneapolis Employees Retirement Plan	Minneapolis Employees Retirement Fund	Minneapolis Employees Retirement Fund	Minneapolis Employees Retirement Fund

PLAN DEMOGRAPHICS

A. ACTIVE MEMBERSHIP

1. Number

Plan	1985	1990	1995	2000
MSRS-General	45,590	49,576	49,705	47,920
PERA	86,312	102,664	126,612	135,560
TRA	58,533	64,324	67,558	70,508
Subtotal	190,435	216,564	243,875	253,988
MSRS-Correctional	1,191	1,416	2,117	3,098
State Patrol	764	788	803	830
PERA-P&F	4,928	6,136	7,380	9,627
P&F Consolidation Accounts	--	287	1,061	0
Local Govt. Correctional	--	--	--	2,781
Subtotal	6,883	8,627	11,361	16,336
Legislators	201	201	198	173
Elected State Officers	6	6	6	0
Judges	240	262	271	282
Subtotal	447	469	475	455
MERF	3,812	2,730	2,036	1,152
DTRFA	1,182	1,553	1,512	1,441
MTRFA	2,758	3,252	4,686	5,777
StPTRFA	2,888	3,343	3,742	4,445
Subtotal	6,828	8,148	9,940	11,663

2. Average Covered Salary

Plan	1985	1990	1995	2000
MSRS-General	$23,667	$30,529	$32,425	$39,652
PERA	16,497	20,203	23,149	26,577
TRA	23,811	30,030	34,416	39,906
Group Average	$20,462	$25,486	$28,161	$32,744
MSRS-Correctional	$26,075	$33,245	$33,549	$41,174
State Patrol	33,830	43,684	49,611	62,627
PERA-P&F	28,251	35,206	42,532	51,328
P&F Consolidation Accounts	--	37,928	50,216	--
Local Govt. Correctional	--	--	--	29,061
Group Average	$28,494	$35,749	$42,076	$46,186
Legislators	$22,423	$31,987	$36,326	$34,932
Elected State Officers	61,000	71,270	75,374	--
Judges	64,671	78,862	86,453	99,949
Group Average	$45,624	$58,676	$65,418	$75,228
MERF	$26,165	$33,949	$40,986	$47,068
DTRFA	$26,415	$26,109	$32,054	$36,851
MTRFA	31,778	38,064	37,233	44,225
StPTRFA	26,265	32,869	39,610	42,283
Group Average	$28,518	$33,654	$37,340	$42,574

3. Average Age

Plan	1985	1990	1995	2000
MSRS-General	39.6	40.9	42.7	44.3
PERA	42.2	42.6	43.3	44.4
TRA	41.5	42.8	42.9	42.6
Group Average	41.4	42.3	43.1	43.9
MSRS-Correctional	36.0	37.5	38.0	40.3
State Patrol	40.5	40.6	42.3	40.8
PERA-P&F	37.2	37.6	38.4	38.7
P&F Consolidation Accounts	--	45.9	48.1	--
Local Govt. Correctional	--	--	--	37.5
Group Average	37.4	38.1	39.5	38.9
Legislators	45.6	49.4	49.3	53.8
Elected State Officers	46.2	52.1	52.0	-
Judges	53.2	52.9	53.0	54.4
Group Average	49.7	51.4	51.4	54.2
MERF	47.6	48.8	51.0	52.9
DTRFA	43.5	43.2	43.9	44.1
MTRFA	44.0	44.7	43.3	42.6
StPTRFA	42.9	43.3	43.9	43.1
Group Average	43.4	43.8	43.6	43.0

4. Average Service

Plan	1985	1990	1995	2000
MSRS-General	8.9	9.6	11.1	11.7
PERA	8.1	8.3	8.2	9.0
TRA	11.5	12.3	12.5	11.7
Group Average	9.3	9.8	10.0	10.3
MSRS-Correctional	7.0	8.1	7.2	7.8
State Patrol	13.7	13.8	15.1	12.9
PERA-P&F	9.4	10.1	10.5	11.0
P&F Consolidation Accounts	--	19.7	22.0	--
Local Govt. Correctional	--	--	--	0.9
Group Average	9.5	10.4	11.3	8.8
Legislators	5.9	8.7	8.0	11.8
Elected State Officers	5.9	10.2	10.3	--
Judges	11.5	10.7	10.6	10.9
Group Average	8.9	9.8	9.5	11.2
MERF	15.1	19.0	23.0	26.7
DTRFA	12.0	10.2	10.5	10.5
MTRFA	14.4	13.7	9.6	8.4
StPTRFA	11.6	11.3	11.2	10.8
Group Average	12.8	12.0	10.3	9.6

5. Average Member Contribution

Plan	1985	1990	1995	2000
MSRS-General	$891	$1,267	$1,320	$1,586
PERA	732	897	998	1,268
TRA	1,113	1,375	2,240	1,996
Group Average	$887	$1,124	$1,408	$1,530
MSRS-Correctional	$1,278	$1,629	$1,644	$2,343
State Patrol	2,876	3,713	4,426	5,260
PERA-P&F	2,260	2,816	3,232	3,182
P&F Consolidation Accounts	--	2,849	3,816	--
Local Govt. Correctional	--	--	--	1,694
Group Average	$2,158	$2,704	$3,075	$2,875
Legislators	$2,020	$2,881	$3,268	$3,145
Elected State Officers	5,500	6,333	6,833	0
Judges	2,671	3,401	5,498	7,996
Group Average	$2,416	$3,216	$4,585	$6,152
MERF	$2,551	$3,310	$3,996	$4,773
DTRFA	$1,188	$1,175	$1,763	$2,027
MTRFA	2,517	2,704	2,295	2,699
StPTRFA	1,870	2,136	2,338	2,708
Group Average	$2,013	$2,180	$2,230	$2,619

6. Average Employer Contribution

Plan	1985	1990	1995	2000
MSRS-General	$956	$1,310	$1,362	$1,586
PERA	813	972	1,066	1,385
TRA	2,180	2,468	2,804	1,996
Group Average	$1,267	$1,494	$1,608	$1,593
MSRS-Correctional	$2,269	$2,085	$2,103	$3,286
State Patrol	6,394	6,500	7,382	7,892
PERA-P&F	3,390	4,225	4,849	4,773
P&F Consolidation Accounts	-	14,924	5,725	-
Local Govt. Correctional	-	-	-	2,543
Group Average	$3,529	$4,437	$4,598	$4,270
Legislators	-- [1]	-- [1]	-- [1]	-- [1]
Elected State Officers	-- [2]	-- [2]	-- [2]	-- [2]
Judges	-- [1]	14,393	19,018	20,489
Group Average	--	--	--	--
MERF	$4,575	$6,010	$9,102 [3]	$10,457 [3]
DTRFA	$1,530	$1,512	$1,856 [3]	$2,134 [3]
MTRFA	3,835	3,905	3,650 [3]	3,956 [3]
StPTRFA	2,781	3,004	3,780 [3]	4,058 [3]
Group Average	$2,990	$3,079	$3,426	$3,770

[1] *Plan is terminally funded, meaning that the State contribution is made only upon the retirement of each participant.*

[2] *Plan is funded on a current disbursements or "pay-as-you-go" basis, meaning that the State funds the retirement annuities or benefits monthly when they are done.*

[3] *Plan is funded also with a direct State appropriation, excluded from this calculation, which would increase the total employer contribution amount.*

B. SERVICE RETIREES

1. Number

Plan	1985	1990	1995	2000
MSRS-General	10,464	11,810	14,004	16,276
PERA	17,277	24,314	31,487	39,940
TRA	12,798	16,133	21,458	29,525
Subtotal	40,539	52,257	66,949	85,741
MSRS-Correctional	309	340	399	616
State Patrol	285	346	401	531
PERA-P&F	765	1,057	1,435	3,991
P&F Consolidation Accounts	-	248	1,349	--
Local Govt. Correctional	--	--	--	9
Subtotal	1,359	1,991	3,584	5,147
Legislators	108	126	155	210
Elected State Officers	6	3	5	8
Judges	83	105	131	153
Subtotal	197	234	291	371
MERF	3,459	3,688	3,657	3,757
DTRFA	562	634	788	937
MTRFA	2,153	2,254	2,482	3,033
StPTRFA	963	1,111	1,334	1,728
Subtotal	3,678	3,999	4,604	5,698

2. Average Benefit

Plan	1985	1990	1995	2000
MSRS-General	$3,784	$5,891	$7,898	$13,103
PERA	4,617	6,493	7,696	11,458
TRA	6,680	10,781	15,952	26,617
Group Average	$5,053	$7,681	$10,381	$16,990
MSRS-Correctional	$4,966	$7,306	$11,592	$15,619
State Patrol	11,745	19,066	25,865	43,808
PERA-P&F	8,271	13,592	18,613	35,115
P&F Consolidation Accounts	--	17,107	23,377	--
Local Govt. Correctional	--	--	--	427
Group Average	$8,248	$13,908	$20,447	$33,618
Legislators	$6,568	$8,884	$11,751	$17,864
Elected State Officers	13,836	21,009	20,070	26,612
Judges	19,880	27,410	35,855	55,729
Group Average	12,398	$17,352	$22,745	$33,668
MERF	$8,598	$13,258	$16,463	$24,148
DTRFA	$4,044	$5,027	$9,581	$13,853
MTRFA	7,384	14,462	18,737	27,928
StPTRFA	9,422	12,384	16,523	26,874
Group Average	$7,407	$12,389	$16,528	$25,294

C. SURVIVORS

1. Number

Plan	1985	1990	1995	2000
MSRS-General	537	899	1,313	1,955
PERA	3,854	4,414	5,260	6,010
TRA	781	929	1,331	1,912
Subtotal	5,172	6,242	7,904	9,877
MSRS-Correctional	8	15	25	56
State Patrol	109	105	121	157
PERA-P&F	279	347	426	1,205
P&F Consolidation Accounts	--	129	580	--
Local Govt. Correctional	--	--	--	0
Subtotal	396	596	1,152	1,418
Legislators	41	37	61	70
Elected State Officers	3	5	6	5
Judges	52	64	77	82
Subtotal	96	106	144	157
MERF	938	942	987	1,056
DTRFA	23	29	46	53
MTRFA	140	204	225	254
StPTRFA	112	129	170	213
Subtotal	275	362	441	520

2. Average Benefit

Plan	1985	1990	1995	2000
MSRS-General	$2,828	$4,645	$6,601	$11,405
PERA	2,574	4,475	6,856	11,382
TRA	5,594	9,150	12,990	21,623
Group Average	$3,056	$5,195	$7,847	$13,369
MSRS-Correctional	$5,078	$4,501	$5,948	$8,877
State Patrol	4,454	7,875	13,493	22,137
PERA-P&F	3,886	6,770	10,864	18,867
P&F Consolidation Accounts	--	8,453	11,854	--
Local Govt. Correctional	--	--	--	0
Group Average	$4,066	$7,272	$11,532	$18,835
Legislators	$2,437	$4,242	$5,537	$9,539
Elected State Officers	7,451	9,874	11,107	20,446
Judges	9,888	14,502	20,148	33,899
Group Average	$6,630	$10,702	$13,582	$22,609
MERF	$5,143	$8,454	$11,453	$17,586
DTRFA	$2,638	$3,308	$7,521	$11,528
MTRFA	5,959	10,046	13,672	21,587
StPTRFA	5,501	7,376	10,075	19,865
Group Average	$5,495	$8,555	$11,644	$19,856

D. DISABILITANTS

1. Number

Plan	1985	1990	1995	2000
MSRS-General	695	676	824	1,070
PERA	654	708	959	1,397
TRA	223	257	379	509
Subtotal	1,572	1,641	2,162	2,976
MSRS-Correctional	12	9	25	75
State Patrol	13	14	18	22
PERA-P&F	54	89	146	482
P&F Consolidation Accounts	--	16	53	--
Local Govt. Correctional	--	--	--	3
Subtotal	79	128	242	582
Legislators	--	--	--	--
Elected State Officers	--	--	--	--
Judges	4	9	7	4
Subtotal	4	9	7	4
MERF	261	258	240	213
DTRFA	8	11	7	6
MTRFA	47	40	49	20
StPTRFA	28	30	35	23
Subtotal	83	81	91	49

2. Average Benefit

Plan	1985	1990	1995	2000
MSRS-General	$2,924	$4,159	$5,613	$9,434
PERA	4,911	5,487	6,712	9,077
TRA	7,834	10,759	12,743	19,553
Group Average	$4,447	$5,766	$7,350	$10,997
MSRS-Correctional	$5,879	$5,018	$11,946	$13,865
State Patrol	10,397	14,228	20,528	31,589
PERA-P&F	9,030	13,743	17,535	33,378
P&F Consolidation Accounts	--	15,379	21,871	--
Local Govt. Correctional	--	--	--	10,419
Group Average	$8,776	$13,387	$18,130	$30,677
Legislators	--	--	--	--
Elected State Officers	--	--	--	--
Judges	19,669	25,781	35,158	68,229
Group Average	$19,669	$25,781	$35,158	$68,229
MERF	$6,503	$9,617	$12,378	$18,179
DTRFA	$3,956	$6,478	$11,925	$11,024
MTRFA	7,436	11,832	16,485	35,032
StPTRFA	16,640	19,280	23,764	33,018
Group Average	$10,206	$13,863	$18,934	$31,147

Actuarial Reporting On Minnesota Public Pension Plans

- Before 1957, no state law required any actuarial reporting regarding Minnesota public pension plans

- Regular Minnesota public pension plan reporting was first required in 1965, with the actuarial valuations prepared by the consulting actuaries retained by the plans

- Since 1984, actuarial reporting on the major and statewide Minnesota public pension plans is required to be prepared by the consulting actuary retained by the Legislative Commission On Pensions and Retirement

- Actuarial reporting requirements and major economic assumptions are largely prescribed in statute. The statutory regulation of actuarial work is augmented by the Standards For Actuarial Work adopted by the Pension Commission. Additional demographic actuarial assumptions are adopted by the plan governing boards, subject to Commission approval

- Actuarial reporting prepared by the Commission-retained actuary is reviewed or supplemented by the consulting actuaries retained by the various plans

- The cost of the regular pension plan actuarial reporting prepared by Commission-retained actuary is recouped from the various statewide and major pension plans

- Actuarial reporting is intended to assess the adequacy of the total non-investment revenue support of the pension plan compared with calculated annual funding requirements of the pension plan, to assess the extent of conformance with the selected budgetary actuarial method for accumulating reserves for pension liabilities, and to provide required actuarial disclosure for governmental accounting purposes.

Nature Of Actuarial Funding

- Actuarial funding is a mechanism for:

  1. Determining the magnitude of pension liabilities previously undertaken by a defined benefit pension plan;

  2. Comparing the current pension plan assets reserved for pension purposes with the accrued pension liabilities amassed by a defined benefit pension plan; and

  3. Assessing the adequacy of total annual contribution support to meet the total annual funding requirements of a defined benefit pension plan.

- Actuarial funding differs from non-actuarial pension funding, which is typically represented by current disbursements (pay-as-you-go) funding, as used by the Social Security System historically

- Many different actuarial funding methods exist, tailored primarily to meet the budgetary needs of a plan sponsor

- Minnesota utilizes the Entry Age Actuarial Cost Method (or Entry Age Normal Cost Actuarial Cost Method), which emphasizes the determination of a level actuarial cost as a percentage of covered payroll over a plan member's working career

- Minnesota actuarial reporting produces:

1. A measure of the magnitude of accrued pension liability:	actuarial accrued liability
2. A pension reserve comparison:	assets unfunded actuarial accrued liability funding ratio (assets expressed as a percentage of liabilities)
3. Measure of contribution adequacy:	<u>Funding Requirement</u> Normal Cost Administrative Expenses Supplementary (Amortization) Contribution Total Actuarial Requirement <u>Contributions</u> Member Contributions Employer Contributions State Aid Or Other Regular Funding Total Contributions

2000 ACTUARIAL VALUATION RESULTS - SUMMARY

	2000 Total Statewide General Employee Plans		2000 Total Statewide Public Safety Employee Plans		2000 Total Statewide Specialty Plans		2000 Total First Class City Plans		1999 Total Local Police and Paid Fire Plans		1999** Total Volunteer Fire Plans		2000 TOTAL	
Membership														
Active Members		253,988		16,612		455		12,815		276		15,738		299,884
Service Retirees		85,741		6,251		371		9,455		1,104		630		103,552
Disabilitants		2,976		594		4		262		12		0		3,848
Survivors		9,877		2,177		157		1,576		459		0		14,246
Deferred Retirees		39,995		922		103		1,404		9		2,336		44,769
Nonvested Former Members		104,967		799		5		4,087		0		0		109,858
Total Membership		497,544		27,355		1,095		29,599		1,860		18,704		576,157
Funded Status														
Accrued Liability		$32,041,826,000		$4,961,300,588		$226,559,000		$4,310,473,000		$749,649,588		$270,231,973		$42,560,040,149
Current Assets		$31,926,683,000		$5,826,922,279		$148,577,000		$3,496,954,000		$754,918,279		$303,154,736		$42,457,209,294
Unfunded Accrued Liability		$115,143,000		($865,621,691)		$77,982,000		$813,519,000		($5,268,691)		($32,922,763)		$102,830,855
Funding Ratio	99.64%		117.45%		65.58%		81.13%		100.70%		112.18%		99.76%	
Financing Requirements														
Covered Payroll		$8,316,570,000		$772,332,137		$34,229,000		$563,956,000		$17,843,137		$0		$9,704,930,274
Benefits Payable		$1,519,980,000		$249,463,123		$15,598,000		$253,341,000		$45,521,123		$14,373,573		$2,098,276,819
Normal Cost	9.11%	$757,425,000	18.73%	$144,688,443	16.62%	$5,690,000	10.80%	$60,932,000	24.16%	$4,311,443		$15,314,041	10.18%	$988,360,927
Administrative Expenses	0.25%	$20,717,000	0.16%	$1,206,000	0.22%	$75,000	0.40%	$2,255,000	0.00%	$0		$1,069,691	0.26%	$25,322,691
Normal Cost & Expense	9.36%	$778,142,000	18.89%	$145,894,443	16.84%	$5,765,000	11.20%	$63,187,000	24.16%	$4,311,443		$16,383,732	10.45%	$1,013,683,618
Normal Cost & Expense	9.36%	$778,142,000	18.89%	$145,894,443	16.84%	$5,765,000	11.20%	$63,187,000	24.16%	$4,311,443		$16,383,732	10.45%	$1,013,683,618
Amortization	0.12%	$9,992,000	(5.05%)	($38,972,800)	16.27%	$5,569,000	10.57%	$59,585,000	15.51%	$2,767,200		($2,164,457)	0.38%	$36,775,943
Total Requirements	9.48%	$788,134,000	13.84%	$106,921,643	33.11%	$11,334,000	21.77%	$122,772,000	39.67%	$7,078,643		$14,219,275	10.82%	$1,050,459,561
Employee Contributions	4.67%	$388,613,000	6.17%	$47,647,007	8.18%	$2,799,000	6.39%	$36,050,000	3.78%	$675,007		$0	4.90%	$475,784,014
Employer Contributions	4.86%	$404,538,000	9.86%	$76,158,636	16.88%	$5,778,000	9.93%	$56,012,000	35.89%	$6,403,636		$4,297,303	5.70%	$553,187,575
Employer Add'l Cont.	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0		$0	0.00%	$0
Direct State Funding	0.00%	$0	0.00%	$0	0.00%	$0	4.70%	$26,479,000	0.00%	$0		$11,628,109	0.39%	$38,107,109
Other	0.00%	$0	0.00%	$0	0.00%	$0	0.44%	$2,500,000	0.00%	$0		$34,541,865	0.38%	$37,041,865
Administrative Assessment	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0		$0	0.00%	$0
Total Contributions	9.54%	$793,151,000	16.03%	$123,805,643	25.06%	$8,577,000	21.46%	$121,041,000	39.67%	$7,078,643		$50,467,277	11.38%	$1,104,120,563
Total Requirements	9.48%	$788,134,000	13.84%	$106,921,643	33.11%	$11,334,000	21.77%	$122,772,000	39.67%	$7,078,643		$14,219,275	10.82%	$1,050,459,561
Total Contributions	9.54%	$793,151,000	16.03%	$123,805,643	25.06%	$8,577,000	21.46%	$121,041,000	39.67%	$7,078,643		$50,467,277	11.38%	$1,104,120,563
Deficiency (Surplus)	(0.06%)	($5,017,000)	(2.19%)	($16,884,000)	8.05%	$2,757,000	0.31%	$1,731,000	0.00%	$0		($36,248,002)	(0.55%)	($53,661,002)

* Investment Earnings & Other Revenues

STATEWIDE GENERAL EMPLOYEE RETIREMENT PLANS

	2000 MSRS-General		2000 PERA		2000 TRA		2000 Total Statewide General Employee Plans	
Membership								
Active Members		47,920		135,560		70,508		253,988
Service Retirees		16,276		39,940		29,525		85,741
Disabilitants		1,070		1,397		509		2,976
Survivors		1,955		6,010		1,912		9,877
Deferred Retirees		11,125		21,495		7,375		39,995
Nonvested Former Members		7,772		79,362		17,833		104,967
Total Membership		86,118		283,764		127,662		497,544
Funded Status								
Accrued Liability		$6,105,703,000		$11,133,682,000		$14,802,441,000		$32,041,826,000
Current Assets		$6,744,165,000		$9,609,367,000		$15,573,151,000		$31,926,683,000
Unfunded Accrued Liability		($638,462,000)		$1,524,315,000		($770,710,000)		$115,143,000
Funding Ratio	110.46%		86.31%		105.21%		99.64%	
Financing Requirements								
Covered Payroll		$1,900,124,000		$3,602,750,000		$2,813,696,000		$8,316,570,000
Benefits Payable		$237,825,000		$527,119,000		$755,036,000		$1,519,980,000
Normal Cost	8.72%	$165,591,000	9.33%	$336,088,000	9.09%	$255,746,000	9.11%	$757,425,000
Administrative Expenses	0.21%	$3,990,000	0.23%	$8,286,000	0.30%	$8,441,000	0.25%	$20,717,000
Normal Cost & Expense	8.93%	$169,581,000	9.56%	$344,374,000	9.39%	$264,187,000	9.36%	$778,142,000
Normal Cost & Expense	8.93%	$169,581,000	9.56%	$344,374,000	9.39%	$264,187,000	9.36%	$778,142,000
Amortization	(1.81%)	($34,392,000)	2.38%	$85,745,000	(1.47%)	($41,361,000)	0.12%	$9,992,000
Total Requirements	7.12%	$135,189,000	11.94%	$430,119,000	7.92%	$222,826,000	9.48%	$788,134,000
Employee Contributions	4.00%	$76,005,000	4.77%	$171,898,000	5.00%	$140,710,000	4.67%	$388,613,000
Employer Contributions	4.00%	$76,005,000	5.21%	$187,823,000	5.00%	$140,710,000	4.86%	$404,538,000
Employer Add'l Cont.	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Direct State Funding	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Other Govt. Funding	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Administrative Assessment	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Total Contributions	8.00%	$152,010,000	9.98%	$359,721,000	10.00%	$281,420,000	9.54%	$793,151,000
Total Requirements	7.12%	$135,189,000	11.94%	$430,119,000	7.92%	$222,826,000	9.48%	$788,134,000
Total Contributions	8.00%	$152,010,000	9.98%	$359,721,000	10.00%	$281,420,000	9.54%	$793,151,000
Deficiency (Surplus)	(0.88%)	($16,821,000)	1.96%	$70,398,000	(2.08%)	($58,594,000)	(0.06%)	($5,017,000)

2000 ACTUARIAL VALUATION RESULTS

STATEWIDE PUBLIC SAFETY EMPLOYEE RETIREMENT PLANS

	2000 MSRS-Correctional		2000 State Patrol		2000 PERA-P&F		1999 Local Police & Paid Fire Plans		2000 PERA Local Gov't Correctional Plans		2000 Total Public Safety Employee Plans	
Membership												
Active Members		3,098		830		9,627		276		2,781		16,612
Service Retirees		616		531		3,991		1,104		9		6,251
Disabilitants		75		22		482		12		3		594
Survivors		56		457		1,205		459		0		2,177
Deferred Retirees		419		24		470		9		0		922
Nonvested Former Members		163		10		626		0		0		799
Total Membership		4,427		1,874		16,401		1,860		2,793		27,355
Funded Status												
Accrued Liability		$359,885,000		$458,384,000		$3,383,187,000		$749,649,588		$10,195,000		$4,961,300,588
Current Assets		$386,964,000		$528,573,000		$4,145,351,000		$754,918,279		$11,116,000		$5,826,922,279
Unfunded Accrued Liability		($27,079,000)		($70,189,000)		($762,164,000)		($5,268,691)		($921,000)		($865,621,691)
Funding Ratio	107.52%		115.31%		122.53%		100.70%		109.03%		117.45%	
Financing Requirements												
Covered Payroll		$127,557,000		$51,980,000		$494,134,000		$17,843,137		$80,818,000		$772,332,137
Benefits Payable		$12,414,000		$25,789,000		$165,719,000		$45,521,123		$20,000		$249,463,123
Normal Cost	14.64%	$18,670,000	22.55%	$11,725,000	19.93%	$98,462,000	24.16%	$4,311,443	14.26%	$11,520,000	18.73%	$144,688,443
Administrative Expenses	0.22%	$281,000	0.20%	$104,000	0.14%	$692,000	0.00%	$0	0.16%	$129,000	0.16%	$1,206,000
Normal Cost & Expense	14.86%	$18,951,000	22.75%	$11,829,000	20.07%	$99,154,000	24.16%	$4,311,443	14.42%	$11,649,000	18.89%	$145,894,443
Normal Cost & Expense	14.86%	$18,951,000	22.75%	$11,829,000	20.07%	$99,154,000	24.16%	$4,311,443	14.42%	$11,649,000	18.89%	$145,894,443
Amortization	(1.14%)	($1,454,000)	(7.27%)	($3,779,000)	(7.38%)	($36,467,000)	15.51%	$2,767,200	(0.05%)	($40,000)	(5.05%)	($38,972,800)
Total Requirements	13.72%	$17,497,000	15.48%	$8,050,000	12.68%	$62,687,000	39.67%	$7,078,643	14.37%	$11,609,000	13.84%	$106,921,643
Employee Contributions	5.69%	$7,258,000	8.40%	$4,366,000	6.20%	$30,636,000	3.78%	$675,007	5.83%	$4,712,000	6.17%	$47,647,007
Employer Contributions	7.98%	$10,179,000	12.60%	$6,550,000	9.30%	$45,954,000	35.89%	$6,403,636	8.75%	$7,072,000	9.86%	$76,158,636
Employer Add'l Cont.	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Direct State Funding	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Other Govt. Funding	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Administrative Assessment	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Total Contributions	13.67%	$17,437,000	21.00%	$10,916,000	15.50%	$76,590,000	39.67%	$7,078,643	14.58%	$11,784,000	16.03%	$123,805,643
Total Requirements	13.72%	$17,497,000	15.48%	$8,050,000	12.68%	$62,687,000	39.67%	$7,078,643	14.37%	$11,609,000	13.84%	$106,921,643
Total Contributions	13.67%	$17,437,000	21.00%	$10,916,000	15.50%	$76,590,000	39.67%	$7,078,643	14.58%	$11,784,000	16.03%	$123,805,643
Deficiency (Surplus)	0.05%	$60,000	(5.52%)	($2,866,000)	(2.82%)	($13,903,000)	0.00%	$0	(0.21%)	($175,000)	(2.19%)	($16,884,000)

STATEWIDE SPECIALTY RETIREMENT PLANS

	2000 Legislators		2000 Elective State Officers		2000 Judges		2000 Total Statewide Specialty Plans	
Membership								
Active Members		173		0		282		455
Service Retirees		210		8		153		371
Disabilitants		0		0		4		4
Survivors		70		5		82		157
Deferred Retirees		90		4		9		103
Nonvested Former Members		3		0		2		5
Total Membership		546		17		532		1,095
Funded Status								
Accrued Liability		$69,364,000		$3,535,000		$153,660,000		$226,559,000
Current Assets		$37,265,000		$199,000		$111,113,000		$148,577,000
Unfunded Accrued Liability		$32,099,000		$3,336,000		$42,547,000		$77,982,000
Funding Ratio	53.72%		5.63%		72.31%		65.58%	
Financing Requirements								
Covered Payroll		$6,043,000		$0		$28,186,000		$34,229,000
Benefits Payable		$4,213,000		$303,000		$11,082,000		$15,598,000
Normal Cost	18.15%	$1,097,000		$0	16.30%	$4,593,000	16.62%	$5,690,000
Administrative Expenses	0.51%	$31,000		$2,000	0.15%	$42,000	0.22%	$75,000
Normal Cost & Expense	18.67%	$1,128,000		$2,000	16.44%	$4,635,000	16.84%	$5,765,000
Normal Cost & Expense	18.67%	$1,128,000		$2,000	16.44%	$4,635,000	16.84%	$5,765,000
Amortization	37.22%	$2,249,000		$338,000	10.58%	$2,982,000	16.27%	$5,569,000
Total Requirements	55.88%	$3,377,000		$340,000	27.03%	$7,617,000	33.11%	$11,334,000
Employee Contributions	9.00%	$544,000		$0	8.00%	$2,255,000	8.18%	$2,799,000
Employer Contributions	0.00%	$0		$0	20.50%	$5,778,000	16.88%	$5,778,000
Employer Add'l Cont.	0.00%	$0		$0	0.00%	$0	0.00%	$0
Direct State Funding	0.00%	$0		$0	0.00%	$0	0.00%	$0
Other Govt. Funding	0.00%	$0		$0	0.00%	$0	0.00%	$0
Administrative Assessment	0.00%	$0		$0	0.00%	$0	0.00%	$0
Total Contributions	9.00%	$544,000		$0	28.50%	$8,033,000	25.06%	$8,577,000
Total Requirements	55.88%	$3,377,000		$340,000	27.03%	$7,617,000	33.11%	$11,334,000
Total Contributions	9.00%	$544,000		$0	28.50%	$8,033,000	25.06%	$8,577,000
Deficiency (Surplus)	46.88%	$2,833,000		$340,000	(1.47%)	($416,000)	8.05%	$2,757,000

2000 ACTUARIAL VALUATION RESULTS

FIRST CLASS CITY RETIREMENT PLANS

	2000 DTRFA		2000 MTRFA		2000 StPTRFA		2000 MERF		2000 Total First Class City Plans	
Membership										
Active Members		1,441		5,777		4,445		1,152		12,815
Service Retirees		937		3,033		1,728		3,757		9,455
Disabilitants		6		20		23		213		262
Survivors		53		254		213		1,056		1,576
Deferred Retirees		172		756		243		233		1,404
Nonvested Former Members		575		1,815		1,697		0		4,087
Total Membership		3,184		11,655		8,349		6,411		29,599
Funded Status										
Accrued Liability		$241,899,000		$1,554,358,000		$998,253,000		$1,515,963,000		$4,310,473,000
Current Assets		$251,007,000		$1,027,633,000		$801,823,000		$1,416,491,000		$3,496,954,000
Unfunded Accrued Liability		($9,108,000)		$526,725,000		$196,430,000		$99,471,000		$813,519,000
Funding Ratio	103.77%		66.54%		80.32%		93.44%		81.13%	
Financing Requirements										
Covered Payroll		$53,102,000		$255,488,000		$198,974,000		$56,392,000		$563,956,000
Benefits Payable		$12,360,000		$86,440,000		$47,168,000		$107,373,000		$253,341,000
Normal Cost	8.68%	$4,609,000	10.76%	$27,485,000	9.36%	$18,628,000	18.11%	$10,210,000	10.80%	$60,932,000
Administrative Expenses	0.75%	$398,000	0.24%	$616,000	0.24%	$469,000	1.37%	$772,000	0.40%	$2,255,000
Normal Cost & Expense	9.43%	$5,007,000	11.00%	$28,101,000	9.60%	$19,097,000	19.48%	$10,982,000	11.20%	$63,187,000
Normal Cost & Expense	9.43%	$5,007,000	11.00%	$28,101,000	9.60%	$19,097,000	19.48%	$10,982,000	11.20%	$63,187,000
Amortization	(0.92%)	($489,000)	14.25%	$36,400,000	6.98%	$13,880,000	17.37%	$9,794,000	10.57%	$59,585,000
Total Requirements	8.51%	$4,518,000	25.25%	$64,501,000	16.57%	$32,977,000	36.85%	$20,775,000	21.77%	$122,772,000
Employee Contributions	5.50%	$2,921,000	6.10%	$15,595,000	6.05%	$12,036,000	9.75%	$5,498,000	6.39%	$36,050,000
Employer Contributions	5.79%	$3,075,000	8.95%	$22,854,000	9.07%	$18,037,000	21.36%	$12,046,000	9.93%	$56,012,000
Employer Add'l Cont.	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Direct State Funding	0.92%	$486,000	7.22%	$18,444,000	2.17%	$4,317,000	5.73%	$3,232,000	4.70%	$26,479,000
Other Govt. Funding	0.00%	$0	0.98%	$2,500,000	0.00%	$0	0.00%	$0	0.44%	$2,500,000
Administrative Assessment	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Total Contributions	12.21%	$6,482,000	23.25%	$59,393,000	17.29%	$34,390,000	36.84%	$20,775,000	21.46%	$121,041,000
Total Requirements	8.51%	$4,518,000	25.25%	$64,501,000	16.57%	$32,977,000	36.85%	$20,775,000	21.77%	$122,772,000
Total Contributions	12.21%	$6,482,000	23.25%	$59,393,000	17.29%	$34,390,000	36.84%	$20,775,000	21.46%	$121,041,000
Deficiency (Surplus)	(3.70%)	($1,964,000)	2.00%	$5,108,000	(0.72%)	($1,413,000)	0.01%	$0	0.31%	$1,731,000

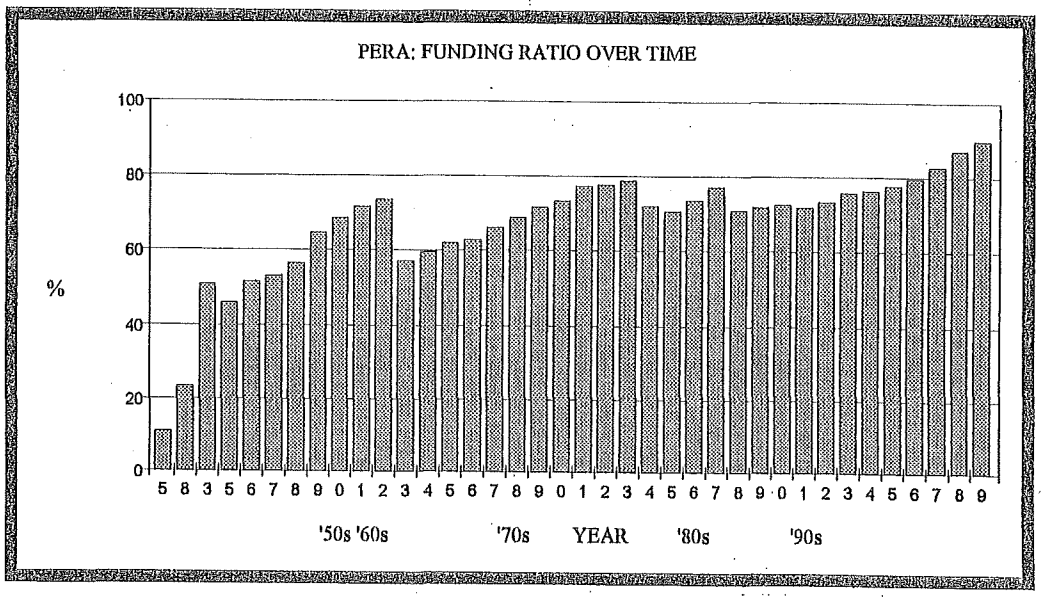
MINNEAPOLIS EMPLOYEES RETIREMENT FUND

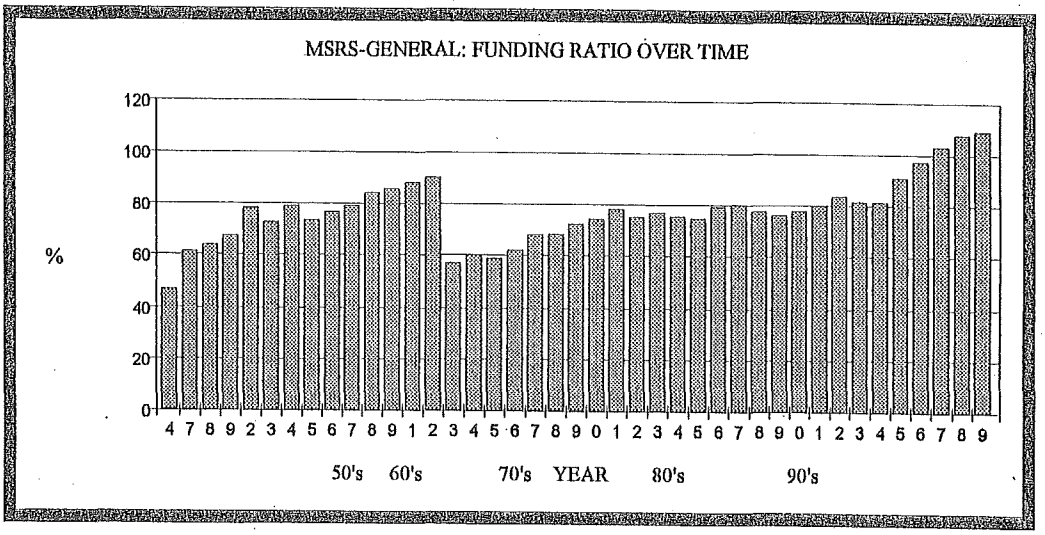
	2000 MERF	
Membership		
Active Members		1,152
Service Retirees		3,757
Disabilitants		213
Survivors		1,056
Deferred Retirees		233
Nonvested Former Members		0
Total Membership		6,411
Funded Status		
Accrued Liability		$1,515,963,000
Current Assets		$1,416,491,000
Unfunded Accrued Liability		$99,471,000
Funding Ratio	93.44%	
Financing Requirements		
Covered Payroll		$56,392,000
Benefits Payable		$107,373,000
Normal Cost	18.11%	$10,210,000
Administrative Expenses	1.37%	$772,000
Normal Cost & Expense	19.48%	$10,982,000
Normal Cost & Expense	19.48%	$10,982,000
Amortization	17.37%	$9,794,000
Total Requirements	36.85%	$20,775,000
Employee Contributions	9.75%	$5,498,000
Employer Contributions	21.36%	$12,046,000
Employer Add'l Cont.	0.00%	$0
Direct State Funding	5.73%	$3,232,000
Other Govt. Funding	0.00%	$0
Administrative Assessment	0.00%	$0
Total Contributions	36.84%	$20,775,000
Total Requirements	36.85%	$20,775,000
Total Contributions	36.84%	$20,775,000
Deficiency (Surplus)	0.01%	$0

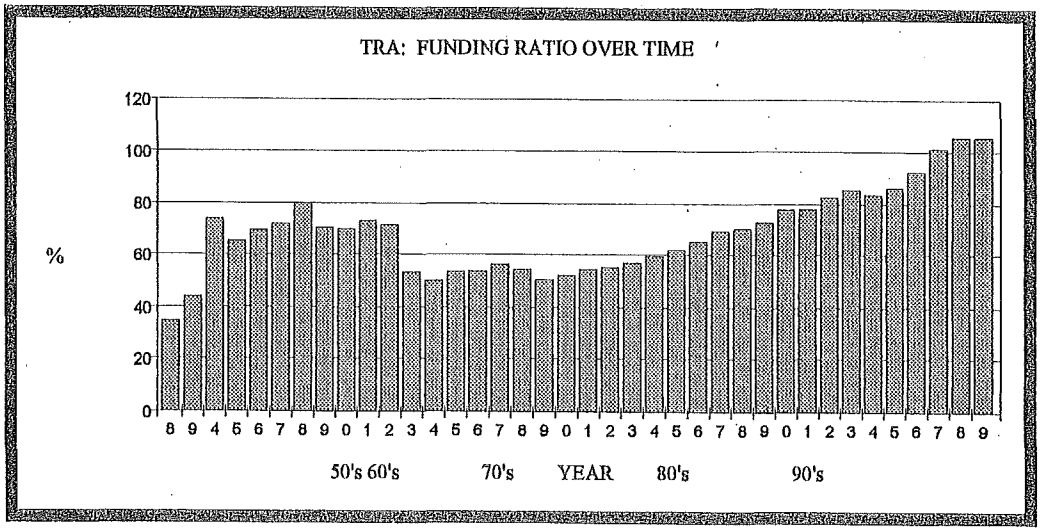
Minnesota Public Pension Plans: Funding Progress 1957-2000

1957	General State Employees Plan (MSRS)		Major Three Plans (MSRS, PERA, TRA)		All Plans	
Actuarial Accrued Liability		$69,000,000		$291,738,421		$564,829,533
Assets		42,300,000		107,088,150		177,900,430
Unfunded Accrued Liability		$26,700,000		$184,650,271		$386,929,103
Funding Ratio	61.30%		36.71%		31.50%	
Normal Cost	6.29%	$5,289,890	9.03%	$26,414,703	9.37%	$34.192.946
Expenses	--	--	0.07%	193,895	0.05%	193,895
Amortization	1.37%	1,152,170	11.61%	7,345,006	3.92%	14,306,194
Financial Requirements	7.66%	$6,442,060	11.61%	$33,953,604	13.34%	$48,693,035
Member Contributions	3.00%	$2,523,000	5.14%	$15,024,358	5.17%	$18,881,196
Employer Contributions	5.00%	4,205,000	6.69%	19,557,757	7.38%	26,931,655
Total Contributions	8.00%	$6,728,000	11.83%	$34,582,115	12.55%	$45,812,851
1975						
Actuarial Accrued Liability		$429,700,000		$2,286,800,000		$3,406,858,458
Assets		255,800,000		1,311,400,000		1,799,398,021
Unfunded Accrued Liability		$173,900,000		$975,400,000		$1,607,460,437
Funding Ratio	59.5%		57.3%		52.8%	
Normal Cost	6.91%	$26,486,000	8.53%	$138,946,000	9.92%	$196,674,000
Expenses	0.14%	537,000	0.12%	1,981,000	0.15%	2,916,000
Amortization	3.11%	11,921,000	4.46%	72,751,000	5.97%	118,440,000
Financial Requirements	10.16%	$38,944,000	13.11%	$213,678,000	16.04%	$318,030,000
Member Contributions	4.00%	$15,332,000	4.62%	$75,244,000	5.02%	$99,459,000
Employer Contributions	6.00%	22,998,000	6.57%	107,066,000	8.78%	174,017,000
Total Contributions	10.00%	$38,330,000	11.19%	$182,310,000	13.80%	$273,476,000
1992						
Actuarial Accrued Liability		$3,125,299,000		$16,227,774,000		$21,696,883,910
Assets		2,613,472,000		12,916,315,000		16,182,748,253
Unfunded Accrued Liability		$511,827,000		$3,311,459,000		$5,514,135,607
Funding Ratio	83.62%		79.59%		74.59%	
Normal Cost	6.58%	$109,348,000	7.78%	$484,644,000	8.95%	$635,565,597
Expenses	0.23%	3,815,000	0.31%	19,386,000	0.42%	29,673,009
Amortization	1.46%	24,218,000	2.49%	155,114,000	3.37%	239,396,412
Financial Requirements	8.27%	$137,381,000	10.58%	$659,144,000	12.74%	$904,605,018
Member Contributions	4.07%	$67,512,000	4.35%	$271,099,000	4.72%	$335,020,962
Employer Contributions	4.20%	69,669,000	5.76%	358,409,000	7.28%	517,346,923
Total Contributions	8.27%	$137,381,000	10.11%	$629,508,000	12.00%	$852,367,885
2000						
Actuarial Accrued Liability		$6,105,703,000		$32,041,826,000		$42,560,040,149
Assets		6,744,165,000		31,926,683,000		42,457,209,294
Unfunded Accrued Liability		($638,462,000)		$115,143,000		$102,830,855
Funding Ratio	110.46%		99.64%		99.75%	
Normal Cost	8.72%	$165,591,000	9.11%	$757,425,000	10.18%	$988,360,927
Expenses	0.21%	$3,990,000	0.25%	20,717,000	0.26%	25,322,691
Amortization	-1.81%	(34,392,000)	0.12%	9,992,000	0.38%	36,775,943
Financial Requirements	7.12%	$135,189,000	9.48%	$788,134,000	10.82%	$1,050,459,561
Member Contributions	4.00%	$76,005,000	4.67%	$388,613,000	4.90%	$475,784,014
Employer Contributions	4.00%	76,005,000	4.86%	404,538,000	5.70%	553,187,575
Direct State Funding	0.00%	0	0.00%	0	0.39%	38,107,109
Other Govt. Funding	0.00%	0	0.00%	0	0.38%	37,041,865
Administrative Assessment	0.00%	0	0.00%	0	0.00%	0
Total Contributions	8.00%	$152,010,000	9.54%	$793,151,000	11.38%	$1,104,120,563

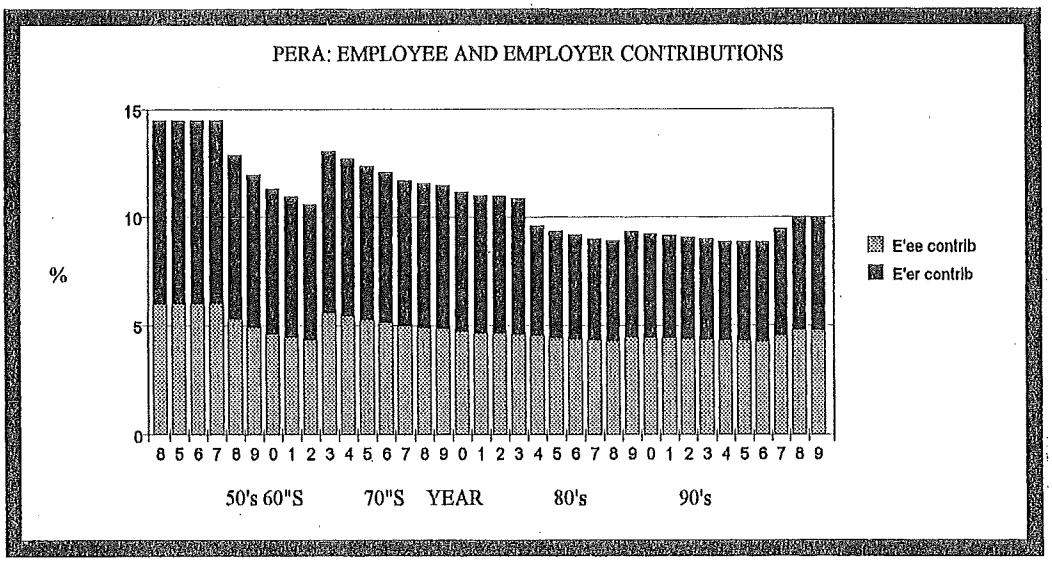
Funding Ratio Over Time

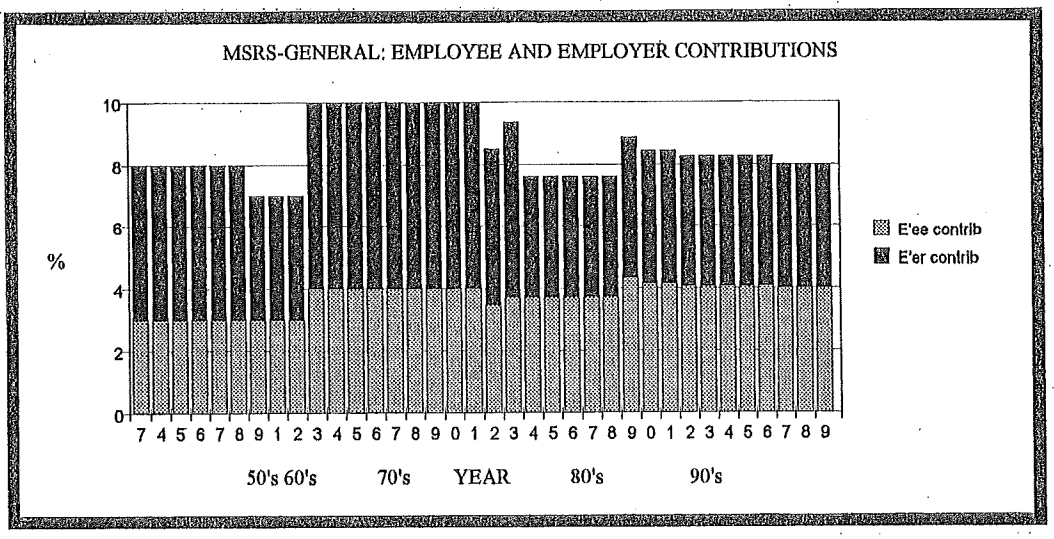


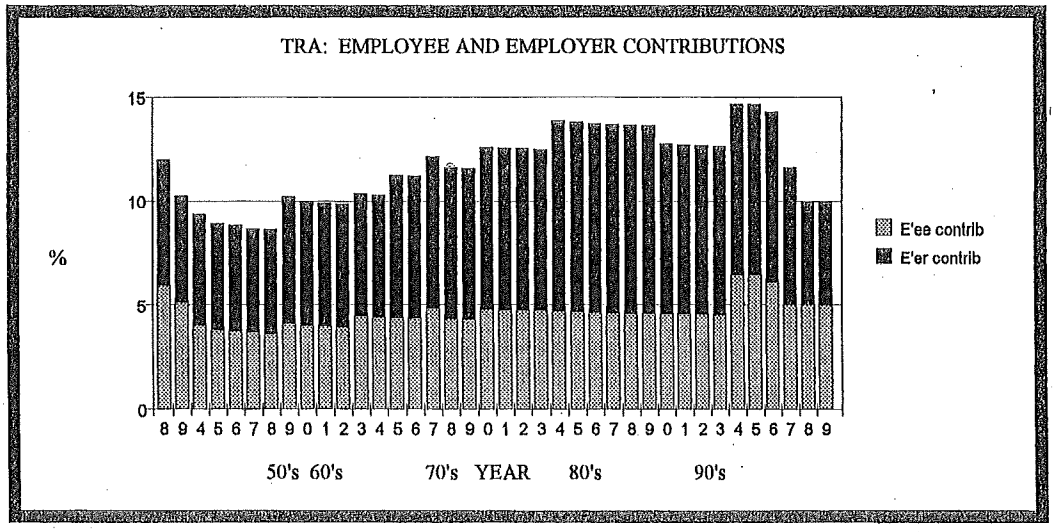




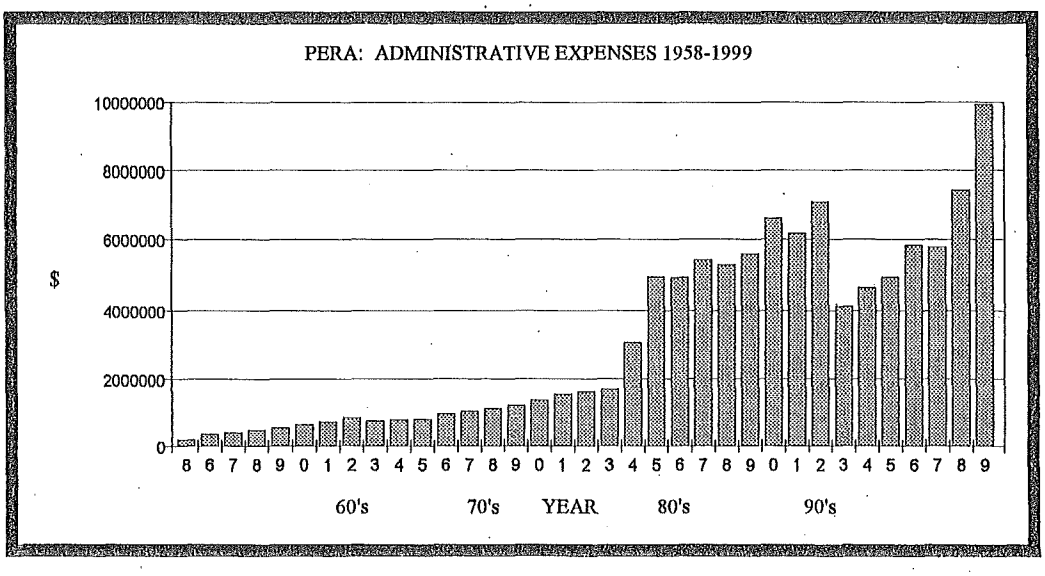
Employee and Employer Contributions

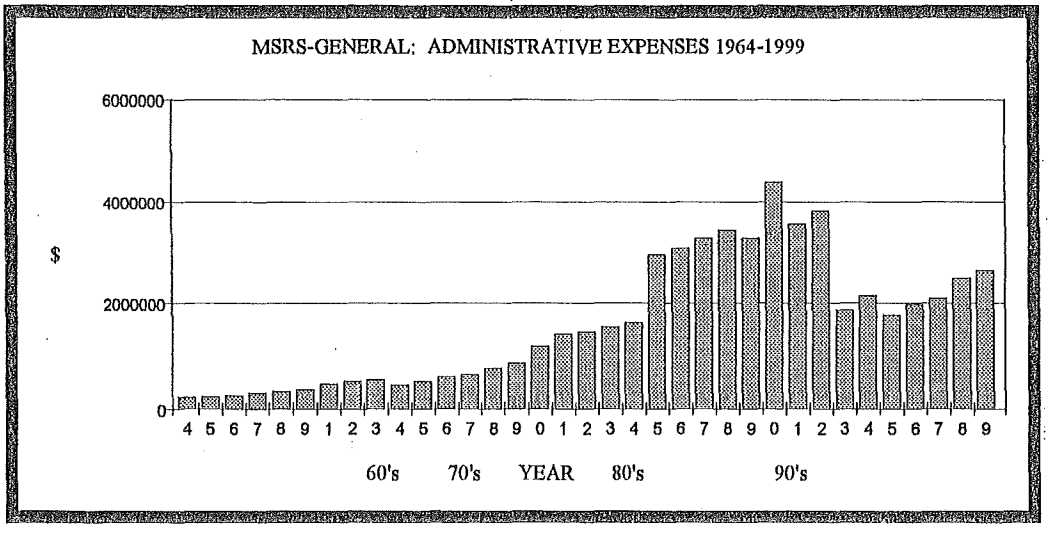


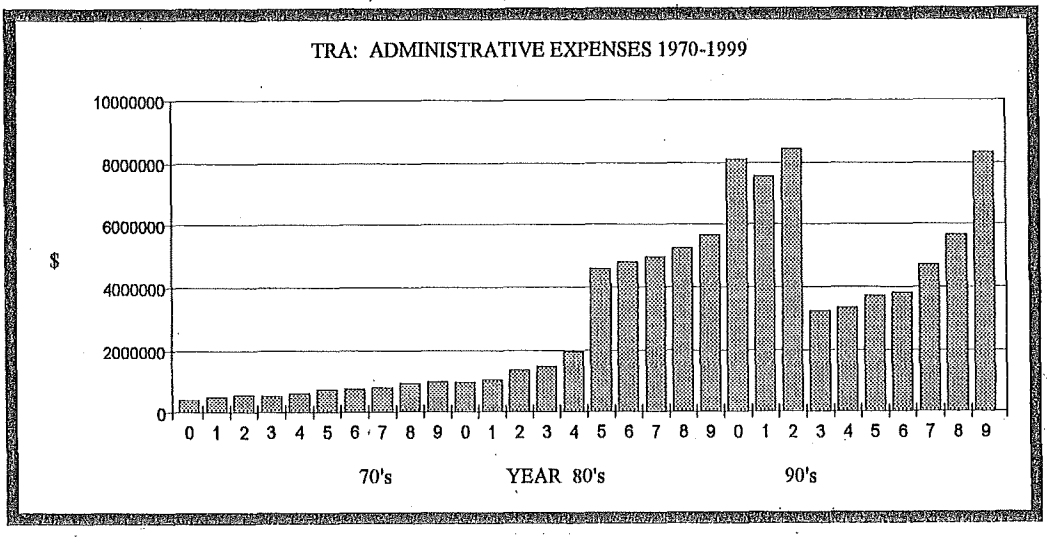




Administrative Expenses







Minnesota Public Pension Plans: Actuarial Experiences Gains and Losses (1986-2000)

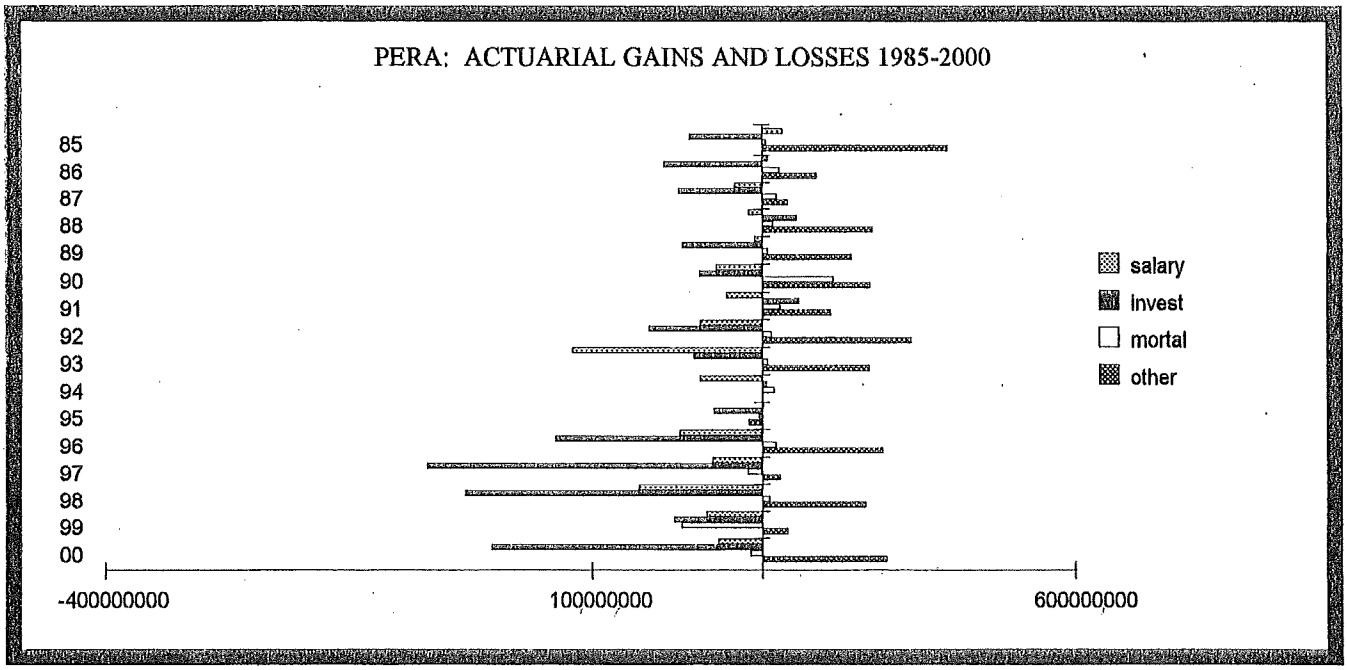
	SALARY INCREASE ASSMUPTION				INVESTMENT RETURN ASSUMPTION			
Plan	1999-2000	Last Five Years	Last Ten Years	Last 15 Years	1999-2000	Last Five Years	Last Ten Years	Last 15 Years
MSRS-General	56,601,000	-125,831,000	-344,439,000	-417,563,000	-267,091,000	-1,170,958,000	-1,339,497,000	-1,554,413,000
PERA	-45,597,000	-366,202,000	-725,461,000	-817,982,000	-278,205,000	-1,230,517,000	-1,425,328,000	-1,722,945,000
TRA	-117,377,000	-442,219,000	-1,188,570,000	-1,326,930,000	-554,336,000	-437,398,000	-885,311,000	-1,371,667,000
Subtotal	-106,373,000	-934,252,000	-2,258,470,000	-2,562,475,000	-1,099,632,000	-2,838,873,000	-3,650,136,000	-4,649,025,000
MSRS-Corr.	4,886,000	1,576,000	-5,753,000	-7,241,000	-14,883,000	-62,760,000	-70,850,000	-80,384,000
State Patrol	4,050,000	701,000	-1,138,000	-6,369,000	-16,801,000	-82,780,000	-94,355,000	-110,094,000
PERA-P&F	-9,535,000	-72,046,000	-141,994,000	-158,834,000	-199,806,000	-656,932,000	-728,195,000	-813,031,000
P&F Consol. Accts.	0	0	0	0	0	0	0	0
Loc Govt Correc.	-926,000	-926,000	-926,000	-926,000	258,000	258,000	258,000	258,000
Subtotal	-1,525,000	-70,695,000	-149,811,000	-173,370,000	-231,232,000	-802,214,000	-893,142,000	-1,003,251,000
Legislators	-1,367,000	-5,343,000	-8,495,000	-9,191,000	640,000	2,759,000	4,914,000	6,587,000
Elected St. Officers	0	-236,000	-480,000	-588,000	17,000	158,000	301,000	408,000
Judges	-339,000	-7,034,000	-17,215,000	-19,710,000	-1,305,000	-6,283,000	-7,195,000	-8,761,000
Subtotal	-1,706,000	-12,613,000	-26,190,000	-29,489,000	-648,000	-3,366,000	-1,980,000	-1,766,000
MERF	-14,097,000	-6,148,000	-14,885,000	7,377,000	-13,376,000	-197,268,000	-161,922,000	-210,927,000
DTRFA	-2,606,000	-12,305,000	-56,155,000	-62,594,000	-29,156,000	-48,167,000	-56,883,000	-75,172,000
MTRFA	7,869,000	22,101,000	3,902,000	-20,052,000	37,030,000	-51,313,000	-115,300,000	-193,272,000
StPTRFA	-8,419,000	-20,063,000	-25,499,000	-32,734,000	30,406,000	2,469,000	-24,317,000	-72,740,000
Subtotal	-3,156,000	-10,267,000	-77,752,000	-115,380,000	38,280,000	-97,011,000	-196,500,000	-341,184,000
Total	-126,857,000	-1,033,975,000	-2,527,108,000	-2,873,337,000	-1,306,608,000	-3,938,732,000	-4,903,680,000	-6,206,153,000

	MORTALITY ASSMUPTION				OTHER ASSUMPTIONS			
Plan	1999-2000	Last Five Years	Last Ten Years	Last 15 Years	1999-2000	Last Five Years	Last Ten Years	Last 15 Years
MSRS-General	10,611,000	20,780,000	28,867,000	33,554,000	44,563,000	210,148,000	161,489,000	365,317,000
PERA	-12,320,000	-88,292,000	-44,209,000	16,751,000	128,968,000	407,022,000	730,865,000	1,134,284,000
TRA	4,775,000	50,487,000	57,010,000	54,848,000	185,473,000	616,885,000	1,170,772,000	1,445,631,000
Subtotal	3,066,000	-17,025,000	41,668,000	105,153,000	359,004,000	1,234,055,000	2,063,126,000	2,945,232,000
MSRS-Corr.	225,000	214,000	1,219,000	847,000	2,823,000	35,948,000	29,639,000	37,672,000
State Patrol	5,289,000	11,417,000	12,204,000	13,038,000	5,570,000	12,921,000	-8,901,000	-3,126,000
PERA-P&F	-3,946,000	10,828,000	15,345,000	23,126,000	96,577,000	194,138,000	196,059,000	218,207,000
P&F Consol. Accts.	0	19,772,778	24,391,165	25,019,484	0	-134,063,938	-272,790,818	-290,462,162
Loc Govt Correc.	-2,000	-2,000	-2,000	-2,000	463,000	463,000	463,000	463,000
Subtotal	1,566,000	42,229,778	53,157,165	62,028,484	105,433,000	109,406,062	-55,530,818	-37,246,162
Legislators	455,000	-1,587,000	1,598,000	2,281,000	-785,000	3,452,000	189,000	2,822,000
Elected St. Officers	-182,000	-314,000	-375,000	-445,000	51,000	65,000	-187,000	158,000
Judges	1,130,000	1,445,000	6,680,000	6,844,000	2,098,000	7,912,000	3,185,000	7,555,000
Subtotal	1,403,000	-456,000	7,903,000	8,680,000	1,364,000	11,429,000	3,187,000	10,535,000
MERF	3,086,000	10,105,000	9,227,000	7,755,000	19,478,000	62,682,000	70,618,000	114,951,000
DTRFA	-2,603,000	-1,796,000	-595,000	-24,670,000	5,619,000	10,542,000	17,842,000	25,548,000
MTRFA	856,000	13,761,000	-19,411,000	-16,618,000	21,870,000	22,223,000	59,140,000	115,434,000
StPTRFA	-6,497,000	-29,103,000	-35,268,000	-38,898,000	-2,433,000	-17,033,000	-15,000,000	6,235,000
Subtotal	-8,244,000	-17,138,000	-55,274,000	-80,186,000	25,056,000	15,732,000	61,982,000	147,217,000
Total	877,000	17,715,778	56,681,165	103,430,484	510,335,000	1,433,304,062	2,143,382,182	3,180,688,838

Minnesota Public Pension Plans: Actuarial Experiences Gains and Losses (1986-2000)

	TOTAL EXPERIENCE GAINS AND LOSSES			
Plan	1999-2000	Last Five Years	Last Ten Years	Last 15 Years
MSRS-General	-155,316,000	-1,065,861,000	-1,493,580,000	-1,573,105,000
PERA	-207,154,000	-1,277,989,000	-1,464,133,000	-1,389,892,000
TRA	-481,465,000	-212,245,000	-846,099,000	-1,198,118,000
Subtotal	-843,935,000	-2,556,095,000	-3,803,812,000	-4,161,115,000
MSRS-Corr.	-6,949,000	-25,022,000	-45,745,000	-49,106,000
State Patrol	-1,892,000	-57,741,000	-92,190,000	-106,551,000
PERA-P&F	-116,710,000	-524,012,000	-658,785,000	-730,532,000
P&F Consol. Accts.	0	-114,291,160	-248,399,653	-265,442,678
Loc Govt Correc.	-207,000	-207,000	-207,000	-207,000
Subtotal	-125,758,000	-721,273,160	-1,045,326,653	-1,151,838,678
Legislators	-1,057,000	-719,000	-1,794,000	2,499,000
Elected St. Officers	-114,000	-327,000	-741,000	-467,000
Judges	1,584,000	-3,960,000	-14,545,000	-14,072,000
Subtotal	413,000	-5,006,000	-17,080,000	-12,040,000
MERF	-4,909,000	-130,629,000	-96,962,000	-80,844,000
DTRFA	-28,746,000	-51,726,000	-95,791,000	-136,888,000
MTRFA	67,625,000	6,772,000	-71,669,000	-114,508,000
StPTRFA	13,057,000	-63,730,000	-100,084,000	-138,137,000
Subtotal	51,936,000	-108,684,000	-267,544,000	-389,533,000
Total	-922,253,000	-3,521,687,160	-5,230,724,653	-5,795,370,678

PERA: Actuarial Experiences Gains and Losses
(1985-2000)



Glossary of Minnesota Public Pension Plan Terms

Introduction

This list provides definitions relevant for Minnesota public pension plans and funds. The first section identifies the systems which administer Minnesota's larger pension plans. The second section lists terms relevant for a basic understanding of the types of plans, the financing, and the operation of these plans. This is followed by a section with more general terms that one would encounter in a study of these systems.

Minnesota Pension Systems

The following identifies the major pension systems.

DTRFA	Duluth Teachers Retirement Fund Association. DTRFA administers the pension plan and invests assets for Duluth public school teachers.
IRAP	Individual Retirement Account Plan. IRAP is a defined contribution plan primarily covering many recently hired state university, community college, and technical college personnel.
MERF	Minneapolis Employees Retirement Fund. The MERF administers the pension plan and invests assets for Minneapolis employees hired before July 1, 1978. The plan includes some non-teaching employees of the Minneapolis School District as well as some employees of various Metropolitan Council agencies and entities.
MPRIF	Minnesota Post Retirement Investment Fund. The MPRIF is the joint post retirement adjustment mechanism and retiree asset investment fund for the various statewide pension plans, administered by the SBI. The mechanism provides post retirement increases based in part on increases in the federal Consumer Price Index (CPI) and in part on investment performance in excess of 8.5 percent.
MSRS	Minnesota State Retirement System. MSRS administers the various pension plans that cover state employees. The MSRS General Plan covers most executive branch employees as well as employees of the State Historical Society, employees of the Metropolitan Council, and administrative and clerical employees of the University of Minnesota. The Unclassified Plan covers legislative staff employees and various unclassified employees in state service. The Legislators Plan and the Judges Plan cover legislators and judges, respectively, while the Elected State Officers Plan covers constitutional officers. The Correctional Plan covers various employees in state correctional institutions who have sufficient inmate contact. The State Patrol Plan covers peace officers employed by the State Patrol, the Bureau of Criminal Apprehension, the Department of Natural Resources Enforcement Division, and the Department of Public Safety Gambling Enforcement Division.

MTRFA	Minneapolis Teachers Retirement Fund Association. The MTRFA administers the pension plan and invests assets for Minneapolis public school teachers.
PERA	Public Employees Retirement Association. PERA administers various plans covering local, county, and school district non-teaching employees. The PERA General Plan covers non-public safety employees in these districts. The PERA Police and Fire Plan provides coverage for many police officers and paid firefighters throughout the state. The PERA Defined Contribution Plan provides coverage to certain local elected officials, certain local government physicians, and to certain basic and advanced emergency medical service personnel.
SBI	State Board of Investment. The SBI is the constitutionally established board composed of the Governor, Secretary of State, State Auditor, State Treasurer, and Attorney General and is charged with investing state assets, including the pension fund assets of TRA, MSRS, and PERA.
StPTRFA	Saint Paul Teachers Retirement Fund Association. The StPTRFA administers the pension plan and invests assets for Saint Paul public school teachers.
TRA	Teachers Retirement Association. TRA provides coverage for public school teachers throughout the state, except for teachers in the first class cities, and for some teachers in community colleges, state universities, and technical colleges.

Essential Terms

a. Types of plans. Primary pension plans can be categorized into two broad types, as follows:

Defined Benefit Plans	Under a defined benefit plan, the eventual pension benefit is defined, or determinable, by formulas. These formulas indicate that the benefit an individual will receive at retirement is a portion of the high-five average salary. The high five average salary is generally the average salary in the highest five consecutive salary years. The portion of the high-five average salary that the individual will receive is determined by the benefit accrual rate (the percentage of the high-five the individual will receiver per year of service provided to the employer) times years of service. Most Minnesota public pension plans are defined benefit plans.
Defined Contribution Plans	No specific benefit is specified. Rather, the contributions that must be paid to the fund are specified, with the eventual pension benefit being a function of the overall magnitude of contributions, pre-retirement investment earnings, the age at retirement, and the expected mortality of the recipient. MSRS Unclassified and IRAP are examples of defined contribution plans.

b. Common funding terms. Considerable attention is given to the funding of defined benefit plans to ensure that sufficient assets are being contributed and invested to meet the eventual plan obligations. Terms commonly encountered in studying plan funding are:

Actuarial Accrued Liability	The pension plan liability recognized to date, as determined by the actuarial method used, or alternatively, that portion of the actuarial present value of pension benefits and expenses which are not provided for by future normal costs.
Actuarial Report	A study performed periodically (annually in Minnesota) by an actuary to examine whether the contributions made to a defined benefit plan are likely to be adequate, given the benefits offered, the mortality and other demographic factors of the membership, member terminations and turnover, and pension fund investment performance.
Actuarial Value of Assets	The value of assets used for actuarial valuation purposes, defined for most Minnesota public pension plans as the value of assets at cost plus one third of the difference between the cost value and the market value. Also referred to as "current assets."
Amortization Requirement	The contribution, expressed as a percentage of payroll, which must be made to pay off the unfunded actuarial accrued liability by the full funding date.
Contribution Deficiency	A comparison of required contributions to statutory contributions indicating that current contribution rates are not sufficient to cover expenses, normal cost, and make necessary payments to retire the unfunded actuarial accrued liability by the full funding date.
Contribution Sufficiency	A comparison of required contributions to statutory contributions indicating that current contribution rates are more than sufficient to cover expenses, normal cost, and make necessary payments to retire the unfunded actuarial accrued liability by the full funding date.
Full Funding Date	The target date established for fully amortizing the pension plan unfunded actuarial accrued liability, usually June 30, 2020 for Minnesota public pension plans.
Funding Ratio	Current assets expressed as a percentage of the actuarial accrued liability. A funding ratio of one hundred percent indicates current assets are equal to actuarial accrued liabilities. A funding ratio of less than one hundred percent indicates that the plan has unfunded actuarial accrued liabilities.
Normal Cost	The cost, or additional liability, incurred by covering employees for the current year's operations.

Required Contributions	The level of contributions, often expressed as a percentage of covered salary, determined by the actuary to be necessary to fully fund a pension plan by the full funding date.
Statutory Contributions	Contributions to be paid to a defined benefit plan, generally specified in statute in Minnesota.
Unfunded Actuarial Accrued Liability	Any amount of pension plan accrued liability in excess of the current assets (the actuarial value of assets) of the pension plan.

c. Plan and Member Definitions:

Active Member	Current public employees win pension benefit coverage by the plan.
Deferred Retirees	Employees who terminated service, who are eligible based on the length of their public service for pension benefits other than a refund, but who are not yet receiving benefits, usually because they have not reached the pension plan retirement age.
Pension Fund	The vehicle that receives contributions, and accumulates the assets due to these contributions and the investment income from investing the assets, for purposes of paying the benefits specified by the pension plan.
Pension Plan	The collection of provisions, generally found in state law or nonprofit corporation bylaw which specify: (1) membership eligibility requirements; (2) the contributions required by law from covered employees and employing units; and (3) the level, conditions, and nature of benefits payable at termination, retirement, death, or date of disability.
Retirees	An former public employee and former active member who is currently receiving pension benefits.

<u>General Terms</u>

The following are some of the more general terms relevant to Minnesota plans which may be encountered.

Active Fund; Active Employee Assets	The portion of TRA, PERA, or MSRS assets that has not been transferred to the Minnesota Post Retirement Investment Fund and that represents the assets accumulated on behalf of active plan participants. Sometimes referred to as the Basic Retirement Funds.
Asset Allocation	The investment practice of determining what portion of an investment fund ought to be invested in various types of investment securities (e.g. stocks, bonds, cash equivalents, etc.)

Balanced Portfolio	An asset allocation practice emphasizing the investment of significant portions of a fund in the two major asset classes (e.g. debt (bonds) and equity (stocks)).
Bonds	A debt-related investment security, representing a loan of money in return for an enforceable promise by the debtor to repay the principal amount of the loan and interest on the unpaid principal balance at a stated percentage rate on or before a stated date.
Consumer Price Index	A calculation of the apparent rate of inflation as derived from the comparative costs over time for a group of goods and services which is computed and published by the Bureau of Labor Standards of the U.S. Department of Labor.
Debt Securities	An investment security that represents a loan from the investment fund to some other entity, frequently a corporation, in order to obtain the interest payments on the loan principal balance, rather than to obtain an ownership interest in the entity.
Dedicated Bond Portfolio	An investment strategy where corporate and governmental bonds with various maturity lengths are purchased to match an actuarially determined future stream of retirement annuity payments, including any expected post retirement increases.
Derivatives	Securities whose price is linked to, or derived from, other assets, such as stocks, bonds, currencies, or commodities.
Earnings Potential	The predictable pattern of likely future investment gain attributable to a particular investment security.
Equities	Investment securities that represent an ownership interest in the entity issuing the security, that are expected to produce income in the form of shared profits, typically referred to as dividends, and to produce appreciation in value, typically referred to as capital appreciation or capital gain.
Full Funding or Fully Funded Reserves	A practice in the Minnesota Post Retirement Investment Fund (MPRIF) whereby the entire actuarial present value of a retiree's future pension through death, at a five percent post retirement interest rate, is transferred in cash from the active fund (Basic Fund) to the MPRIF.
Inflation	The economic impact of increases in the prices of goods and services on the purchasing power of money.
Interest Assumption or Actuarial Interest Assumption	The interest rate used by the actuarial valuation process to discount the amount of future pension or benefit payments in determining its present value.

Investment Performance	The measurement of the net gain or loss produced by an investment portfolio. The measurement can be restricted to realized investment results only (yield) or inclusive of unrealized changes in market value (total rate of return) and can ignore the impact of cash flow (dollar weighted rate of return) or can attempt to correct for cash flow changes (time weighted rate of return.)
Investment Strategy	The plan of an investment fund for purchasing various types of investment securities, attempting to take advantage of the earnings potential of the various types of investment securities, to emphasize safety from risk through diversification, and to accommodate future liquidity and cash flow needs.
Minnesota Adjustable Fixed Benefit Fund	The predecessor to the current Minnesota Post Retirement Investment Fund, that was created in 1969, that functioned in some respects like a variable annuity program, but with a guaranteed benefit floor, and that emphasized stock investments.
Minnesota Post Retirement Investment Fund	The fund which receives the fully funded actuarial reserves for a new retiree's pension benefit at the time of retirement from the Basic Fund, and which generates the funding for and pays post-retirement adjustments.
Mortality Gain or Loss	An actuarially calculated change in the required reserves in the Minnesota Post Retirement Investment Fund or the Basic Retirement Funds resulting from a greater number or a fewer number of deaths when compared to the mortality actuarial assumptions.
Participation in the Minnesota Post Retirement Investment Fund	The share of the total assets of the Minnesota Post Retirement Investment Fund (MPRIF) attributable to each statewide Minnesota public pension plan (TRA, PERA, or MSRS) based on the amount of fully funded MPRIF reserves attributable to retirees of the respective plan.
Portfolio	The collection of investment securities owned by a pension fund.
Post Fund	The Minnesota Post Retirement Investment Fund.
Post Retirement Increases or Adjustments	The practice of granting additional benefits for retired persons during the course of their retired lifetimes, generally intended to replace all or a portion of inflation.
Post Retirement Interest Actuarial Assumption	The established rate of expected future investment earnings on invested assets attributable to retirees during the period of their retirement for use in actuarial determination.

Pre Retirement Interest Actuarial Assumption	The established rate of expected future investment earnings on invested assets attributable to active members during their active working lifetime for use in actuarial determinations.
Realized Investment Income	The proceeds obtained from investment securities of the pension plan, derived from interest paid on bonds, dividends paid on stocks, and net realized gains or losses on the sale of investments.
Realized Gains or Losses	The positive or negative difference between the cost (purchase price) of an investment security and the sale price of that security.
Required Reserves	The actuarially determined present value of a stream of future benefit payments that is transferred from the active fund of a statewide Minnesota public pension plan to the Minnesota Post Retirement Investment Fund upon retirement.
Stocks	The equity or ownership interest in a corporation, issued by the corporation in the form of shares, and traded on an exchange or otherwise.
Unrealized Gain or Loss	The positive or negative difference between the cost (purchase price) of an investment security and the current fair market value of that security, which would be obtainable in the event of sale, but without actually selling the security.
Volatility	The tendency for the fair market value of investment securities, especially equity investments, to vary positively or negatively over a short period of time and within a considerable range.
Yield	The investment income obtained or obtainable from an investment security in the form of interest on bonds, dividends on equities, and any net realized gain upon security sale.

Major Minnesota Public Pension Plan Investment Performance 1990-1998

Investment Performance

A. Definition of Concepts

1. Time-weighted rate of return. For comparisons among investment managers, among funds, or to compare fund or manager performance to returns offered by the market, time-weighted returns are the accepted industry standard. In investment manager presentations, use of time-weighted rates of return rather than other forms of returns are required by Association of Investment Management and Research (AIMR) presentation standards and by the Securities and Exchange Commission (SEC). Minnesota law mandates use of time-weighted rates of return for public pension fund performance reviews. A time-weighted rate of return measures the return earned on assets invested for the entire period. By filtering out the effects on return caused by a board's decisions to give additional assets to a manager during a period under study, or a board's decision to withdraw assets from a manager to cover benefit checks or other operating expenses, the time-weighted rate of return procedure removes the impact of events over which the investment manager has no control.

Most individuals familiar with mutual funds have used time-weighted rate of return information, although they may not be aware of it because the returns were not identified by the formal name. Mutual funds commonly report returns to shareholders for the various investment portfolios offered by the mutual fund family. In presenting these returns, the report may include a comment indicating that the returns reflect the growth rate (positive or negative) of a single $1,000 investment made at the start of the period. Any other uniform assumed starting value could have been used, since there would be no impact on the computed return. This is a description of time-weighted returns, although the technical term was not used. Since the returns were computed using the time-weighted methodology, the returns can be compared to the time-weighted returns of any similar investment offering.

2. Annualized returns. To review long-term performance, it is often useful to summarize several years of annual returns by computing multi-year average returns. The process is called "annualizing." If a fund had a 3.2 percent time-weighted rate of return in the first year, a 22 percent return in the second year, and a 6.5 percent return in the third, it can be shown that this variable three-year stream produces the same asset growth as a constant 10.3 percent return in each year. This 10.3 percent return is the three-year annualized return, summarizing the three-year performance of the fund. Annualized returns can be computed for any time period and can be compared between funds. Mutual funds commonly report returns for one, five, and ten year periods. The one year return is the time-weighted return for the most recent year, while the five and ten-year returns are multi-year time-weighted annualized returns. Since annualized returns are a form of average returns, we will use the terms "annualized returns" and "average returns" interchangeably in this presentation.

3. Index returns. Rates of return can be computed for the stock, cash, bond, and real estate markets, for portions of those markets, or for any asset grouping being followed. The market segment being followed is the index, the return on those assets is the index return. For instance, the Wilshire 5000 is a commonly used stock index. The Wilshire 5000 includes all domestic stocks for which daily prices are available, weighted by market value. The name comes from the company that compiles the index and from the approximate number of companies initially included. At the present time, there are actually over 7,000 stocks incorporated into the Wilshire 5000. Another commonly used stock index is the Standard and Poor's 500 (S&P 500), an index composed of 500 of the largest traded companies.

4. Benchmarks. Pension plan boards expect a certain level of investment performance from each asset class and from the total portfolio. These performance objectives are often called benchmarks and they serve as a target or dividing line between performance that is deemed acceptable and performance that is not. For stocks, pension boards often use the Wilshire 5000 or S&P 500. Long-term stock returns which approximate or exceed the applicable index return reflect acceptable performance, while returns below the benchmark suggest a need for further review and possible remedial action. Pension investment administrators typically adopt several benchmarks for use by their fund, one or more indices for each manager, each asset class, and for the total fund. The expectation is that the manager, asset class, and total portfolio's performance will equal or exceed the respective benchmark.

The most common asset class indices used as benchmarks by Minnesota public pension plans follow:

For cash equivalent investments:

- 90-Day Treasury Bill Return. The return earned on 90-day treasury bills is often used as a benchmark for a pension fund's cash-equivalent investments.

For domestic stock investments:

- Wilshire 5000. The Wilshire 5000 is the return earned on all domestic stocks for which daily price quotes are available.

- S&P 500. The S&P 500 is the stock return earned by the roughly 500 largest traded companies.

Pension funds may also use stock indices which measure returns earned by some portion of the total stock market, such as value stocks, growth stocks, or specific capitalization ranges (small cap, mid-cap, or large cap).

For domestic bonds:

- Lehman Brothers Aggregate Bond Index. The Lehman Brothers Aggregate Bond Index is the return earned on all domestic investment-grade bonds, treasury and agency securities, and mortgage obligations with maturities greater than one year.

Other bond indices restricted to corporate securities or reflecting non-investment-grade securities are also used.

To review total fund performance, one approach pension fund boards can use is to compare their fund's returns to those of other comparable funds. For this type of comparison, data from the Trust Universe Comparison Service, or some comparable database, can be used.

- Trust Universe Comparison Service (TUCS) Universe Median balanced fund return. A pension fund can compare its return to the median return from balanced funds reported by the TUCS Universe, a data bank of time-weighted rates of return earned by a few hundred public and private tax-exempt investors.

To determine whether a pension fund is meeting its own performance standards, pension funds create composite portfolios, and then compare the composite portfolio return against the return earned on the actual total portfolio.

- Composite portfolio. A composite portfolio is constructed by assuming that each asset class earns the benchmark return for the given asset class, and each asset class is weighted in the total portfolio by the target asset allocation as indicated in the pension fund's investment policy statement.

If the pension fund's asset mix has not deviated from the target asset mix specified in its investment policy statement, and if each asset class is meeting its performance objective (its asset class benchmark return) the pension fund total portfolio return will match the composite portfolio return. Any differences between the two can be traced to the underperformance or overperformance of the asset classes relative to their benchmarks, and to any over-weighting or under-weighting of the various assets classes compared to the target allocation.

B. Investment Performance: Estimation of Revenue Gains and Losses: Large Minnesota Public Funds

In this section we use the State Board of Investment (SBI) Combined Fund as a comparable-fund benchmark for other large Minnesota public pension funds, and we explore the cost implications for these pension funds of underperformance or overperformance relative to the returns earned by the SBI Combined Fund. The SBI Combined Fund is the combined assets of the SBI Basic Fund, which invests the pension assets of active employees in statewide public pension funds, and the SBI Post Retirement Investment Fund, which invests the assets of retirees in those same statewide funds.

The following analysis updates by one year an investment performance review appearing in an LCPR staff report to the LCPR, Large Fund Pension Investment Policies and Performance: Second Consideration, dated September 25, 1998. The analysis in the 1998 report showed the impact of this relative performance from calendar 1994, the first year in which the SBI Basic Fund and SBI Post Fund were invested with fairly similar objectives and in a combined portfolio format, through 1997. In May 2000, the Office of the State Auditor (OSA) completed the report, Minnesota Public Pension Funds Investment Disclosure Report For The Fiscal Year 1998. Using calendar year 1998 rate of return information provided in that OSA report, it is possible to update the earlier LCPR staff analysis through 1998.

The comparison that follows approximates the cost, positive or negative, of maintaining pension funds separate from SBI. Asset growth through strong investment performance is a substitute for state aid and employer contributions. When assets to cover a plan's liabilities are not generated by investment returns, they must be covered over time by state aid and further employer contributions. Retirees in the non-SBI managed funds may also be hurt if the fund pays performance-based post-retirement adjustments. Lower returns cause lower post-retirement benefit increases. At the current time, MERF, MTRFA, StPTRFA, DTRFA, and the two Minneapolis local relief associations provide performance based post-retirement adjustments, where the size of the post-retirement benefit adjustment depends on the level of the fund's long-term average investment return.

The first column of the table lists the SBI Combined Fund and the larger local Minnesota public pension funds. The second column lists the actual assets (in millions of dollars) in each of these pension organizations on the starting date of the period under review, January 1, 1994. The third column shows the five year average return earned by each fund over the 1994 through 1998 period. Given the assets in each fund at the start of 1994, we can take that 1994 asset value and let it grow, as indicated by the pension fund's rates of return over the 1994 through 1998 period. We can also take those 1994 assets and assume they grow at rates indicated by SBI Combined Fund returns from 1994 through 1998. In effect, this amounts to estimating the asset value that would have occurred by the end of 1998 if SBI had managed that portfolio starting in 1994. The fourth column in the table shows the difference for each fund between those two projections—the difference between the expected 1998 year end asset value

under local plan investment management and the expected 1998 year end asset value under SBI investment management. If the local plan returns are lower than those of SBI, providing less growth than would have occurred under SBI management, the difference is shown in the fourth column as a loss. If the local plan returns provide more growth, that difference is shown as a gain due to local plan management, indicated with a plus sign.

Table 1 suggests that for the 1994 through 1998 period (calendar 1998 being the most recent year for which we have data), every pension fund except Minneapolis Fire would have been better off if SBI had managed their assets. For those local pension plans in the table with less assets due to local plan investment management, the total shortfall is estimated as $378 million. For the period, Minneapolis Fire had higher returns than SBI, creating a gain for that fund of about $19 million compared to the expected result under SBI management. When that gain is netted against the shortfall of the other plans in the group, the result is a net loss of $358.87 million.

While the last column in the table puts dollar estimates on the cost imposed by lower returns by the non-SBI funds, the direction of the result is evident by scanning the third column, the five year average returns for these funds. Except for Minneapolis Fire, every fund had a lower five year average (annualized) return than SBI. Those local funds were therefore less successful at generating assets through investment than SBI.

Table 1

Cumulative Gain or Loss Compared to SBI Combined Fund Returns, 1994 Through 1998

Fund	1994 Assets ($millions)	Five Year Average Growth Rate (1994-1998)	Estimated Gain/Loss in Asset Value Due to Local Fund Investment Returns Rather Than SBI Combined Fund Investment Returns, Given 1994 Assets ($millions)
SBI Combined Fund	$18,852.0	15.24%	N/A
MERF Total Fund	967.5	14.08%	-$97.17
DTRFA	135.5	12.84%	-27.54
MTRFA	541.1	13.39%	-85.58
StPTRFA	410.6	13.84%	-49.57
Minneapolis Fire	177.5	16.43%	+18.95
Minneapolis Police	288.9	10.94%	-101.67
Bloomington Vol. Fire	58.8	11.92%	-16.29
Total Net Loss			$358.87

When LCPR staff last made the above comparisons, in the LCPR report on large fund pension investment policies and performance dated September 25, 1998, the estimated impact of maintaining the separate local funds was $251 million. That estimate was based on 1994-97 data. Adding 1998 to the time period caused the net result to grow by more than $100 million. A key reason for that large growth in the estimate is that SBI, during calendar 1998, again had higher returns than any of the included funds except for Minneapolis Fire. The separate 1998 returns are noted in Table 2. The Minneapolis Fire return was 21.9 percent. The SBI return was 16.1 percent. The remaining funds trailed SBI, some by large margins.

Table 2

Calendar Year 1998 Total Portfolio Returns

Fund	Calendar Year 1998 Return
SBI Combined Fund	16.1%
MERF Total Fund	15.7%
DTRFA	11.1%
MTRFA	14.2%
StPTRFA	12.1%
Minneapolis Fire	21.9%
Minneapolis Police	11.4%
Bloomington Vol. Fire	13.8%

Most pension funds have the majority of their assets in equity investments, with 50 percent or more in domestic stock investments. Given the importance of domestic stocks in these portfolios, total portfolio rate of return differences between the various funds included here are strongly influenced by how the fund administrators choose to structure the pension fund stock portfolio, and upon each fund's success in capturing the returns offered by the markets. SBI has attempted to design its domestic stock portfolio to produce stock rates of return mirroring the stock market as a whole. Some of the other pension funds have chosen to weight their stock portfolios toward some portion of the stock market. That strategy seems likely to result in stock portfolio returns which are more variable than a stock portfolio structured to follow the broad stock market. Whether that approach will provide long-term stock returns in excess of those provided by the stock market as a whole is far from certain. The DTRFA and MTRFA have tended to weight their stock portfolios during this period toward small cap stocks. That portion of the market lagged the stock market as a whole, pulling down their returns. On the other hand, the Minneapolis Fire Relief Association stock portfolio was weighted toward large cap growth stocks. That portion of the stock market considerably outperformed the broader stock market during much of the 1990s, explaining much of the results noted here regarding Minneapolis Fire total portfolio returns. As time passes and other sectors of the stock market come into favor, the fortunes of these various pension funds may reverse. We do have some post-1998 return information for DTRFA, obtained from board meeting materials, indicating high returns. Recent MTRFA Board meeting materials also indicate recent improvements in relative performance.

C. Investment Performance: Estimation of Revenue Gains and Losses: Fairmont Police and Virginia Fire Relief Associations

In the 1998 LCPR staff investment performance review, we attempted to include all the remaining freestanding local police and paid fire relief association pension plans. There are four freestanding local paid fire and police relief association plans. Those are the Fairmont Police Relief Association, Virginia Fire Relief Association, in addition to the Minneapolis Fire and Minneapolis Police Relief Association pension plans discussed above. We could not include the Fairmont Police Relief Association in our investment performance review because they did not provide any rates of return, although they did provide some asset mix information. The Virginia Fire Relief Association did not respond at all to our information requests.

At the current time, we are able to provide some review of the Fairmont and Virginia relief associations based on 1997 and 1998 rates of returns computed by the OSA and appearing the most recent OSA investment disclosure report. Table 3 below is similar to Table 1 above, but it is based only 1997 and 1998 data rather than 1994 through 1998. The 1997 and 1998 returns for the Fairmont Police Relief Association and Virginia Fire Relief Association appear in Table 3 below, along with comparable SBI

Combined Fund returns for those two years. The SBI Combined Fund had considerably higher returns than those provided by either association, suggesting both would be better off if SBI had managed their portfolios. The Fairmont Police Relief Association had $5.81 million in assets at the start of 1997. That asset value would grow at 12.4 percent per year during 1997 and 1998, given the actual returns provided by the relief association investments. The 1997 assets would have grown at a much higher rate, 18.7 percent per year, given SBI Combined Fund rate of returns. The difference amounts to $845,988 by the end of 1998. Similarly, Virginia Fire's portfolio could have generated another $489,952 under SBI management, compared to the growth rates (returns) provided by that relief association.

Table 3

Fairmont Police Relief Association, Cumulative Loss
Relative to SBI Combined Fund Returns, 1997-1998

Fund	Total Portfolio Rate of Return, 1997	Total Portfolio Rate of Return, 1998	Two Year Annualized Return (1997-1998)	1997 Assets ($ millions)	Estimated Loss in Asset Value Due to Local Fund Investment Returns Rather Than SBI Combined Fund Returns, Given 1997 Assets (actual $)
SBI Combined Fund	21.5%	16.1%	18.7%	$18,852.00	N/A
Fairmont Police	13.2%	11.5%	12.4%	$5.81	$845,988
Virginia Fire	12.8%	7.5%	10.1%	$2.49	$489,952

D. <u>Review of Total Portfolio, Stock, and Bond Returns</u>.

a. Total Portfolio Returns. Table 4 provides the total portfolio returns for all the funds included in Table 1 plus separate return information for SBI's Basic and Post Funds. Starting in 1994, the Post Fund was invested for high returns; rather than high, consistent yield. At that point the investment approaches underlying the Basic and Post Funds became comparable, and SBI began making extensive use of investment portfolios which combined assets of those funds for investment purposes. SBI began reporting not only Basic Fund and Post Fund returns, but Combined Fund returns also. Prior to 1994, Combined Fund returns are not available.

The table indicates the total portfolio return for the most recent available full calendar year, 1998, along with the three year, five year, and nine year average (annualized) returns. The nine year return provides a summary of performance over the entire period for which data are available, 1990 through 1998. The 1998 return data is from the most recent OSA investment disclosure report. The data for earlier years is computed from returns appearing in 1998 and earlier LCPR public pension plan investment performance reports.

An earlier table, Table 1, indicated in dollar terms the financial implications of SBI's total portfolio performance compared to other larger Minnesota public pension funds during the 1994 through 1998 period. Those results are a reflection of the five years average returns for the 1994-98 period shown in Table 4 below. The SBI Combined Fund had higher annualized returns for that period than any of the non-SBI pension funds in the table, except for the Minneapolis Fire Relief Association fund. Therefore, SBI was a more potent asset growth engine than retention of the local pension funds during that period (except for Minneapolis Fire). The same result is true for the entire nine-year period, as reflected below in the annualized returns for 1990-1998. The SBI Funds, considered separately or in combination, provided average returns above 13 percent. The SBI Basic Fund and the SBI Post Fund both had returns above 13 percent; if one wished to consider constructing an SBI Combined Fund return, it would be

slightly higher than 13.2 percent. Except for Minneapolis Fire, all the other funds had average returns for that entire nine-year period which were below 13 percent, in some cases, noticeably below.

Table 4

1, 3, 5, and 9-Year Total Portfolio Returns

Fund	1998 Annual Return	3-Year Annualized Return 1996-1998	5-Year Annualized Return 1994-1998	9-Year Annualized Return 1990-1998
SBI Basic Fund	15.60%	18.13%	15.58%	13.39%
SBI Post Fund	16.70%	17.04%	14.91%	13.11%
SBI Combined Fund	16.10%	17.60%	15.25%	--
MERF Total Fund	15.70%	15.67%	14.09%	10.95%
DTRFA	11.10%	13.32%	12.85%	11.98%
MTRFA	14.20%	14.42%	13.39%	12.01%
StPTRFA	12.10%	14.74%	13.85%	12.38%
Minneapolis Fire	21.90%	19.83%	16.43%	14.61%
Minneapolis Police	11.40%	12.18%	10.94%	10.03%
Bloomington Vol. Fire	13.80%	15.29%	11.91%	11.50%

A more detailed presentation of total portfolio returns, from 1990 through 1998, including annualized returns for every multiple-year period, appears below.

Table 5

Annualized Total Portfolio Returns Calendar Years 1990-1998

Fund	Year	Annual Return	2-Year Annualized Return	3-Year Annualized Return	4-Year Annualized Return	5-Year Annualized Return	6-Year Annualized Return	7-Year Annualized Return	8-Year Annualized Return	9-Year Annualized Return
SBI Basic Fund	1990	-0.70%								
	1991	26.30%	11.99%							
	1992	6.80%	16.14%	10.23%						
	1993	12.20%	9.47%	14.81%	10.72%					
	1994	0.10%	5.98%	6.25%	10.94%	8.51%				
	1995	25.00%	11.86%	11.97%	10.66%	13.62%	11.10%			
	1996	16.30%	20.57%	13.32%	13.04%	11.76%	14.06%	11.83%		
	1997	22.60%	19.41%	21.24%	15.57%	14.89%	13.50%	15.25%	13.12%	
	1998	15.60%	19.05%	18.13%	19.81%	15.58%	15.01%	13.80%	15.29%	13.39%
SBI Post Fund	1990	5.00%								
	1991	19.55%	12.04%							
	1992	8.00%	13.63%	10.68%						
	1993	11.60%	9.79%	12.95%	10.91%					
	1994	-0.90%	5.16%	6.10%	9.31%	8.44%				
	1995	26.10%	11.79%	11.73%	10.78%	12.48%	11.20%			
	1996	14.20%	20.00%	12.59%	12.34%	11.46%	12.77%	11.62%		
	1997	20.30%	17.21%	20.10%	14.47%	13.89%	12.88%	13.81%	12.67%	
	1998	16.70%	18.49%	17.04%	19.24%	14.91%	14.35%	13.42%	14.17%	13.11%
SBI Combined Fund	1994	-0.40%								
	1995	25.50%	11.80%							
	1996	15.30%	20.29%	12.96%						
	1997	21.50%	18.36%	20.69%	15.03%					
	1998	16.10%	18.77%	17.60%	19.53%	15.25%				

Table 5, cont.

Fund	Year	Annual Return	2-Year Annualized Return	3-Year Annualized Return	4-Year Annualized Return	5-Year Annualized Return	6-Year Annualized Return	7-Year Annualized Return	8-Year Annualized Return	9-Year Annualized Return
MERF Total Fund	1990	-5.90%								
	1991	13.25%	3.23%							
	1992	8.75%	10.98%	5.04%						
	1993	13.69%	11.19%	11.87%	7.14%					
	1994	1.20%	7.26%	7.76%	9.10%	5.92%				
	1995	23.42%	11.76%	12.40%	11.48%	11.83%	8.66%			
	1996	12.88%	18.03%	12.13%	12.52%	11.75%	12.00%	9.25%		
	1997	18.49%	15.65%	18.18%	13.69%	13.69%	12.85%	12.91%	10.36%	
	1998	15.70%	17.09%	15.67%	17.56%	14.09%	14.02%	13.25%	13.25%	10.95%
DTRFA	1990	3.20%								
	1991	22.00%	12.21%							
	1992	6.50%	13.99%	10.27%						
	1993	12.80%	9.60%	13.59%	10.90%					
	1994	0.20%	6.31%	6.38%	10.08%	8.67%				
	1995	25.50%	12.14%	12.36%	10.86%	13.01%	11.31%			
	1996	13.40%	19.30%	12.56%	12.62%	11.37%	13.07%	11.61%		
	1997	15.50%	14.45%	18.02%	13.29%	13.19%	12.05%	13.42%	12.09%	
	1998	11.10%	13.28%	13.32%	16.25%	12.85%	12.84%	11.91%	13.12%	11.98%
MTRFA	1990	-2.54%								
	1991	24.99%	10.37%							
	1992	8.19%	16.29%	9.64%						
	1993	12.29%	10.22%	14.94%	10.30%					
	1994	0.08%	6.01%	6.73%	11.03%	8.17%				
	1995	25.04%	11.87%	12.01%	11.04%	13.70%	10.82%			
	1996	13.57%	19.17%	12.43%	12.40%	11.54%	13.68%	11.21%		
	1997	15.50%	14.53%	17.93%	13.19%	13.01%	12.19%	13.94%	11.73%	
	1998	14.20%	14.85%	14.42%	16.99%	13.39%	13.21%	12.48%	13.97%	12.01%
StPTRFA	1990	4.57%								
	1991	19.79%	11.92%							
	1992	7.20%	13.32%	10.33%						
	1993	11.32%	9.24%	12.65%	10.57%					
	1994	0.33%	5.68%	6.19%	9.43%	8.44%				
	1995	26.20%	12.52%	12.12%	10.87%	12.60%	11.22%			
	1996	12.62%	19.22%	12.56%	12.25%	11.22%	12.60%	11.42%		
	1997	19.64%	16.08%	19.36%	14.29%	13.69%	12.58%	13.58%	12.41%	
	1998	12.10%	15.81%	14.74%	17.50%	13.85%	13.42%	12.51%	13.40%	12.38%
Minneapolis Fire	1990	3.12%								
	1991	27.45%	14.64%							
	1992	9.86%	18.33%	13.02%						
	1993	10.47%	10.16%	15.65%	12.38%					
	1994	-1.77%	4.17%	6.03%	11.02%	9.40%				
	1995	26.59%	11.51%	11.16%	10.84%	13.98%	12.09%			
	1996	14.03%	20.15%	12.35%	11.87%	11.47%	13.99%	12.37%		
	1997	23.80%	18.81%	21.35%	15.11%	14.16%	13.43%	15.34%	13.73%	
	1998	21.90%	22.85%	19.83%	21.49%	16.43%	15.42%	14.61%	16.14%	14.61%
Minneapolis Police	1990	2.06%								
	1991	16.77%	9.17%							
	1992	6.82%	11.68%	8.38%						
	1993	10.49%	8.64%	11.28%	8.90%					
	1994	-1.32%	4.42%	5.21%	7.99%	6.78%				
	1995	20.64%	9.11%	9.57%	8.87%	10.41%	8.97%			
	1996	12.49%	16.49%	10.22%	10.29%	9.59%	10.75%	9.47%		
	1997	12.66%	12.57%	15.20%	10.83%	10.76%	10.09%	11.02%	9.86%	
	1998	11.40%	12.03%	12.18%	14.24%	10.94%	10.87%	10.28%	11.07%	10.03%

Table 5, cont.

Fund	Year	Annual Return	2-Year Annualized Return	3-Year Annualized Return	4-Year Annualized Return	5-Year Annualized Return	6-Year Annualized Return	7-Year Annualized Return	8-Year Annualized Return	9-Year Annualized Return
Bloomington Vol. Fire	1990	3.97%								
	1991	17.75%	10.65%							
	1992	9.86%	13.74%	10.38%						
	1993	12.79%	11.32%	13.42%	10.98%					
	1994	-9.12%	1.24%	4.04%	7.31%	6.63%				
	1995	26.05%	7.03%	8.92%	9.15%	10.82%	9.65%			
	1996	12.53%	19.10%	8.83%	9.81%	9.82%	11.10%	10.05%		
	1997	19.67%	16.05%	19.29%	11.45%	11.71%	11.40%	12.29%	11.21%	
	1998	13.80%	16.70%	15.29%	17.89%	11.91%	12.06%	11.74%	12.48%	11.50%

b. Stock Portfolio Returns. Information provided below on stock and bond asset class returns does not include 1998. The OSA investment disclosure report for 1998 did not consistently report asset class returns. For some of the pension funds, manager-specific returns are reported rather than asset class returns. Since a pension fund may use several stock investment managers and also numerous bond managers, it is not possible from the information displayed in that OSA report to determine, with any confidence, the 1998 asset class returns (the aggregate result from the stock managers as a group, and the bond managers as a group, etc.). Therefore, the stock and bond tables that follow are taken from the our last presentation of results from the LCPR report, covering 1990 through 1997.

The stock asset class returns are provided for various funds in Table 6. Two common indices are included, the Wilshire 5000 returns and the S&P 500 returns. Comparison of a pension fund's domestic stock returns to the Wilshire 5000 or S&P 500 indicate how successful a pension fund is at capturing the returns offered by the stock market. Historically, most Minnesota pension funds relied heavily on active stock managers—managers who selected individual stocks in an effort to beat the market. Typically, the pension fund divided its stock portfolio among many equity managers, shielding the fund from the risk that any of the managers would seriously underperform. While this shields the fund from the full impact of managers who underperform, it also waters down the impact of those managers with above average returns, creating a regression toward the mean. This diversification effect, combined with the high cost of active managers, often resulted in net stock portfolio return to the pension fund below that available from a simple index fund strategy.

In recent years, many pension funds have moved away from full reliance on active stock managers to invest the stock portfolio. It is now common for pension funds to index much of their stock portfolio, supplementing that core with active managers in an effort to add value. SBI, MERF, and MTRFA are among the funds which make heavy use of index managers. This structure causes total stock portfolio returns which more closely follow those of the index the pension fund uses for its stock benchmark, and with less variability than would be the case using solely active management. This effect is reflected in the returns for recent periods indicated in Table 6. Whether this combination of active domestic stock managers coupled with index funds can lead to higher returns than an index fund alone is worthy of review. In some recent years, active managers have helped increase the overall stock portfolio returns, only to lose ground in a following year compared to a pure index strategy.

The stock returns in Table 6 indicate that for 1997, SBI added some value above the broad stock market as measured by the Wilshire 5000, which SBI used as its performance benchmark. MERF's returns also approximating that benchmark for 1997. DTRFA and MTRFA returns, both 1997 returns and the three-year average returns, were noticeably lower, perhaps reflecting a tilt toward small cap stocks, which were not favored in the market. MPRA also had a relatively low stock return in 1997, and low returns through the period. MFRA was the one fund with a stock return considerably in excess of the broad market, in 1997 and in the multi-year periods. That reflects a tilt toward large cap growth stocks, a

segment of the market which has considerably outperformed the broader market throughout the 1990s. What is not clear, from current information, is whether MFRA stock managers were able to beat index returns reflecting the styles used by those managers.

For the 1990-97 periods as a whole, as reflected in the eight-year annualized returns below, a few of the funds fell noticeably short of matching a simple index fund strategy. MERF's returns are noticeably low, reflecting the mismanagement of that fund and general turmoil during the 1980s and into the early 1990s. The Minneapolis Police eight-year annualized return is marginally lower than MERF's. A pension fund's stock portfolio is the engine that drives the overall total portfolio return. Most other asset classes are added to create more stability in the total portfolio returns. For the eight-year period as a whole, neither MERF's engine or that of the Minneapolis Police Relief Association provided much "pop." MERF's more recent returns, though, as indicated in the 1997 return and the three and five year average returns, reflect an effort to address performance problems. The more recent Minneapolis Police Relief Association returns, however, continue to noticeably lag most other funds, and remain well below the returns that would have been earned from a simple index strategy.

Table 6

1, 3, 5, and 8-Year Stock Returns

Fund	1997 Annual Return	3-Year Annualized Return 1995-1997	5-Year Annualized Return 1993-1997	8-Year Annualized Return 1990-1997
Wilshire 5000	31.30	29.50	19.28	16.15
S&P 500	33.30	31.22	20.30	16.65
SBI Basic Fund	32.30	29.67	19.12	15.91
SBI Post Fund	32.30	29.67	19.01	15.41
MERF Active Fund	31.22	29.62	19.69	13.58
MERF Retired Fund	31.03	29.62	19.72	14.47
MERF Combined Fund	31.10	29.64	19.69	13.98
DTRFA	24.30	26.54	19.51	15.39
MTRFA	23.48	26.19	17.29	14.82
StPTRFA	29.16	29.26	19.90	16.24
Minneapolis Fire	38.48	31.67	20.01	18.23
Minneapolis Police	26.98	26.97	16.64	13.21

c. Bond Portfolio Returns. The bond returns for the same funds included in the previous stock return table are included in Table 7, along with the Lehman Aggregate returns. Several of the pension funds were able to add some value above that obtainable from the investment-grade market as a whole (as indicated by the Lehman Aggregate index). The MFRA was one of the funds that had some trouble. Its 1997 return and its three and five year average bond returns are below those available from a bond index strategy. Lower bond returns offset some of the impact of its stock portfolio. The MPRA returns are low for all periods. That association's returns are below those of all other funds for the 1997 and for the three-year and five-year periods. For the eight-year period as a whole, MPRA is tied with the MERF Active Fund for the lowest return. Again, while the MERF portfolios show noticeable improvement in performance moving to more recent periods, the MPRA portfolio does not.

Table 7

1, 3, 5, and 8-Year Bond Returns

Fund	1997 Annual Return	3-Year Annualized Return 1995-1997	5-Year Annualized Return 1993-1997	8-Year Annualized Return 1990-1997
Lehman Aggregate	9.70	10.43	7.50	8.70
SBI Basic Fund	10.20	10.98	8.06	9.19
SBI Post Fund	10.20	10.98	8.01	9.05
MERF Active Fund	9.80	10.57	7.80	8.55
MERF Retired Fund	9.90	10.06	8.11	8.58
MERF Combined Fund	9.90	10.20	8.08	8.70
DTRFA	10.10	10.98	7.93	9.16
MTRFA	10.21	10.98	8.53	8.91
StPTRFA	9.86	10.69	7.42	8.65
Minneapolis Fire	9.40	9.97	7.46	8.94
Minneapolis Police	9.14	9.35	7.04	8.55

E. Asset Allocation.

Over time, a pension fund's total returns are almost entirely determined by its asset mix and the ability to capture the returns offered by the markets. Information on the past success of pension funds in capturing market returns are provided by previous tables, where an pension fund's returns can be compared to total portfolio, stock, or bond benchmarks, as applicable. In this section we present some asset mix information. Unfortunately, there is not much information currently available which is consistent across these funds, particularly for longer time periods.

Table 8 is an effort to provide asset mix information on the larger Minnesota public pension funds based on information compiled by the Office of the State Auditor (Minnesota Public Pension Funds Investment Disclosure Report for the Fiscal Year 1997, and the similar report for 1998). Table 8 provides calendar year asset mixes for 1997 and 1998, where available. A few earlier State Auditor reports exist, but the asset class categories presented were not consistent across funds, and asset mix data from some funds was on a calendar year basis while others reflected a July 1 fiscal year.

Pension funds tend to have the majority of their assets in equity investments. SBI and several of the other funds here generally have 60 percent to 70 percent of the total portfolio in equities, sometimes more. This reflects an expectation that equities, particularly over long-time periods, will provide the highest returns.

It is reasonable to maintain a fairly stable asset mix over time. Maintaining a stable asset mix reflects a belief that investment markets, particularly equity markets, can make sudden major moves, and the timing of these market movements is difficult (some would say impossible) to predict. Given these long-term expectations and short-term uncertainties, many pension fund administrations conclude that it is important to maintain a fund's exposure to the various markets over time in proportions indicated in the pension fund association's investment policy statement. When the asset mix of the total portfolio differs noticeably from the mix recommended in the pension fund board's investment policy statement (which is inevitable, because the different asset classes will grow at different rates, given the investment returns each class is earning) the portfolio is adjusted back toward the target percentages indicated in the investment policy statement. This process, called portfolio rebalancing, generally occurs at least annually. In some cases, directing incoming contributions to underweighted portions of the total

portfolio is sufficient to rebalance the portfolio. In other cases, it may be necessary to shift assets that are already in the portfolio. For instance, given the large returns earned on stocks during the 1990s, it may be necessary to remove some assets from the stock managers and transmit it to bond managers, until the actual total portfolio asset mix approximates the target mix.

In Table 8, the equity asset group is subdivided into domestic stocks, foreign stock, and venture capital. For the various pension funds, venture capital percentages tend to be insignificant, and some hold no venture capital investments, at least as reported and grouped in the State Auditor reports. Foreign stock holdings are more significant, while domestic stock is the dominant category. If the domestic stock, foreign stock, and venture capital categories are added together, into a general "equity" category, the equity exposure is similar across many of these funds. SBI, StPTRFA, MTRFA, and the Bloomington Fire Relief Association devoted approximately 70 percent of their portfolios to equities. The MERF and DTRFA equity allocation is about 65 percent of their respective portfolios.

It is not clear what activity is being captured by the MPRA and MFRA data. The data presents two snapshots, presumably showing the asset mix at year end 1997 and year end 1998. The asset mix on those dates may be a good reflection of the portfolio held throughout the year, but then again, it may not. The equity allocation for those two funds in 1997 seems consistent with expectations. The MPRA had 66 percent of its assets in equities, while the MFRA equity allocation was 61 percent of its portfolio. Both of these funds, however, show a radical change in the 1998 data. The data indicate a major shift out of equities and into cash. Cash holdings increase from a fairly insignificant percentage in 1997 to about one-third of the total portfolios in 1998. The 1998 allocation shown in the table may reflect an effort to time markets--an effort to predict which asset classes will perform well in the coming year, and to avoid those markets expected to be weak. While there is a payoff to correct guesses, there is also a considerable chance that these actions will place pension fund assets in the wrong place at the wrong time. Another possibility is that the MFRA and MPRA calendar year end asset allocation snapshot captured a brief, transitional step. These organizations may have been changing some investment managers or reorganizing their portfolios. If assets were liquidated to cash prior to allocating the assets to new managers, that could show up as a high, but temporary, cash position. The MFRA 1998 total portfolio return was very high, 21.9 percent. That return is highly improbable if the association held only 36 percent of its assets in equities during most of 1998, as suggested by the asset mix data. On the other hand, the MPRA 1998 total portfolio return was only 11.4 percent. That result seems more consistent with the 1998 MPRA asset mix data.

Table 8

Large Minnesota Public Pension Funds
Asset Allocation, Calendar Years Ending 1997 and 1998

	Bloomington Fire Relief Assoc.		DTRFA		MERF: Active Account		MERF: Retired Account		MERF: Total Fund	
Asset Class	1998	1997	1998	1997	1998 [1]	1997	1998 [1]	1997	1998	1997 [2]
Cash	8.7%	7.6%	1.1%	1.3%	--	0.7%	--	0.8%	3.0%	--
Bonds	19.2%	24.3%	35.6%	36.7%	--	28.1%	--	34.2%	30.7%	--
Domestic Stock	71.8%	67.6%	46.0%	45.6%	--	51.4%	--	46.5%	44.1%	--
Foreign Stock	--	--	15.4%	15.0%	--	12.7%	--	13.1%	19.3%	--
Venture Capital	--	--	1.0%	0.7%	--	0.2%	--	0.1%	--	--
Oil and Gas	--	--	--	--	--	--	--	--	--	--
Real Estate	--	--	1.0%	0.7%	--	6.9%	--	5.3%	3.0%	--
Other	0.4%	0.5%	--	--	--	--	--	--	--	--

[1] *Asset mix not provided for this fund in the 1998 Office of the State Auditor Report*
[2] *Asset mix not provided for this fund in the 1997 Office of the State Auditor Report*

Table 8, cont.

Large Minnesota Public Pension Funds
Asset Allocation, Calendar Years Ending 1997 and 1998

	MFRA		MPRA		MTRFA		StPTRFA		SBI Basic Fund		SBI Post Fund	
Asset Class	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997
Cash	38.5%	6.1%	30.6%	4.7%	2.7%	4.8%	1.7%	0.9%	0.4%	0.1%	2.0%	1.7%
Bonds	25.3%	32.8%	25.3%	26.2%	27.3%	27.1%	31.6%	32.7%	22.6%	22.2%	29.2%	29.1%
Domestic Stock	34.7%	58.9%	33.7%	53.2%	53.6%	51.1%	54.8%	54.3%	53.9%	53.6%	53.2%	54.7%
Foreign Stock	1.2%	0.7%	8.0%	9.9%	14.1%	12.9%	11.9%	12.1%	14.4%	13.6%	14.4%	13.6%
Venture Capital	0.3%	1.5%	1.2%	3.0%	1.1%	2.1%	--	--	4.4%	5.0%	0.5%	0.5%
Oil and Gas	--	--	--	--	--	--	--	--	0.7%	1.4%	0.1%	0.1%
Real Estate	--	--	--	--	--	--	--	--	3.7%	4.1%	0.4%	0.3%
Other	--	--	1.2%	3.0%	1.1%	2.1%	--	--	--	--	--	--

Sources:
Minnesota Public Pension Funds Investment Disclosure Report for the Fiscal Year 1997, Office of the State Auditor, pages 57-66
Minnesota Public Pension Funds Investment Disclosure Report for the Fiscal Year 1998, Office of the State Auditor, pages 51-59

In an effort to provide some indication of how asset mixes have changed over longer time periods, asset mix data for selected funds for fiscal years 1990, 1995, and 2000, is shown in Table 9. MERF and first class city teacher fund asset mix information is derived from the actuarial reports for those funds provided by the actuary retained by the LCPR. In recent years, the actuarial firm is Milliman and Robertson; the 1990 reports where produced by the LCPR prior actuarial firm, the Wyatt Company. Data are derived from Table 1 in those reports, the Actuarial Balance Sheet. Corresponding SBI data are from applicable SBI Quarterly Reports. The asset class categories are those used in the actuarial reports. The actuarial reports provide a single "equity" category, presumably composed of domestic stock, foreign stock, and various other forms of equity investments that an applicable fund may hold. Real estate, however, which may include equity real estate investments, is listed separately. It was necessary to combine some of the more detailed equity categories in SBI reports to be consistent with the presentation in the actuarial reports.

MFRA, MPRA, and the Bloomington Fire Relief Association are not included in the table. Any actuarial reports for those funds are provided by other actuaries, and the presentation and level of detail differs. Annual financial reports also did not provide consistent, usable information. Those sources aggregate asset mix information into "cash" and "investments," with the "investments" category presumably composed of all forms of equity investments plus all bond holdings. The information is too aggregated to be useful for asset mix purposes.

In the table that follows, it is unclear whether there are any clear trends across all these funds. A few had very steady asset allocations. A few had asset mix variations over time which are difficult to explain. A few other funds significantly increased their equity allocations in more recent years, probably reflecting a change in laws governing post-retirement increase mechanisms, which favor placing a larger percentage of assets in equities.

The SBI Basic Fund had a consistently high equity exposure in each year shown in Table 9, presumably reflecting an SBI decision to maintain high, consistent exposure to the equity markets throughout this period. The MFTRA also had a consistently high equity exposure.

Data on other funds suggest greater movements. The SBI Post Fund information shows a major jump in equity exposure between 1990 and 1995. In 1990, only 9.6 percent of Post Fund assets were in stocks, while the percentage jumped to 61 percent by 1995. That change reflects an SBI Post Fund policy change, and the corresponding changes in post fund law. During the 1980's, SBI post retirements

adjustments were derived from realized returns, causing bonds to be a major component of that portfolio. In the late 1980s and early 1990s, legislation changed the nature of SBI post-retirement adjustments, basing the adjustments on portfolio total return. That lead to a shift to stock, with its higher long term growth potential. That change is also apparent in the SBI Combined Fund information, which results from combining the SBI Basic and Post Funds. If those funds are combined for 1990, the Combined Fund would hold only 41.2 percent equity. By 1995, that percentage increased to 66.4 percent.

For StPTRFA, the data suggest that the association devoted increasing percentages of its assets to the equity markets over time. In 1990, equities were 31 percent of the total portfolio, growing to 50 percent in 1995 and to 70 percent in the most recent year. This pattern may reflect changes in the post retirement adjustment mechanism used by the fund. In 1990, StPTRFA's post retirement adjustment procedure consisted of a one-percent-of-asset distribution to retirees, providing that "fund income" was at least six percent. If fund income included only recognized income or gains, that may have caused the board to tilt the fund toward a high cash and bond allocation. Later legislation changed the post retirement increase to a system based on total returns, leading to increases in the fund's equity allocations.

MERF's fund structure is patterned after SBI's. MERF's Active Account (Deposit Accumulation Account) contains the assets and investment earnings for active employees. At the time that an individual retires, assets transfer from the Active Account to the MERF Retired Account, to provide sufficient reserves to support the annuity payments. This process is identical in nature to the transfer between the SBI Active Account and SBI Post Fund that occurs at the time of retirement for employees covered by the state-wide plans with asset invested by SBI. The MERF portfolios could also be combined to present MERF Total Fund results, given sufficient data.

For MERF, the presentation in the actuarial valuations permitted us to derive only MERF Active Account results. MERF is a closed fund, and the remaining active members will be eligible to retire in the next several years. The MERF Active Account information in Table 9 indicates a steady allocation to equities through at least 1995, with a slight drop off more recently. A few different factors may be combining to produce the fiscal year 2000 MERF asset mix numbers. The percentage of equity fell from a little above 60 percent to 53 percent, according to the categories used, but the "other" category increased. It is possible that the "other" category contains some equity investments, leading to an understatement of MERF Active Account equity investments. The drop in MERF's active account equity percentage, to the extend that it is real, may reflect a decision to reduce equities in the Active Account due to the short time horizon of the Active Account, and the need to transfer assets at retirement. It is also possible that the MERF Active Account fiscal year 2000 asset mix numbers capture some short-term effects of assets being transfer among managers.

The results for the last fund, DTRFA, are rather puzzling. For this fund, when asset mix information is presented in Table 8 for 1997 and 1998, the DTRFA asset mix showed almost no change between those two years. The longer-term view, as depicted for this fund in Table 9, suggests significant changes in its asset mix over time. In 1990, 34 percent of DTRFA assets were devoted to equities. In 1995, equities were 55 percent of the portfolio, an allocation more in line with the typical percentages expected by a pension fund. The increase from the early 1990 may reflect change in DTRFA post fund law. The equity allocation in 2000, however, is only 29 percent. The drop is difficult to explain. Possible causes are transitional effects of transfers among asset managers. Some of the change may reflect market timing efforts. During the 1980s, this pension fund engaged in modest market time efforts, and that policy may continue. Another possibility is that some assets more commonly thought of as equities are included under bonds. DTRFA is one of a few pension funds included here which have explored and

may be using some newer strategies to meet or beat equity index fund returns. Rather than buying or creating an equity index fund account, it is possible to create the same effect, and possibly beat the index, using futures contracts. If that approach is being used, it is possible that the assets related to that effort were included under the DTRFA bond portfolio, rather than under equity.

Table 9

Selected Large Minnesota Public Pension Funds
Asset Allocation, Fiscal Years Ending June 30, 1990, 1995, and 2000

	SBI Combined Fund *			SBI Basic Fund *			SBI Post Fund *		
Asset Class	2000	1995	1990 [3]	2000	1995	1990	2000	1995	1990
Cash	1.8%	2.3%	3.0%	1.0%	1.1%	0.8%	2.6%	3.6%	5.9%
Bonds	27.3%	31.3%	51.0%	24.0%	27.7%	25.9%	30.6%	35.3%	84.5%
Equity	68.3%[1]	66.4%[2]	41.2%	70.4%[4]	66.1%[4]	64.7%[4]	64.9%[6]	61.0%[6]	9.6%[6]
Real Estate	2.0%	--	4.2%	3.7%	4.2%	7.4%	--	--	--
Other	1.6%	--	0.7%	0.9%[5]	0.9%[5]	1.2%[5]	1.9%[7]	0.1%[7]	--

	MERF Active Account #			DTRFA #			StPTRFA #			MTRFA #		
Asset Class	2000	1995	1990	2000	1995	1990	2000	1995	1990	2000	1995	1990
Cash	8.0%	4.3%	24.5%	15.2%	4.0%	23.0%	5.5%	5.0%	19.5%	9.0%	9.9%	6.1%
Bonds	32.8%	30.9%	8.8%	42.3%	38.7%	41.2%	23.9%	43.9%	47.7%	36.3%	23.2%	27.8%
Equity	53.0%	62.5%	62.5%	29.2%	54.5%	34.1%	69.9%	50.0%	30.5%	51.7%	56.4%	52.0%
Real Estate	--	--	--	1.2%	1.2%	--	--	0.1%	0.2%	1.0%	8.5%	11.0%
Other	6.4%	2.2%	4.1%	12.1%[8]	1.5%	1.6%	0.7%	1.0%	2.0%	2.1%	2.0%	3.1%

[1] *Includes domestic stock, foreign stock, & venture capital*
[2] *Includes domestic stock, foreign stock, & alternative assets*
[3] *Estimated from total Basic and Post Fund market values and the Basic and Post Fund Asset Mix*
[4] *Domestic stock, foreign stock, & venture capital (private equity)*
[5] *Resource funds (oil & gas investment)*
[6] *Domestic & foreign stock*
[7] *Alternative assets (includes yield-oriented investments)*
[8] *Composed of a securities lending program and miscellaneous other categories. The securities bonding program comprises the bulk of this category.*

Sources:
* SBI quarterly reports for September 1990, 1995, and 2000
# Derived from Actuarial Valuation, Table 1: Accounting Balance Sheet

Historic Purposes For A Pension Benefit Plan

- A pension benefit plan is part of the overall personnel compensation system of the employer.

- A pension benefit plan must assist the other parts of the personnel system.

- Within the confines of affordability, the pension benefit plan should assist in the following:

    1. the recruitment of new qualified personnel;

    2. the retention of existing qualified and productive personnel; and

    3. the encouragement of predictable and systematic out-transitioning of personnel at the end of their normally expected working career.

- The pension benefit plan provides this assistance by providing pension benefits that are adequate to provide retiring employees with financial security at and after the date of retirement

- The emphasis of the pension benefit plan will vary over time. During the early decades of this century, retention of personnel was the major emphasis for pension benefit plans. Over time, recruitment has gained emphasis. During recent periods of downsizing, out-transitioning has been emphasized by both employees and employers.

Types of Pension Plans

- Pension Plans Will Be One Of Two Types. The Types Are:

  a. Defined Benefit Plans. The pension benefit amount that is ultimately payable is predeterminable or fixed using a formula or comparable arrangement. The fixed element of the benefit amount leaves a variable element, which is the funding required to provide that benefit.

  b. Defined Contribution Plans. The funding for the pension plan is fixed as a dollar amount or a percentage of payroll. The fixed element of funding leaves a variable element, which is the benefit amount that is ultimately payable.

- There Is Risk Shifting That Is Applicable To Each Type Of Plan:

  a. Defined Benefit Plans. The employer or plan sponsor has the inflation and investment risks. If the investment return on plan assets is poor or inflation produces ever increasing final salaries and benefit payouts, that risk is borne by the employer. The member has the turnover risks. If a plan member terminates with modest service having been rendered or at early ages, the member will receive either no benefit or an inadequate benefit.

  b. Defined Contribution Plans. The plan member bears the inflation and investment risks. If there is poor investment performance, the plan member's pension assets will be depressed. If inflation impacts the immediate pre-retirement standard of living. The plan sponsor or employer loses any turnover gain potential, where past plan funding becomes more concentrated on a subgroup of the total plan membership.

- There Are Advantages And Disadvantages To Each Type Of Plan:

  a. Defined Benefit Plans. The plan type favors long term or long service employees. It also favors employees who receive regular promotions and sizable salary increases throughout their careers or who achieve substantial salary increases in their compensation at the end of their career. It also favors employees who retire at or before the plan's normal retirement age.

  b. Defined Contribution Plans. The plan type favors employees who are very employment mobile, where employment changes beyond a single employer or a multiple employer group. It also favors short term employees in comparison to defined benefit plans. It also favors employees with very stable and modestly increasing salary histories and employees who work beyond the plan's normal retirement age.

Comparison: Public Employees Retirement Association (PERA)
Actuarial Valuation Results
7/1/1999 and 7/1/2000

	1999		2000		Difference	
Membership						
Active Members		137,528		135,560		(1,968)
Service Retirees		38,077		39,940		1,863
Disabilitants		1,301		1,397		96
Survivors		5,881		6,010		129
Deferred Retirees		16,340		21,495		5,155
Nonvested Former Members		18,491		79,362		60,871
Total Membership		217,618		283,764		66,146
Funded Status						
Accrued Liability		$9,443,678,000		$11,133,682,000		$1,690,004,000
Current Assets		$8,489,177,000		$9,609,367,000		$1,120,190,000
Unfunded Accrued Liability		$954,501,000		$1,524,315,000		$569,814,000
Funding Ratio	89.89%		86.31%		-3.58%	
Financing Requirements						
Covered Payroll		$3,544,488,000		$3,602,750,000		$58,262,000
Benefits Payable		$467,602,000		$527,119,000		$59,517,000
Normal Cost	7.49%	$265,778,000	9.33%	$336,088,000	1.84%	$70,310,000
Administrative Expenses	0.28%	$9,925,000	0.23%	$8,286,000	-0.05%	($1,639,000)
Amortization	1.67%	$59,193,000	2.38%	$85,745,000	0.71%	$26,552,000
Total Requirements	9.44%	$334,896,000	11.94%	$430,119,000	2.50%	$95,223,000
Employee Contributions	4.78%	$169,398,000	4.77%	$171,898,000	-0.01%	$2,500,000
Employer Contributions	5.23%	$185,221,000	5.21%	$187,823,000	-0.02%	$2,602,000
Employer Add'l Cont.	0.00%	$0	0.00%	$0	0.00%	$0
Direct State Funding	0.00%	$0	0.00%	$0	0.00%	$0
Other Govt. Funding	0.00%	$0	0.00%	$0	0.00%	$0
Administrative Assessment	0.00%	$0	0.00%	$0	0.00%	$0
Total Contributions	10.01%	$354,619,000	9.98%	$359,721,000	-0.03%	$5,102,000
Total Requirements	9.44%	$334,896,000	11.94%	$430,119,000	2.50%	$95,223,000
Total Contributions	10.01%	$354,619,000	9.98%	$359,721,000	-0.03%	$5,102,000
Deficiency (Surplus)	-0.57%	($19,723,000)	1.96%	$70,398,000	2.53%	$90,121,000

Comparison: Public Employees Retirement Association (PERA)
Actuarial Valuation Results
1996-2000

	1996		1997		1998		1999		2000	
Membership										
Active Members		129,431		130,865		136,166		137,528		135,560
Service Retirees		32,906		34,168		36,187		38,077		39,940
Disabilitants		1,051		1,115		1,223		1,301		1,397
Survivors		5,423		5,531		5,732		5,881		6,010
Deferred Retirees		8,605		10,817		12,238		16,340		21,495
Nonvested Former Members		11,448		15,162		15,847		18,491		79,362
Total Membership		188,864		197,658		207,393		217,618		283,764
Funded Status										
Accrued Liability		$7,270,073,000		$8,049,666,000		$8,769,303,000		$9,443,678,000		$11,133,682,000
Current Assets		$5,786,398,000		$6,658,410,000		$7,636,668,000		$8,489,177,000		$9,609,367,000
Unfunded Accrued Liability		$1,483,675,000		$1,391,256,000		$1,132,635,000		$954,501,000		$1,524,315,000
Funding Ratio	79.59%		82.72%		87.08%		89.89%		86.31%	
Financing Requirements										
Covered Payroll		$3,073,106,000		$3,214,578,000		$3,385,720,000		$3,544,488,000		$3,602,750,000
Benefits Payable		$312,511,000		$342,154,000		$412,746,000		$467,602,000		$527,119,000
Normal Cost	6.85%	$210,507,761	7.11%	$228,459,000	7.61%	$257,628,000	7.49%	$265,778,000	9.33%	$336,088,000
Administrative Expenses	0.19%	$5,838,901	0.18%	$5,786,000	0.22%	$7,449,000	0.28%	$9,925,000	0.23%	$8,286,000
Normal Cost & Expense	7.04%	$216,346,662	7.29%	$234,245,000	7.83%	$265,077,000	7.77%	$275,703,000	9.56%	$344,374,000
Normal Cost & Expense	7.04%	$216,346,662	7.29%	$234,245,000	7.83%	$265,077,000	7.77%	$275,703,000	9.56%	$344,374,000
Amortization	2.71%	$83,281,173	2.51%	$80,686,000	2.01%	$68,053,000	1.67%	$59,193,000	2.38%	$85,745,000
Total Requirements	9.75%	$299,627,835	9.80%	$314,931,000	9.84%	$333,130,000	9.44%	$334,896,000	11.94%	$430,119,000
Employee Contributions	4.29%	$131,836,247	4.55%	$146,127,000	4.79%	$162,179,000	4.78%	$169,398,000	4.77%	$171,898,000
Employer Contributions	4.58%	$140,748,255	4.92%	$158,067,000	5.24%	$177,504,000	5.23%	$185,221,000	5.21%	$187,823,000
Employer Add'l Cont.	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Total Contributions	8.87%	$272,584,502	9.47%	$304,194,000	10.03%	$339,683,000	10.01%	$354,619,000	9.98%	$359,721,000
Total Requirements	9.75%	$299,627,835	9.80%	$314,931,000	9.84%	$333,130,000	9.44%	$334,896,000	11.94%	$430,119,000
Total Contributions	8.88%	$272,584,502	9.47%	$304,194,000	10.03%	$339,683,000	10.01%	$354,619,000	9.98%	$359,721,000
Deficiency (Surplus)	0.87%	$27,043,333	0.33%	$10,737,000	-0.19%	($6,553,000)	-0.57%	($19,723,000)	1.96%	$70,398,000
Amortization Target Date		2020		2020		2020		2020		2024
Actuary		Milliman & Robertson		Milliman & Robertson		Milliman & Robertson		Milliman & Robertson		Milliman & Robertson

Broad Options For Resolving The PERA Funding Problem

a. Potential Membership Changes. Since one of the identified causes for PERA's likely future funding difficulties is a shift in PERA membership, with more short-service PERA members retaining a right to a deferred retirement annuity rather than taking a refund of member contributions and producing a turnover gain based on the cancelled employer contribution and investment performance, changes in the PERA membership may assist in resolving the problem.

(1) Restrict PERA Membership By Increasing The Threshold Salary Amount. If the threshold salary amount for PERA membership, currently $425 in any calendar month, was increased, the number of potential short-service PERA deferred annuitants could be reduced.

(2) Expand PERA Membership By Eliminating The Threshold Salary Amount. If the current $425 in any calendar month threshold salary limitation on PERA membership were eliminated, matching the lack of minimum salary requirements in either the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General) or the Teachers Retirement Association (TRA), the potential future PERA turnover gain may be increased.

(3) Reduce PERA Membership By Transferring School District Employees to TRA or to a Separate Pension Plan. A review of PERA's membership apparently indicates that school district employees produce a higher pension cost than county or city employees. If school district employees were transferred to the Teachers Retirement Association (TRA), the teacher retirement plan, or to a separate pension plan, the resulting PERA contribution requirement would likely be reduced.

b. Potential Benefit Changes. Since the cost of a pension plan is a function of the benefits provided by the plan and the demographics of the membership group covered by the plan, a benefit change can reduce the cost of the pension plan and bring the plan closer to financial balance.

Any number of benefit plan modifications could produce cost reductions, including some changes that are targeted to the population apparently causing the potential funding problem, or some broader changes:

(1) Prorate Service Credit. PERA currently distinguishes between full-time and less than full-time employees only by salary credit, not service credit. Service credit for benefit computation could be credited based on its relation to full-time employment.

(2) Eliminate Grant of One Year of Service Credit For Medical Leaves. PERA currently provides one year of service credit for a medical leave without requiring any member or employer contributions. This service credit grant could be replaced by a more customary leave of absence contributory service credit provision.

(3) Increase Vesting Requirement To Five Years. PERA currently requires a member to gain credit for three years of service in order to obtain a vested (non-forfeitable) right to a retirement annuity. This service credit vesting requirement could be increased to five years of service.

(4) Reduced Deferred Annuity Augmentation Rate. PERA currently provides an annual increase in deferred retirement annuities at a rate of three percent before age 56 and at a

rate of five percent after age 55. The post-age-55 deferred annuity augmentation rate could be reduced to three percent.

c. Potential Funding Increases or Changes. If the membership demographics or benefit plan components are not open to change, the next approach is to fund the resulting actuarial cost requirements:

(1) Member Contribution Increase. The current member contribution rates (8.75 percent for Basic members and 4.75 percent for Coordinated members) could be increased, either in one increase or phased in over two or more steps.

(2) Employer Contribution Increase. The current employer contribution rates (11.43 percent on behalf of Basic members and 5.18 percent on behalf of Coordinated members) could be increased, again either in one increase or phased in over two or more steps.

(3) Additional State Funding/State Aid. The ongoing state aid to PERA-covered municipalities enacted in 1997 could be increased.

(4) One-Time Lump Sum State Appropriation. A state appropriation to PERA could be used to buy down a substantial portion of what otherwise would be the future annual funding requirement shortfall.

(5) Reshuffle Other Funding Support. As the Legislature did in 1997, when financial support sufficiencies in MSRS-General and TRA were redirected to PERA and to the first class city teacher retirement plans, the current MSRS-General, TRA, or Public Employees Police and Fire Plan (PERA-P&F) financial support sufficiencies could be redirected in whole or in part to PERA.

d. Potential Actuarial Assumption or Method Modifications. Although actuarial methods and assumptions do not change the actual cost of a defined benefit plan, but only change the recognition or incidence of that cost, there are actuarial method or assumption changes that could be implemented that could provide apparent relief:

(1) Extension of Amortization Target Date. The current amortization target date for PERA is 2020, reflecting a 30-year amortization period from the 1989 benefit increases. The amortization period could be extended to 2031, a new 30-year period, which would reduce the amortization contribution requirement.

(2) Increase Preretirement Interest Rate. The interest rate assumption determines the portion of actual pension plan cost that will be paid from investment income and an increase in the current PERA preretirement interest rate from 8.5 percent would reduce the portion of actual pension plan cost calculated in the actuarial valuations to be paid by contributions.

(3) Other Actuarial Method Or Assumption Changes. Other actuarial method or assumption changes, such as redefining the actuarial value of assets at market value or increasing the Minnesota Post Retirement Investment Fund (MPRIF) postretirement interest rate, also would reduce the recognition of the portion of the actuarial cost calculated to be borne by contributions. Because the MPRIF postretirement adjustment is based in part on investment performance in excess of an actuarial assumption, this change, however, also involves a benefit reduction.

e. Potential Structural Changes. While modifying the structure of pension plans and funds will not modify the actual cost of providing pension benefits to PERA members, structure changes can play a factor in resolving the projected PERA funding problem.

(1) Plan Consolidation. The consolidation of a pension plan with actual or potential funding problems with a pension plan with funding strengths, such as the consolidation of PERA with MSRS-General, would produce an average total cost for the resulting plan that may be more manageable.

(2) Fund Consolidation. The consolidation of the fund supporting a pension plan with actual or potential funding problems with a fund supporting a pension plan with funding strengths can postpone or eliminate any potential for a benefit payment default, such as the merger of the PERA retirement fund with the PERA-P&F retirement fund.

(3) Administrative Consolidation. The consolidation of the administration of one pension plan with the administration of another pension plan can save administrative expenses through the elimination of administrative duplications and the acquisition of greater economics of scale, such as the merger of the PERA and MSRS administration.

f. Potential Correction of Identified Benefit Abuses. The actuary retained by the Commission has identified "salary spiking" as a potential problem within PERA. The "salary spiking" phenomenon occurs when the salary of a retiring member immediately before retirement or during the "highest five successive years" averaging period increases dramatically over the person's prior career salary history pattern, whether the salary increase arises from increased working hours and overtime pay or from late career promotions or unusual salary increases. If this is an actual benefit abuse, corrective action could be taken, such as eliminating overtime compensation from covered salary, or utilizing defined contribution plan coverage only for overtime compensation, or limiting end-of-career salary increases year to year to a specified percentage.

g. Continued Future Inaction. Although PERA likely will experience financial support that is less than its future actuarial cost if nothing is done during the 2001 Legislative Session to address the probable PERA funding problem, inaction may not cause insurmountable problems. In 17 out of 36 years in which regular actuarial valuations were prepared for PERA, the pension plan has had a funding deficiency, so inaction would not be greatly out of historical character for PERA. Funding deficiencies also have characterized the situation of the first class city teacher retirement fund associations for much of the past three decades, without significant apparent difficulty. PERA also is relatively well funded currently (almost 90 percent funded) and the current support covers more than the calculated normal cost and administrative expenses of the plan.